



MURRAY STATE UNIVERSITY

ACADEMIC BULLETIN 2017 — 2018

Murray State University
Office of the Provost
Murray, Kentucky

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The Bulletin is effective at the beginning of fall semester 2017. Student degree programs must be based on the most current Bulletin available to them at the time the student enrolls in their first course. A graduate course is valid for eight years, beginning with the date the student initially enrolls in the class. This Bulletin expires August 2025.

Accreditations

Institutional Accreditation

Murray State University is accredited by the Southern Association of Colleges and Schools Commission on Colleges to award associate, baccalaureate, master's, specialist, and doctorate degrees. Contact the Commission on Colleges at 1866 Southern Lane, Decatur, Georgia 30033-4097 or call 404-679-4500 for questions about the accreditation of Murray State University. Normal inquiries such as admission requirements, financial aid, educational programs, etc., should be addressed directly to Murray State University.

State Accreditation

Kentucky Education Professional Standards Board

Program Accreditations

AACSB-International-The Association to Advance Collegiate Schools of Business
Accreditation Council for Education in Nutrition and Dietetics (ACEND)
Accrediting Council on Education in Journalism and Mass Communications (ACEJMC)
American Chemical Society
American Veterinary Medical Association
Applied Science Accreditation Commission of ABET (ASAC/ABET)
Commission on Accreditation of Allied Health Education Programs (CAAHEP)
Commission on Accreditation of Athletic Training Education (CAATE)
Commission on Collegiate Nursing Education (CCNE)
Council for Accreditation of Counseling and Related Education Professions (CACREP)
Council for the Accreditation of Educator Preparation (CAEP)
Council on Academic Accreditation in Audiology and Speech-Language Pathology of the American Speech-Language Hearing Association (CAA)
Council on Accreditation of Nurse Anesthesia Educational Programs (COA)
Council on Social Work Education (CSWE)
Engineering Accreditation Commission of ABET
Engineering Technology Accreditation Commission of ABET
Master's in Psychology and Counseling Accreditation Council (MPCAC)
National Association of Schools of Art and Design (NASAD)
National Association of Schools of Music (NASM)
National Association of Schools of Theatre (NAST)

Facility Accreditation

American Association of Veterinary Laboratory Diagnosticians (Breathitt Veterinary Center)

Murray State University Bulletin

General Catalog Edition

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The contents of this publication are subject to change. Anyone desiring current information and data should contact the appropriate representative of the university for accurate and up-to-date information.

Murray State University reserves the right to modify or change any rule, regulation, fee or policy stated herein. This reservation includes, but is not limited to, the right to modify or change any academic program, subject to any limitations imposed by state law.

For additional policies, procedures and information, faculty, staff and students are advised to consult all official university publications, such as the *Faculty Handbook*, *Schedule of Fees*, *Personnel Policies and Procedures Manual*, *Student Life Handbook*, and the university *Bulletin*. It is the responsibility of each member of the faculty and staff and each student to be aware of and comply with these policies and procedures.

Non-Discrimination Statement

Murray State University endorses the intent of all federal and state laws created to prohibit discrimination. Murray State University does not discriminate on the basis of race, color, national origin, gender, sexual orientation, religion, age, veteran status, or disability in employment, admissions, or the provision of services and provides, upon request, reasonable accommodation including auxiliary aids and services necessary to afford individuals with disabilities equal access to participate in all programs and activities. In particular and without limiting the preceding and pursuant to and consistent with the requirements of Title VI of the Civil Rights Act of 1964 and its regulations 34 CFR 100 et seq.; Section 504 of the Rehabilitation Act of 1973 and its regulations 34 CFR 104; Title IX of the Education Amendments of 1972, 20 USC 1681 et seq., and its regulations 34 CFR 106 et seq; and the Age Discrimination Act of 1975 and its regulations 34 CFR 110, Murray State University does not discriminate on the basis of race, color, national origin, sex, handicap, or age in its educational programs and activities. This non-discrimination in education programs and activities extends to employment and admissions and to recruitment, financial aid, academic programs, student services, athletics, and housing. Murray State is required by Title IX and 34 CFR part 106 not to discriminate on the basis of sex and the prohibition against sex discrimination specifically includes a prohibition of sexual harassment and sexual violence. For more information contact the Executive Director of Institutional Diversity, Equity, and Access/ Murray State University Title IX Coordinator, Murray State University, 103 Wells Hall, Murray, KY 42071 Telephone: (270) 809-3155 Fax: (270) 809-6887; TDD: (270) 809-3361; Email: msu.titleix@murraystate.edu

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Our Vision

To build on our reputation as one of the best student-centered, comprehensive universities in the nation.

For 95 years, Murray State University has been the cornerstone of higher education in the western end of the Commonwealth, providing economic development, cultural experience, fine art, knowledge, and tradition to the people and businesses of this region. The University has grown to an enrollment of over 10,000 since its foundation in 1922, welcoming students from the service region, across the United States, and more than 50 countries to an inclusive campus abounding with opportunity and rich experiences...*hope, endeavour, and achievement.*

Murray State's excellence through academic programs, quality faculty, innovative student initiatives, characteristic facilities, and dedicated staff has resulted in continuous accreditation by the Southern Association of Colleges and Schools Commission on Colleges (SACSCOC) since 1928, and most recently achieved a perfect review—a goal which institutions strive to achieve. Individual program accreditations have also been awarded in art, chemistry, civil engineering technology programs, communication disorders, counseling, dietetics, engineering physics, journalism and mass communications, music, nursing, occupational safety and health, school administration, social work, speech-language pathology, teacher education, and veterinary technology, as well as several business programs.

Murray State University has a commitment to extend its educational programs throughout the region. Off-campus courses are available at a number of sites including Fort Campbell, Henderson, Hopkinsville, Madisonville, and Paducah. In addition to teaching courses on-site at these locations, the university provides a variety of distance learning alternatives for students who may not be able to attend classes on the main campus.

The international dimension of the university's offerings include summer study-abroad programs in several countries and direct exchange programs for students and faculty with universities on five continents — Africa, Asia, Australia, Central America and Europe. On campus, the English as a Second Language program prepares nonnative speakers of English for full-time study and for future professional careers.

The university's main campus is in Murray, a city of over 17,000 and the winner of the designation, "Friendliest Small Town in America" from Rand McNally and *USA Today*. Being in the renowned lake region of far west Kentucky, Murray offers the faculty, staff, and students a wealth of opportunity to enjoy the outdoors. Land Between the Lakes, a national recreation area situated between Kentucky and Barkley lakes, is a 20-minute drive from campus and there are four of the finest state parks in Kentucky within an hour of the city.

The main campus comprises over 74 major buildings, including classroom and office buildings and two libraries. The Waterfield Library houses the circulating collection, reference sources, government documents, microforms and periodicals. The historic Pogue Library contains special materials relating to the history and culture of west Kentucky and the region.

Noteable campus facilities also beneficial to this region and beyond include:

- The Arboretum, located on a 10-acre section of Murray State's Pullen farm, offering a fully accessible horticultural display for educational and regional use ranging from open prairie to display and community gardens. A functional educational pavilion/outdoor

classroom is available for use by MSU or community groups.

- The CFSB Center, Lovett Auditorium, and the Robert F. Johnson Theatre serve as venues for musical and theatre productions, concerts, and lectures.
- The Price Doyle Fine Arts Center, offering excellent facilities for fine arts programming and featuring year-round art exhibitions, a variety of musical performances, and a season of full-scale theatre productions.
- Listed with the National Registry of Historic Sites, the Wrather West Kentucky Museum, offers programs, exhibits and collections of west Kentucky history, as well as, traveling exhibits.

Four agricultural laboratory/research farms totalling 571 acres, an animal health technology facility, and the Wm. "Bill" Cherry Agricultural Exposition Center are all within a mile of campus. Regional veterinarians and animal owners benefit from the animal disease diagnostic services provided at the new Breathitt Veterinary Center in nearby Hopkinsville, Kentucky; in addition, animal health technology students receive instruction, conduct research, and perform field service investigations at the accredited facility.

Celebrating 95 years of service, Murray State University's mission focuses on undergraduate, graduate, and professional instruction as well as enhancement of the educational, economic, and cultural opportunities of the people of west Kentucky.

Visiting the University

Murray State encourages and welcomes visitors to campus. Visitors have the opportunity to meet with an admission counselor, tour campus, and meet with faculty in their areas of interest. You may schedule your campus visit on line at www.murraystate.edu/campus/planvisit or by calling the Office of Recruitment at 800-272-4678 ext. 2. During the fall and spring semesters, office hours are 8:00 a.m. to 4:30 p.m. (CST) Monday through Friday, and at 10:00 a.m. on selected Saturdays. Office hours vary during summer sessions and holidays.

Mission

Murray State University places our highest priority on student learning and excellent teaching, blending the range of educational opportunities often experienced at research institutions with the nurturing student-teacher interactions usually found at smaller universities. We offer relevant undergraduate and graduate degree programs with core studies in the liberal arts and sciences, leading to degrees from certificates to advanced practice doctorates that prepare students for success. Through effective and creative teaching, the opportunity to apply knowledge and skills to real-world situations, and academic and student support services, our quality faculty and staff foster student growth in knowledge, critical inquiry, and innovative thinking. As a public comprehensive university dedicated to diversity, global awareness, and intellectual curiosity, we actively engage students, faculty, staff, and the community in collaborative scholarship, creative activity, and research. We invest in our communities through thoughtful public service in our 18-county service region and beyond. Our uniqueness arises from our combination of academic excellence, welcoming atmosphere, and dedication to student success through mentored, real-world learning opportunities in an open-minded and supportive learning environment.

Values

- **Accessibility**
Murray State values broad, equal, and affordable educational access for all.
- **Academic Freedom**
Murray State values the generation and free exchange of ideas in a peaceful and orderly environment that encourages communication and the resolution of differences.
- **Accountability**
Murray State values a comprehensive accountability system through outcomes assessment and institutional effectiveness, supporting our primary mission as a university.
- **Diversity**
Murray State values attracting, developing, and maintaining a diverse, high-quality faculty, staff, and student body.
- **Excellence**
Murray State values a sustained commitment to teaching, research, and service excellence.
- **Integrity**
Murray State values an environment that demands high levels of professional and academic ethics.
- **Nurturing Environment**
Murray State values a safe, friendly, and supportive campus and community environment.
- **Shared Governance**
Murray State values a culture of shared governance, open communication, and understanding among administration, faculty, staff, and students.
- **Student-Centered Learning**
Murray State values an environment that fosters the engagement of the student in the learning process both in and beyond the classroom.

Characteristics of the Murray State University Graduate

The excellence of a university's baccalaureate program is ultimately best demonstrated by the qualities, characteristics, and performance of its graduates. Murray State University sets as its goal a baccalaureate experience that ensures graduates who:

- I. Engage in mature, independent, and creative thought and express that thought effectively in oral and written communication;
- II. Understand and apply the critical and scientific methodologies that academic disciplines employ to discover knowledge and ascertain its validity;
- III. Apply sound standards of information gathering, analysis, and evaluation to reach logical decisions;
- IV. Understand the roles and applications of science and technology in the solution of the problems of a changing world;
- V. Demonstrate a critical understanding of the world's historical, literary, philosophical, and artistic traditions;
- VI. Understand the dynamics of cultural diversity, of competing economic and political systems, and of complex moral and ethical issues;
- VII. Understand the importance of and engage in ethical behavior and responsible citizenship;
- VIII. Understand the importance of the behaviors necessary to maintain a healthy lifestyle;
- IX. Demonstrate mastery of a chosen field of study; and
- X. Value intellectual pursuit and continuous learning in a changing world.

Organization of the University

The government of the university is vested in the Board of Regents of Murray State University, a corporate body established by statute and enjoying all immunities, rights, privileges and franchises of an educational governing body.

The president serves as the chief executive officer of the university and as such is ultimately responsible to the Board of Regents for all matters pertaining to the institution. The president reports directly to the board.

Following the organizational structure established by the Board of Regents, responsibility for most operational units of the university is divided between four executive officers who report to the president: the provost and vice president for academic affairs, the vice president for finance and administrative services, the vice president for university advancement, and the vice president for student affairs. These four vice presidents serve as the president's management team, advising the president on the operation of the university, making recommendations on the establishment of administrative policy, and executing responsibilities, both individually and collectively, within the university governance system. The vice president for academic affairs is the senior vice president.

Academic Units

Murray State University is comprised of four colleges and two schools. The colleges are Business; Education and Human Services; Humanities and Fine Arts; and Science, Engineering and Technology. The School of Agriculture and the School of Nursing and Health Professions complete the academic structure. Students are offered unique programs of human endeavor with interdisciplinary study to provide a broad educational perspective.

The Arthur J. Bauernfeind College of Business offers programs in accounting, advertising, business administration, computer science, economics, economic development, finance, graphic communications management, information systems, journalism, logistics and supply chain management, management, marketing, mass communications, organizational communication, public relations, telecommunications systems management, and television production.

The College of Education and Human Services offers programs in career and technical education, communication disorders, criminal justice, education administration, elementary education, health and physical education, human development and leadership, interdisciplinary early childhood education, learning and behavior disorders, library media, middle school education, nonprofit leadership studies, postsecondary education, reading and writing, school counseling, secondary education, social work, special education, speech-language pathology, and teacher education and professional development. The college also offers an Ed.D. in P-20 and Community Leadership.

The College of Humanities and Fine Arts offers programs in art, creative writing, English, French, German, history, international studies, Japanese, liberal arts, music/music education, music business, philosophy, political science, psychology, public administration, sociology, Spanish, teaching English to speakers of other languages, and theatre. A doctorate is offered in English pedagogy and technology.

The Jesse D. Jones College of Science, Engineering and Technology offers programs in applied engineering and technology management, applied physics, biology, chemistry, civil engineering technology, electromechanical engineering technology, engineering graphics and design, engineering physics, geosciences, industrial technology, manufacturing engineering technology, mathematics, occupational safety and health, physics, sustainability studies, telecommunications systems management, and wildlife and conservation biology.

The Hutson School of Agriculture offers programs in agriculture, agriculture science, and animal technology.

The School of Nursing and Health Professions offers the Bachelor of Nursing, the Master of Science in Nursing with options in several specialized nursing careers, and the Doctor of Nursing Practice. Health profession programs are offered in athletic training, public

and community health, exercise science, and nutrition, dietetics and food management.

Murray State University maintains high academic standards in a wide variety of programs, offers close student/faculty relationships, and provides career and job placement counseling.

International Education

International Education Policy. The mission of Murray State University includes as a priority the commitment to international education in order to prepare students to function in an increasingly interdependent world. Through its Institute for International Studies and related efforts, the university supports and encourages the development of international content across the curriculum, the provision of opportunities for international experience for both students and faculty, the active and continuous exploration of international issues on campus, and the meaningful involvement in the life of the university of international students and scholars.

Institute for International Studies. The Institute for International Studies (IIS) was created for the unified coordination of international programs and activities at Murray State University. Evolving from the separately created Center for International Programs (1981) and the English Language Institute (1993), IIS supports Murray State's commitment to international education as an integral dimension of the university experience. IIS provides the following services to students, faculty and the community:

- **Assistance to International Students and Scholars.** Full-time international student advisors provide assistance in addressing the academic, personal, intercultural, and immigration needs of international students. Additionally, IIS provides students, research scholars and visiting faculty with orientation programs, immigration advising; and cultural enrichment activities. The International Student Organizations offer an active, caring community of support for almost 500 students from more than 60 countries.
- **Study Abroad.** The Education Abroad unit of IIS supports and trains students, faculty, and staff to participate in programs abroad. Faculty and Professional Staff are invited to submit program ideas annually and receive training and support for program development. Student programs abroad are supported through a team of advisors, an extensive scholarship program, and widespread academic and administrative support across campus. MSU provides opportunities to study across the globe in all academic areas in both English-speaking and foreign language environments. Students can study with their own MSU faculty on Signature Programs for semesters, winter break, spring break, or summer break; through direct enrollment semester and year exchange programs in universities abroad; or through one of several consortia providing semester, summer, and winter programs, including the Cooperative Center for Study Abroad (CCSA), International Business Seminars (IBS), and the Kentucky Institute for International Studies (KIIS). Study abroad programs combine formal academic coursework with hands-on experiences on location.
- **Special Program Development.** IIS is involved in initiating special programs with an international emphasis. Internal and external groups can work to develop programs to support their specific interests. *These have ranged from lecture series to longer curricular programs designed for language study, ESL training, or professional development.*
- **Curriculum Support.** With IIS support, the university has also developed and refined an international affairs curriculum on campus, initiated an English-as-a-Second-Language Program, created professional development seminars abroad, supported the development of a graduate TESOL program, and worked toward the creation of degree programs at home and abroad.
- **English as a Second Language Program.** The ESL Program prepares nonnative speakers of English for full-time study at Murray State

or other North American schools. Through careful assessment, intensive instruction, and out-of-class activities such as field trips, seminars, and a mentoring program, international students receive the personal attention they need to advance their English skills. For more information, see the section on International Student Admission in *Undergraduate Admissions* or *Graduate Admissions*.

Student Affairs

The primary concern of Student Affairs is the student. This concern encompasses retention, welfare, and growth and development in all dimensions of student life including educational, vocational, social-cultural, civility and tolerance, psychological, values clarification and physical. Student Affairs provides a variety of educational and administrative services, programs and activities in support of the Strategic Plan of the university. It is committed to excellence in and the integration of curricular and co-curricular activities to ensure a supportive living-learning environment.

Student Affairs' offices include Adventures in Math and Science; Campus Recreation/Wellness Center; Career Services; Curris Center; Governor's Minority Student College Preparation Program; Health Services; LBGT Programs; Multicultural Affairs; Student Conduct; Student Disability Services; Student Government; Student Involvement; Student Organizations; Student Support Services; University Counseling Services; University Post Office; and the Women's Center. These units are coordinated through the Office of Student Affairs, located on the fourth floor of Wells Hall, 270-809-6831. Students, their families, and the public are encouraged to contact any of these offices for information and assistance with any student-related concern. To view the *Student Life Handbook*, visit www.murraystate.edu/headermenu/administration/studentaffairs/policies.aspx.

Statement on Research Involving Human Subjects

Murray State University faculty and students must adhere to strict rules regarding the use of human subjects in research. All research involving human subjects (including, but not limited to the use of existing records as well as the collection of new data) must be reviewed and approved in advance by the University Institutional Review Board (IRB). Failure to obtain IRB approval or to follow IRB approved research protocols can result in serious penalties as well as restrictions on the use and dissemination of research findings. Faculty and students should consult the *IRB Procedures and Guidelines* for information on this subject.

General Student Complaint Procedure and Request to Amend an Educational Record

Murray State University recognizes that there are times in which a student might have a grievance with University staff or faculty that does not fit the scope of other formal complaint/grievance policies or procedures. The following procedure provides a formal avenue for the resolution of a student complaint in the event that such differences cannot be resolved informally, including any student who desires to amend an educational record.

Definitions.

Complainant: one who has a grievance or complaint within the scope of this procedure.

Respondent: one against whom a grievance is asserted.

Days: Calendar days.

Faculty: all persons, whether full or part-time, who are responsible for, assist in, or administer the instructional program. (See Sec. 2.1 of the *Faculty Handbook* for a complete definition.)

Staff: employees of Murray State University in non-teaching activities of various types in support of the educational, research, and service programs of the University. (See Sec. II.A of the *MSU Personnel Policies and Procedures Manual* for a complete definition.)

Grievance: an allegation by a student of improper treatment of that student or of violation, misinterpretation, or improper application of existing policies, rules, regulations, practices, and/or procedures which the student believes to be unfair, inequitable, or a hindrance to that student's effective performance. The term "grievance" shall also include an allegation by a student that the student's educational record(s) contain information which is inaccurate, misleading or in violation of the student's rights of privacy, hereinafter referred to as a "Records Challenge". In regards to a Records Challenge, the student shall request in the grievance that said records be amended.

Disputes which are addressed in University, College, and Departmental policies or procedures should be resolved under those provisions and will not be considered under these procedures. For instance, disputes related to grades are addressed by the Grade Appeals Policy, allegations of discrimination against a University employee are addressed by the University policy, "Reporting Allegations of Discrimination and Discrimination Grievance Procedures," and grievances related to student employment are handled through the Student Employment Grievance Procedures published in the Student Employment Handbook. Disputes between students should be directed to the Associate Vice President of Student Affairs.

Submitting Documents. Any complaint, response, appeal, notice, or other document which is to be submitted in writing by a party must be submitted to the employee designated and must be submitted by hand-delivery or U.S. mail. No such document should be submitted electronically by, for example, email. Any such document will be deemed timely if it is postmarked within the time period for submitting the document.

Limitations. A written grievance (other than a Records Challenge) as provided in Step 3 must be initiated within forty-five (45) days of the most recent alleged incident giving rise to the grievance. Any special circumstances or request involving the time limitation set forth above will be considered and evaluated by the appropriate Academic Dean in the case of a faculty or staff respondent employed in Academic Affairs, or Director in the case of a grievance filed against a staff member employed in a non-Academic Affairs unit. In the event of a Records Challenge, same may be filed at any time.

Procedures.

Step 1. Before a formal grievance may be filed, the Complainant must discuss the grievance with the member of the faculty or staff with whom the dispute exists. In the event that the Respondent is a teaching assistant, the faculty supervisor should also be present during these discussions. In the event of a Records Challenge, the Complainant must discuss the grievance with the person who maintains custody of the record(s) challenged as being inaccurate, misleading or a violation of the student's rights of privacy. A decision regarding the informal grievance must be made within 3 days of the meeting and any agreement reached between the parties will be reduced to writing.

Step 2. Should the matter not be resolved to the satisfaction of the Complainant, and within 5 days of completion of Step 1, informal discussion should be sought with the Respondent's supervisor. A decision regarding the grievance must be made within 3 days of the meeting and any agreement reached between the parties will be reduced to writing.

In the event the Respondent's supervisor is the Dean or Director of the area in which the Respondent is employed, the Complainant should proceed to Step 3.

Step 3. Once the means of informal resolution on the collegiate/unit level as described above have been exhausted, and within the time stated above under Limitations, the Complainant must provide his/her complaint in writing to the Academic Dean (in case of a faculty or staff respondent employed in Academic Affairs) or to the unit Director (in the case of a staff respondent who is not employed

in Academic Affairs). The written statement shall (1) state the nature of the complaint and date of occurrence(s), (2) state how the Complainant has been affected, (3) state which University policies are involved (if applicable), (4) state how the Respondent is involved in the grievance, (5) state the facts upon which the complaint is based. If the complaint involves a Records Challenge, the Complainant shall state specifically which records are of concern and specify what information contained in the records is believed to be inaccurate, misleading or a violation of the student's privacy rights, and (6) state the relief requested by the Complainant and if a Records Challenge, state specifically in what manner the Complainant desires the record(s) to be amended.

Step 4. The Academic Dean or Director will immediately forward a copy of the complaint to the Respondent. The Respondent may submit a written response to the Dean or Director within 7 days from the time the complaint is hand delivered or 10 days from the date the complaint is mailed to the Respondent. A copy of any response from the Respondent will be provided to the Complainant.

Step 5. The Academic Dean or Director will proceed with the review of the complaint. The Academic Dean or Director will conduct such review as is believed is warranted. The Dean/Director may determine that the complaint can be decided based upon the written documents provided by the parties. The Dean/Director may determine additional proceedings are warranted. This may include meeting with the Complainant and the Respondent to gather additional facts and information about the allegations in the complaint. At any such meeting, the parties may be allowed to present other documents and individuals who may have relevant information. If the parties are able to reach an agreement regarding the grievance, the agreement will be reduced to writing.

The parties will be kept informed as to the progress of the review and will be advised of, and given the chance to respond to, any new information.

Once the review is finished, a report will be prepared by the Academic Dean or Director and distributed to the Complainant and Respondent. The report will review the allegations in the complaint and any response and the factual findings from the review. The report will be based on assertions and allegations to which the parties have had the opportunity to respond. The report will also state the Dean/Director's conclusions as to whether the complaint is valid. If the complaint is supported, the Dean/Director will determine the relief, if any, to be provided to the Complainant. In the event of a Records Challenge, should the report determine that the student's record(s) should not be amended, the report shall include information in regard to the student's right to a hearing.

Step 6. If the report of the Dean or Director is unsatisfactory to either party, that party may appeal to the Vice President of the area in which the Respondent is employed. That party will have seven days from the time the report is hand delivered or 10 days from the date the report is mailed to submit an appeal.

The appeal will be instituted by the appealing party's presenting to the Vice President a detailed written statement of the grounds for appeal; the party appealing will also provide the Vice President with a copy of the decision from the Dean/Director. In the event of a Records Challenge, the student may request a hearing in accordance with 34 C.F.R. §99.20-§99.21 which shall be granted. In such event, the hearing shall be scheduled within thirty (30) days of the request and the student shall be provided with written notification of the date, time and place no later than fourteen (14) calendar days prior to the scheduled hearing date. A copy of the written statement will be provided to the other party who will have 7 days from the time the report is hand delivered or 10 days from the date the report is mailed to submit a response to the Vice President. The Vice President will provide a copy of any response to the party filing the appeal.

The Vice President will review the appeal. If the appeal does not involve a Records Challenge, the Vice President may determine from the statement of appeal and response that the appeal can be decided based upon the previous decision and the documents from the parties. In that case, the Vice President will review the decision and the arguments presented, and will submit a decision with supporting reasons to the parties and the Dean/Director. If the Vice President believes that additional proceedings are warranted in order to consider the appeal fully, or in the event that a hearing has been requested in connection with a Records Challenge, he/she will develop rules or procedures consistent with this policy which shall be provided to the Complainant and Respondent no later than fourteen (14) days prior to the scheduled proceeding/hearing.

The final decision in all such appeals will be made by the Vice President. If the complaint is supported the Vice President will determine the relief, if any, to be provided to the Complainant. The decision of the Vice President shall be made within twenty (20) days of the last date of submission or, if applicable, the hearing. The decision shall be based solely on the evidence presented and shall include a summary of the evidence and the reasons for his/her decision.

In the event of a Records Challenge, the Vice President shall conduct a hearing within thirty (30) days of the date the request for a hearing is received by the Vice President. Written notice of the hearing, including the date, time and place, shall be provided to the student and the Respondent at least fourteen (14) days prior to the scheduled hearing. The student shall also be notified of the right to be represented at the hearing by one or more individuals (at the student's expense) including representation by an attorney. The Vice President shall render a decision within twenty (20) days of the hearing. Same shall be in writing with copies provided to the student and the Respondent. The decision shall be based solely on the evidence presented and shall include a summary of the evidence and the reasons for the decision.

In the event of a hearing on a Records Challenge, if it is determined that the information contained in the student's educational record is inaccurate, misleading or in violation of the privacy rights of the student, the record(s) in question shall be ordered to be amended accordingly and the student shall be notified of same in writing. If, as a result of the hearing in a Records Challenge it is determined that the information contained in the educational record is not inaccurate, misleading or in violation of the privacy rights of the student, the student shall be notified of same in writing along with information advising the student that he/she has the right to place a statement in the record commenting on the contested information in the record or stating why the student disagrees with the decision. In such event, the statement by the student shall be maintained with the contested record(s) for as long as the record(s) are maintained and shall be disclosed whenever the portion of the student's record(s) to which the statement relates is disclosed.

General. In the event the applicable Dean or Director is the Respondent, the Complainant should notify the applicable Vice President at the completion of Step 1 and the Vice President will appoint an individual to fulfill the functions of that Dean/Director under these procedures. The matter will then proceed to Step 3.

In the event the applicable Vice President is the Respondent, the Complainant will notify the Office of the President after Step 1. The President will appoint individuals to perform the function of both the Dean/Director and Vice President. The matter will then proceed to Step 3.

In the event the Respondent is employed in an area which is not overseen by a Vice President, the President, upon written notice from the Complainant, will appoint an individual who will perform the duties and functions of a Vice President with respect to the complaint.

The parties may have an advisor, including an attorney. Advisors will not participate in any reviews or meetings. Exception: In the event of a hearing for a Records Challenge, the student at his/her own expense may be represented by one or more individuals of his or her own choice, including an attorney. Any person representing a student in a Records Challenge may fully participate on behalf of the student in the Records Challenge hearing.

University employees involved in each step recited above will maintain records of each grievance received and provide them, upon request, to an appropriate University office.

University employees are expected to cooperate with reviews by the Dean/Director/Vice President. All relevant information not privileged will be available to the Dean/Director/Vice President.

It is the purpose of these procedures to address grievances of students as provided here. These procedures are not intended to be used as a disciplinary mechanism against Complainants or Respondents.

It is the intent of these procedures that grievances be resolved as expeditiously as possible.

NOTE: If at any point in this process, it is determined that the grievance is covered by any other University policy or procedure, then such other policy or procedure will be followed.

Policy on Academic Honesty

Murray State University takes seriously its moral and educational obligation to maintain high standards of academic honesty and ethical behavior. Instructors are expected to evaluate students' academic achievements accurately, as well as ascertain that work submitted by students is authentic and the result of their own efforts, and consistent with established academic standards. Students are obligated to respect and abide by the basic standards of personal and professional integrity.

Violations of Academic Honesty include:

- Cheating** - Intentionally using or attempting to use unauthorized information such as books, notes, study aids, or other electronic, online, or digital devices in any academic exercise; as well as unauthorized communication of information by any means to or from others during any academic exercise.
- Fabrication and Falsification** - Intentional alteration or invention of any information or citation in an academic exercise. Falsification involves changing information whereas fabrication involves inventing or counterfeiting information.
- Multiple Submission** - The submission of substantial portions of the same academic work, including oral reports, for credit more than once without authorization from the instructor.
- Plagiarism** - Intentionally or knowingly representing the words, ideas, creative work, or data of someone else as one's own in any academic exercise, without due and proper acknowledgement.

Instructors should outline their expectations that may go beyond the scope of this policy at the beginning of each course and identify such expectations and restrictions in the course syllabus. When an instructor receives evidence, either directly or indirectly, of academic dishonesty, he or she should investigate the instance. The faculty member should then take appropriate disciplinary action.

Disciplinary action may include, but is not limited to the following:

1. Requiring the student(s) to repeat the exercise or do additional related exercise(s).
2. Lowering the grade or failing the student(s) on the particular exercise(s) involved.
3. Lowering the grade or failing the student(s) in the course.

If the disciplinary action results in the awarding of a grade of E in the course, the student(s) may not drop the course.

Faculty reserve the right to invalidate any exercise or other evaluative measures if substantial evidence exists that the integrity of the exercise has been compromised. Faculty also reserve the right to document in the course syllabi further academic honesty policy elements related to the individual disciplines.

A student may appeal the decision of the faculty member with the department chair in writing within five working days. **Note:** If, at any point in this process, the student alleges that actions have taken place that may be in violation of the Murray State University Non-Discrimination Statement, this process must be suspended and the matter be directed to the Office of Institutional Diversity, Equity and Access. Any appeal will be forwarded to the appropriate university committee as determined by the Provost. (*Revisions adopted by Board of Regents, June 2012.*)

Policy on Attendance

Students are expected to attend all classes in which they are enrolled for credit or audit purposes. An instructor may establish attendance policies for each class so long as they: (1) are clearly published in the course syllabus, (2) distinguish between excused and unexcused absences and (3) are consistent with university policies as outlined in this Bulletin.

Excused absences fall into two broad categories:

1. Absence due to personal illness or death in the immediate family or other extraordinary personal circumstance. Faculty may require appropriate authentication or documentation.

2. Absence due to student participation in a University Sanctioned Event in which the student serves as a representative of the institution.

University Sanctioned Events shall include those officially scheduled activities (practice and training sessions NOT included) related to intercollegiate athletics, performing groups, teams who represent the university in debate, forensics or other academic competitions, and absences occurring when a student is out of the country for a study abroad experience. Other activities and events may be added to this listing upon recommendation of the Sanctioned Events Committee and approval by the Provost. This committee shall consist of the Vice President for Student Affairs, the Director of Athletics, the Faculty Senate President, a student appointed by the President of the Student Government Association, and the Provost or his designee. The official list of approved, sanctioned activities and events shall be maintained in the Office of the Provost.

Attendance and participation in class activities is essential to success in college. Absences, for whatever purposes, can potentially undermine the shared goal of student learning. In cases where student absences are clearly unavoidable, it is essential that students and faculty alike approach the resolution of the difficulty with a clear commitment to the mutual goal of student learning.

Responsibilities of Students: Students missing class(es) as a result of activities covered above shall notify the instructor in writing at the beginning of the semester and, in the case of scheduled events, this notification shall not be less than one week prior to the absence. Students with excused absences are excused from class attendance but are not excused from work assigned or expected as a part of that class period. Students, in conjunction with each course instructor, are required to develop a plan for alternative assignments or the make-up of all work missed and must complete this work within a time frame mutually agreed upon with the instructor.

Responsibilities of Faculty: Faculty are expected to plan with students who have excused absences to develop alternatives and make-up assignments. Such alternatives are not expected to diminish faculty expectations of students, nor may they reduce opportunities for students to demonstrate performance.

Responsibilities of Others: Deans and department chairs share the responsibility for ensuring proper orientation of all full and part-time

faculty regarding the provisions of this policy. Administrators, sponsors and coaches of various student activities share an important role in ensuring that students understand their responsibilities with respect to this aspect of student performance. Specific guidelines and procedures should be developed for each sport or activity to ensure timely communication between students and faculty. Advance lists of varsity/participating students along with schedules of away or off-campus activities or matches should be provided to students so that they, in turn, can share this information with faculty at the beginning of the semester.

Questions and Appeals: In the event of questions or concerns regarding the implementation of this policy in specific classroom situations, students and faculty should be guided by the following:

1. If there is a question regarding whether a specific activity is an officially sanctioned event for which terms of this policy might apply, the inquiry should be addressed to the Office of the Provost.

2. In the event a student is concerned with the implementation of this policy in a specific course, the student should try to resolve the matter by discussing it first with the instructor, then with the department chair, and if resolution is still not reached, then with the collegiate dean. If the matter is not settled through this process, the student may seek resolution through the appropriate collegiate grievance/appeal process.

3. Instances of student abuse or violation of the terms of this policy should be reported to the dean or director responsible for the sanctioned event and to the Vice President for Student Affairs.

For absences directly related to military service or veterans affairs, see the *Registration and Academic Records* chapter.

Policy on Combating Sexual Harassment

Commitment. Murray State University is committed to maintaining an environment free from unlawful discrimination. Consistent with this, sexual harassment will not be tolerated at Murray State University. The University will continue to educate the campus with respect to sexual harassment and will continue to provide avenues for redress when issues arise. However, it is the responsibility of all Students, Faculty, Staff, and Regents to avoid sexually harassing behaviors.

Definitions. Sexual harassment is a form of gender discrimination which violates state and federal law and University policy. Students and employees can be the victims, or perpetrators, of sexual harassment. Whether actions constitute sexual harassment depends upon the particular facts surrounding, and law applicable to, the situation in question. However, in general, sexual harassment may be present if there are unwelcome sexual advances, requests for sexual favors, or other verbal or physical conduct of a sexual nature and:

1. submission to such conduct is made explicitly or implicitly a term or condition of an individual's employment or participation or performance in any course, program, or activity;

2. submission to or rejection of such conduct by an individual is used as a basis for making decisions with respect to the individual's employment or participation or performance in any course, program, or activity; or

3. such conduct has the purpose or effect of unreasonably interfering with an individual's work performance or participation or performance in a course, program, or activity, or creates an intimidating, hostile, or offensive environment for work or any course, program, or activity.

Sexual harassment can occur in different relationships including that of supervisor-employee, teacher-student, and student-student. Purely voluntary personal or social relationship without any of the discriminatory effects noted above may not be sexually harassing behavior. However, Regents, administrators, faculty, and staff are strongly urged to avoid relationships of an amorous or intimate nature with individuals, such as subordinates or students, whom they

supervise, have an instructional responsibility for, or have or may have the responsibility to evaluate. The existence of a power differential between the parties naturally raises the question whether the relationship is, in fact, voluntary.

Victims of sexual harassment are primarily, but not exclusively, women. Sexual harassment occurs primarily, but not exclusively, between members of opposite sexes.

Sexual harassment takes many forms. It can include sexual innuendo, suggestive or demeaning comments, insults, hostile remarks, humor and jokes about gender or gender-specific traits, requests or demands for sexual favors, threats, or suggestive gestures. It can also include touching, pinching, brushing the body, assault, or coerced or nonconsensual sexual intercourse.

Reporting Sexually Harassing Behavior. Murray State University encourages every member of the University community who believes he or she has been the victim of sexual harassment to report the allegations as soon as possible. Time limitations apply to the reporting of claims and the chance for remedial action may be lost by delay.

The University has formal and informal processes for resolving claims of sexual harassment. Victims of sexual harassment are encouraged to report their allegations even if they do not wish to utilize these processes. Claims of sexual harassment should be made to the following offices:

1. Claims by employees against other employees including their supervisors, and claims by students including student workers against Faculty members or other employees should be made with the Office of Institutional Diversity, Equity and Access, 103 Wells Hall, telephone number 809-270-3155.

2. Claims by a student against another student should be made to the Vice President for Student Affairs, 449 Wells Hall, 270-809-6831.

3. If the Director of the Office of Institutional Diversity, Equity and Access is the person against whom complaint is made, the report should be made to the President of the University.

4. If the complaint is against the President or a member of the Board of Regents, the report should be made to the Chair of the Board of Regents. If the complaint is against the Chair of the Board, the complaint should be made with the Vice-Chair of the Board.

5. If there is doubt about which office the allegations should be made to, or if assistance is needed with respect to a complaint, the Office of Institutional Diversity, Equity and Access should be contacted for help.

In accordance with law, there will be no retaliation against an individual making a good faith claim of sexual harassment.

Sanctions. Any individual charged with sexual harassment will be accorded due process in compliance with established University procedures. Sanctions for sexual harassment may range from written warning to termination (for an employee) or expulsion (for a student).

Policy on Hazing

Murray State University recognizes that student organizations exist for the purpose of extending opportunities for education, social interaction, leadership and skill development, and personal growth beyond the classroom. Therefore, the practice of hazing pledges, associate members, initiates or members is antithetical to the purposes of registered student organizations at Murray State University and is strictly prohibited by the university. Furthermore, as of July 1986, hazing is a violation of Chap. 164 of Kentucky Revised Statutes. In pertinent part, the statute reads as follows:

“(This statute) prohibits any action or situation which recklessly or intentionally endangers mental or physical health or involves the forced consumption of liquor or drugs for the purpose of initiation or affiliation with any organization. . . . In the case of a

student or faculty violator, (violation of this statute shall result in) his suspension, expulsion, or other appropriate disciplinary action and, in the case of an organization which authorizes such conduct, (violation shall result in) rescission of permission for that organization to operate on campus property. Such penalties shall be in addition to any penalty pursuant to the penal law or any other Chap. (of Kentucky Revised Statutes) to which a violator or organization may be subject.”

Specifically, on the campus of Murray State University, hazing is defined as any on-campus or off-campus activity which results in mental or physical harassment, humiliation, degradation, ridicule, shock, endangerment, physical disfigurement, excessive fatigue, danger to health, or the involuntary consumption of alcohol or drugs.

This prohibition against hazing applies equally to student organizations, individual students, faculty, and staff members, visitors to the campus, and licensees and invitees on the campus.

Any student who participates in hazing as defined above has violated the Murray State University Code of Conduct and will be subject to disciplinary action as described in the Standards in Disciplinary Proceedings of the Student Life Policies. Any organization which authorizes or permits hazing to occur has violated the policy statement on Regulation of Student Groups and will be subject to group disciplinary action as outlined in that policy.

Policy on Intolerance

The university is committed to creating an educational environment which is free from intolerance directed toward individuals or groups and strives to create and maintain an environment that fosters respect for others. As an educational institution, the university has a mandate to address problems of a society deeply ingrained with bias and prejudice. Toward that end, the university provides educational programs and activities to create an environment in which diversity and understanding of other cultures are valued.

A. Intolerance refers to an attitude, feeling or belief wherein an individual shows contempt for other individuals or groups based on characteristics such as race, color, national origin, gender, sexual orientation or political or religious belief.

B. Actions motivated by intolerance violate the principles upon which American society is built and serve to destroy the fabric of the society we share. Such actions do untold and unjust harm to those who experience this kind of discrimination and threaten the reputation of the university.

C. The expression of diverse views and opinions is encouraged in the university community. Further, the First Amendment of the United States Constitution assures the right of free expression. In a community which recognizes the rights of its members to hold divergent views and to express those views, sometimes ideas are expressed which are contrary to university values and objectives. Nevertheless, the university cannot impose disciplinary sanctions upon such expression when it is otherwise in compliance with university regulations.

D. When any violation of a university policy, rule or regulation is motivated by intolerance toward an individual or group based on characteristics such as race, color, national origin, gender, sexual orientation, or political or religious beliefs, the sanction will be increased in severity and may include separation from the university.



Undergraduate Admissions



270-809-3741 or 800-272-4678 ext. 1
admissions@murraystate.edu
intl.ap@murraystate.edu
transfercenter@murraystate.edu

POLICIES AND PROCEDURES

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Murray State University reserves the right to modify regulations regarding admission, registration, drop/add, course arrangements, curricula, retention, graduation and other functions of the university. Such regulations shall govern both old and new students and are effective when adopted.

General Admission Information

Applications and information are available at Murray State's website at www.murraystate.edu. Assistance with applying may be obtained by writing Murray State University, Undergraduate Admissions, 102 Curris Center, Murray KY 42071, or by calling 270-809-3741 or toll-free 800-272-4678, menu option #1. Admission applications and related transcripts should be mailed to Undergraduate Admissions, 102 Curris Center, Murray, KY 42071.

NOTE: *accounting, athletic training, business administration, communication disorders, computer information science, criminal justice, dietetics, exercise science, finance, management, marketing, music, nonprofit leadership studies, nursing, occupational safety and health, social work, teacher education, and the Bachelor of Integrated Studies program all have additional admission requirements. Review their sections in this Bulletin for more information. Students participating in NCAA sports must also meet NCAA academic eligibility requirements.*

Residency for Tuition Purposes. Under 13KAR2:045, the Commonwealth of Kentucky requires that all admission applications be reviewed to determine if documentation of residency is required. Each applicant is notified if documents are needed. Additional information can be obtained at the following website: www.lrc.ky.gov/kar/013/002/045.htm.

Freshman Admission Procedures

Murray State University formally declares its commitment to all laws mandating affirmative action and equal opportunity regulations, together with all valid state and federal regulations enacted pursuant thereto. The policy of Murray State University is to guarantee freedom from discrimination in its operation and administration of its programs, services, and employment practices; in its relationships with students, faculty and staff; and in its interactions with the community which it serves.

Your Expectations. Students have the right to expect their schools to provide them with the best possible preparation for an increasingly competitive world. Murray State University has consistently been ranked among the top 25 percent of Southern regional and liberal arts colleges in U.S. News and World Report's publication of America's Best Colleges, and in 2000 was listed as one of two colleges classified as "best values."

Our Expectations. Murray State University is committed to providing the best possible educational services to help students prepare for a successful and productive future. Students who meet the following admission standards will have a greatly increased probability for success at this university.

Entering freshmen (and certain transfer students) may be admitted, admitted with conditions, or admitted with restrictions. Those admitted may choose to pursue either a baccalaureate (four-year) or associate (two-year) degree. New freshmen may not apply for the Bachelor of Integrated Studies program.

Required Documents

A student applying for admission who withholds or gives false information or documents can be denied admission to or withdrawn from Murray State. Each freshman applying to Murray State

- must submit an application for admission with a \$40 nonrefundable application fee;
- must have an official high school transcript that includes a minimum of six semesters of course work, a **list of senior-year courses**, and the student's class rank mailed/sent as a PDF file by

email or submitted through Parchment.com to **Undergraduate Admissions** from the applicant's high school counselor. (**Admission is not complete until a final official transcript is mailed/sent electronically through Parchment.com, or emailed as a PDF file by the counselor after graduation. It must include the date of graduation, all courses and grades, and the student's final class rank. If your high school does not rank, then the applicant's admissions status will be based on GPA and Standardized Test Scores**);

- must have an official ACT or SAT score report sent to Undergraduate Admissions. **Official ACT/SAT scores should be on all official transcripts submitted to Undergraduate Admissions.** (Applicants who have attended any college(s) other than Murray State while in high school must also have official college transcripts mailed or sent electronically and must have a minimum cumulative GPA of a 2.00 on a 4.00 scale. These transcripts are required even if the student withdrew or does not want the credit transferred. Applicants who have testing credit from CLEP or AP must have official score reports mailed directly to **Undergraduate Admissions** from the testing service in Princeton NJ.)

To be considered for full admission each applicant must have received or be receiving a high school diploma before the term for which he/she is applying. Those individuals who have not graduated from accredited high schools may be required to have a GED. Those who have earned a GED should refer to the **GED Student** section. Students currently in high school may be considered for early admission as part-time students. See **Early High School Admission**.

Accuplacer and KYOTE Testing

Murray State utilizes two tests for placement and assessment. The Accuplacer test is a comprehensive computerized placement and diagnostic assessment instrument. Murray State University administers the Accuplacer for non-traditional students who are 21 years of age or older for admission purposes. KYOTE (Kentucky Online Testing Program) currently offers English, reading and math readiness and college algebra placement tests. KYOTE writing and reading test will be available soon.

Murray State administers Accuplacer and KYOTE tests on a limited basis. Accuplacer tests and KYOTE placement tests are alternatives if ACT/SAT individual test scores do not meet MSU's admission and placement requirements. If you have any questions, contact the Office of Undergraduate Admissions.

NOTE: For admission and placement use, Accuplacer and KYOTE scores must be current—taken within the last 12 months.

To prepare for the Accuplacer test, you may use any college board preparation guide. Accuplacer also has sample questions on their website, <https://accuplacer.collegeboard.org>

If you would like to schedule an appointment for the Accuplacer test or if you have any questions, please call 270-809-6851. Accuplacer test fees are \$20.00 for the standard three test battery and \$7.00 for single tests.

For information about KYOTE testing, please call 270-809-6267.

Freshmen Admission Requirements

TIER I

Priority Admit - Baccalaureate Degree Seeking

- ACT \geq 23 or SAT \geq 1070
 - No developmental requirements
 - Meets all other admission requirements¹
-

TIER II

Regular Admit - Baccalaureate Degree Seeking

- ACT \geq 18 or SAT \geq 870
 - No developmental requirements
 - Meets all other admission requirements¹
-

TIER III**Conditional Admit A - Baccalaureate Degree Seeking**

- ACT \geq 18 or SAT \geq 870
- One developmental course requirement
- Meets all other admission requirements¹

TIER IV**Conditional Admit B - Pre-Baccalaureate**

- ACT \geq 18 or SAT \geq 870
- 0-3 developmental course requirements
- Meets pre-college curriculum or top half of graduating class or 3.0 GPA²

Students will be admitted into the **Pathways to Success Program (P2S)**. The program requires the following:

- All academic advising to be provided by the Pathways to Success Program.
- Course load is limited to 15 credit hours per semester.
- Mandatory enrollment in ESS 120 in the first semester of enrollment.
- Mandatory weekly meetings with mentors/coaches.
- Mandatory tutoring for developmental classes.
- Must enroll in the University Study courses taught through the MSU Community College.

NOTE: Students who earn below an 18 ACT or 870 SAT will be denied admission and referred to community college.

¹Pre-college curriculum **and** ranked in top half of their graduating class or a 3.0 cumulative grade point average.

²Pre-college curriculum **or** ranked in top half of their graduating class or a 3.0 cumulative grade point average.

Non-Degree Seeking Admission

Any entering student regardless of classification (freshmen, transfer, adult learner, post baccalaureate, etc.) is eligible to pursue course work as a non-degree student per KRS 164.001. Students pursuing course work under the non-degree classification are not eligible for financial aid.

Students meeting NCAA qualifier requirements are eligible for admission under tiers 1, 2 or 3.

All entering freshmen, regardless of Tier eligibility, must have a minimum 2.0 GPA to be considered for admission.

Note: In the absence of ACT or SAT scores, Accuplacer scores can be used for admission only for students age 21 and over. For all students, Accuplacer test scores must be current (taken within the previous 12 months). Kentucky residents under the age of 21 must complete the state-mandated pre-college curriculum. All other applicants must complete a comparable college-preparatory curriculum. ACT/SAT writing scores are optional.

For Tier 4 students who want to be admitted as a baccalaureate degree seeking student into Tiers 1, 2 or 3, students must meet one of the following requirements:

1. Complete developmental course work prior to enrolling at MSU or
2. Special admission to Tiers 1, 2, or 3 may be obtained based on unique talents and circumstances. To be considered as a baccalaureate degree seeking student, please submit a letter of appeal to the Admissions Appeals Committee outlining your unique situation. Admissions Appeals Committee, 102 Curris Center, Murray, KY 42071.

Mandatory Developmental Courses

All Kentucky state-supported colleges and universities are required by the Council on Postsecondary Education to enroll freshmen in a subject-specific developmental course when the student's ACT/SAT scores are:

	ACT	SAT
English	17 and below	under 450 verbal or under 470 critical reading
Mathematics	18 and below	under 460
Reading	19 and below	under 480 verbal or under 500 critical reading

At this time, we are permitted to pull scores from multiple ACT/SAT testings. MSU meets this mandate with the following courses:

ENGLISH All students with an English ACT score below 18/SAT critical reading score below 470 **must** enroll in ENG 095 or ENG 096 based on the following test score scale: ENG 095 is required with English ACT below 15/SAT verbal below 390/SAT critical reading below 400. ENG 096 is required with ACT of 15-17/SAT verbal of 390-440/SAT critical reading of 400-460.

MATH All students with a mathematics ACT score below 19/SAT score below 450 **must** enroll in MAT 095 or MAT 096 based on the following test score scale: ACT of 15 and below/SAT of 370 and below **must** enroll in MAT 095; ACT of 16-18/SAT of 380-450 **must** enroll in MAT 096. Depending upon major, students with ACT scores under 21/SAT scores under 520 may also be required to enroll in MAT 097.

READING Students admitted with restrictions **must** first enroll in REA 095; all students with a reading ACT score below 20/SAT score 470 or below **must** enroll in REA 100 and REA 120.

Early High School Admission. A student who is currently in high school may be granted permission to enroll for courses prior to graduation. Inquiries should be directed first to the student's high school counselor and then to Undergraduate Admissions. Students seeking early admission must be able to succeed without remediation. These students are referred to as **Racer Academy** admits.

Home Schooled or Non-accredited High School Student. A student who is graduated from a non-accredited high school or one who is home schooled, may be considered for admission. The same admission documents and tests are required; however GED testing may be required.

GED Student. An applicant who is at least 19 years of age and has earned a GED diploma will be considered for admission on the basis of an application for admission accompanied by a \$40 non-refundable fee; an official report of the student's GED scores, mailed directly to Undergraduate Admissions from the center where he or she was tested; an official ACT or SAT score report mailed directly to Undergraduate Admissions from the National testing site; and any additional diagnostic testing deemed necessary by the Director of Undergraduate Admissions.

Admission Appeals. A new freshman who is denied admission and is a U.S. citizen may obtain information on appealing that decision by contacting Office of Recruitment at 800-272-4678, ext. #2, for the appeals procedure. Transfer applicants who are denied admission and wish to appeal, may obtain information on appealing by contacting the Transfer Center at 1-800-669-7654.

Undergraduate Non-Degree Classification

The goal of Murray State's policy for non-degree students is to provide appropriate access to academic courses for students who would like to continue their education but who do not wish to seek a degree. Although degree-seeking students have top priority in terms of utilization of university resources, the university does wish to provide access to these resources on a space-available basis to students who are not seeking a degree. Non-degree status affords

an opportunity for individuals to enroll in a few courses of specific interest to them without the structure of degree-seeking status, and is consistent with the educational mission of the university. Non-degree students are not eligible for financial aid, scholarships, or Alumni Legacy Grants.

Most non-degree students are considered “lifelong learners” and include the following groups: Donovan Scholars, students who have already earned degrees, employees wanting to gain new skills, and others who have special interests. (See information about visiting students and high school students with exceptional ability in this section.)

Non-degree applicants must submit to Undergraduate Admissions:

1. an application for admission including a list of all postsecondary institutions attended;
2. a non-refundable \$40 application processing fee; and
3. any records requested by Undergraduate Admissions to determine residency and/or eligibility for non-degree status. Diagnostic testing may be required before enrolling in courses that require a minimum level of competency.

Refer to the University Calendar for admission deadlines.

To be admitted as a non-degree student, an applicant must meet the following criteria:

1. The high school class of a non-degree applicant must have graduated at least two years prior to the applicant’s anticipated semester of enrollment.
2. Applicants who have been denied admission as degree-seeking students may not in turn be admitted as non-degree seeking students.
3. Murray State students under academic or disciplinary suspension may not be admitted as non-degree students.
4. Students currently under suspension at other institutions may not be admitted as non-degree students. Failure to disclose a current suspension may result in forfeiture of eligibility for future enrollment.
5. Students are strongly encouraged to submit transcripts of high school or prior college work at the time of admission to facilitate advising about appropriate course work.

The following rules govern enrolling as a non-degree seeking student:

1. Non-degree students fall under the same fee, academic and grading policies as degree-seeking students, are expected to participate fully in class, and must meet course prerequisites or obtain the consent of the instructor to enroll in a course. (See the section on auditing below.)
2. Students classified as non-degree pre-schedule with students who are classified as freshmen.
3. **No one may continue to enroll as a non-degree student after earning 24 semester hours in this status without the special permission of the dean of the college in which the student is registered.**
4. No transfer, military, AP, CLEP, or other testing credit will be recorded on the record of a student classified as a non-degree student. An enrolled non-degree student may apply to take departmental challenge examinations.
5. If a non-degree student decides to apply for degree status, the student must contact Undergraduate Admissions for the appropriate form, and must meet the admission requirements in effect at the time of the request for review of status. Although successful completion of courses taken while a non-degree student does not ensure admission, to be considered for degree-seeking status, the student must have a minimum of a 2.00 cumulative GPA on those courses.
6. Credit earned as a non-degree student will be evaluated for applicability toward a degree by the chair of the academic department in which the student will be enrolled. No graduate or professional

credit is awarded for courses taken while a student is enrolled as an undergraduate non-degree student. Acceptance of non-degree credit for transfer is at the discretion of the receiving institution.

Visiting Students

A student who is currently enrolled or working toward a degree at another college and wants to enroll at Murray State for credit that will be transferred to that college is considered a visiting student. **A minimum of a 2.00 (4.00 scale) cumulative GPA is required to be eligible to enroll at Murray State as a visiting student.** A student must submit a **visiting** application and a \$40 nonrefundable fee to the Transfer Center. To complete admission, an official “letter of good standing” from the Registrar’s Office of the college from which the student will be visiting is required. It is important to remember (1) no transfer credit is posted to a visiting student’s permanent record at Murray State; (2) a visiting student who decides to transfer to Murray State must comply with all of the transfer admission requirements in force at the time the change of status is requested; (3) the acceptability of transfer credit from Murray State to another college is determined by the receiving institution; (4) visiting student status is generally valid for only one term, at which time the student must contact The Transfer Center for permission to re-enroll; and (5) Murray State transcripts are mailed only upon the written request of the student, accompanied by the appropriate fee. Transcript request forms may be obtained from the Office of the Registrar or from their link at www.murraystate.edu.

Post-Baccalaureate Admission

Individuals having successfully completed the requirements for a baccalaureate or higher degree who wish to take additional undergraduate courses may be admitted as post-baccalaureate students. A student with a degree from Murray State needs to submit a post-baccalaureate application, accompanied by a \$40 nonrefundable fee. All other post-baccalaureate applicants should submit a post-baccalaureate application for admission with a \$40 nonrefundable application fee, and should request an official transcript mailed directly to The Transfer Center or sent via secure electronic download to msu.transfercenter@murraystate.edu from the registrar’s office of the college that conferred his or her degree. **A student pursuing a degree from Murray State must have official transcripts sent directly to The Transfer Center from each college attended.**

A readmitted post-baccalaureate student who has below a 2.00 cumulative GPA on all undergraduate post-baccalaureate course work will be readmitted on probation and must comply with all probation policy regulations.

Documents to verify residency may be required.

Readmission

An undergraduate student in good standing who has previously attended Murray State University but has been out for two full years (excluding summers) will be readmitted upon completions of the readmission application and \$40 nonrefundable fee. All Readmission applicants must apply through the Transfer Center for an initial review of their application and transcripts. Students on academic suspension or dismissal who are eligible to return, must also apply through the Transfer Center. Before applying again or requesting new transcripts, the student should call the Transfer Center to see if previous transcripts are still on file. The Transfer Center will accept electronic transcripts from other accredited institutions only when submitted via secure electronic download. Students who applied for admission to Murray State as new students but did not enroll may need to complete new applications for admission. Before applying again or requesting new transcripts, the student should call the Transfer Center to see if the materials sent before are still on file. Verification of residency for tuition purposes may be required.

Submitting with the application a copy of the applicant's driver's licence will assist with this process. The applicant will be notified if other documents are required.

A student who was in good academic and financial standing when he or she left the university, who has a complete admission file, and who has not attended any other regionally accredited colleges since last enrolling at Murray State, is eligible for readmission. If a student left Murray State on disciplinary or academic probation, suspension or dismissal, and has no new transfer credit, the applicant may be considered for readmission on an individual basis. If the student is readmitted, any conditions will be specified in the letter of admission. Students previously admitted under an admission status that imposed conditions or restrictions who did not complete the requirements for removal of that status will be re-evaluated based on the current admission requirements and probation policy. Refer to the section on admission level requirements that appears earlier in this chapter.

A student who has been enrolled at other institutions since last attending Murray State must request that an official transcript be mailed directly to the Transfer Center from each college. Eligibility for readmission will be determined after evaluating the transfer credits. Failure to furnish such official transcripts as required will delay readmission and may affect the student's academic standing at Murray State. **A student who withholds or gives false information or documents can be denied admission or withdrawn from school.** (Note: A student must be currently enrolled at Murray State before any transfer, military, or testing credit will be recorded on a permanent record.) A readmission applicant who has transfer work and is in good standing academically, financially and in all other respects at both Murray State and any other colleges attended will be admitted as long as the student's cumulative grade point average on all courses is at least a 2.00 on a 4.00 scale. All other applicants will be considered on an individual basis. A readmission applicant who is denied admission may appeal that decision to the Admission Appeals committee. Contact the Transfer Center for more information on the admission appeal process. Academic bankruptcy declared at another college does not apply at Murray State. If the student is readmitted, any conditions of admission will be specified in the letter of admission. Refer to the sections in this *Bulletin* on transfer, probation, and academic second chance policies for additional information.

Transfer Students

Admission. A student who wishes to transfer to Murray State University from another regionally accredited college or university must submit an application for admission with a nonrefundable \$40 fee, and have an official transcript mailed or electronically sent (not faxed) to the Transfer Center from each school attended. **Under no condition will the applicant be permitted to ignore previous college work.**

A student who withholds or gives false information or documents can be denied admission or withdrawn from school and denied a degree. Academic bankruptcy declared at another college does not apply at Murray State University.

A student who has 24 semester hours of transferable degree credit with a minimum of a 2.00 (C) cumulative grade point average on all previous courses, as calculated by Murray State, and is in good standing academically and financially at all colleges previously attended, is eligible for admission to Murray State. An applicant who has a minimum of a 2.00 (C) cumulative GPA but who has fewer than 24 semester hours of transferable degree credit must submit an official ACT/SAT score report and an official high school transcript mailed directly to the Transfer Center from the high school the student attended. The high school transcript should include the student's class rank and date of graduation. Once admitted, conditions of admission will be specified in a letter of admission.

A student who has attended only colleges that are not regionally accredited and would like to appeal the credit, may contact the Transfer Center at 1-800-669-7654 for additional information.

Admission Appeals. A new transfer student who is denied admission and is a U.S. citizen, should contact the Transfer Center at 1-800-669-7654, for the appeals procedure.

Transfer of Credit. Degree credits earned at other regionally accredited (as recognized by Murray State) American institutions of higher education may be transferred to Murray State and applied toward a degree. **The Transfer Credit Practices report published by the American Association of Collegiate Registrars and Admissions Officers will be the reference used for determining an institution's accreditation status.** Determination of upper-level and lower-level credit is based on the course level at the sending institution. All work is converted to semester hours and a 4.00 grading scale. Murray State's probation and repeat policies are applied as required. Transferred incomplete grades do not carry hours attempted; *i.e.*, they do not affect the student's grade point average.

All acceptable transfer credit is formally evaluated, with a copy of the degree audit made available to each transfer student and to his/her advisor.

A student must be currently enrolled at Murray State before any transfer, military, or testing credit will be recorded as part of a permanent record. There is no limit to the number of hours that may be transferred from a regionally accredited institution. However, it is important to remember that a certain number of hours must be completed at Murray State, and that courses taken at a two-year institution cannot be used to meet Murray State's requirement for upper-level (junior or senior) courses.

Military Service Credit-Credit for courses taken in military service schools is evaluated according to recommendations in the *Guide to the Evaluation of Educational Experience in the Armed Services* published by the American Council on Education. Courses listed in two other American Council on Education publications, the *National Guide to Educational Credit for Training Programs* and the *Directory of the National Program on Non-Collegiate Sponsored Instruction (PONSI)*, are evaluated for credit on an individual basis.

Credits earned through educational institutions located outside the United States will be considered for acceptance after an appropriate evaluation. Students may contact the Office of International Admissions for information regarding the evaluation procedure.

University Studies. Transfer students who have completed reasonable communication and basic skills, science and mathematics, humanities and fine arts, and social science courses for the same number of hours as required at Murray State, will be credited with completion of the University Studies component of degree requirements. Any deficiencies at the time they first enroll at Murray State must be fulfilled according to MSU regulations.

Transfer Students with an Approved Associate Degree. A transfer student who has completed, as of May 1995 or later, an approved baccalaureate-oriented Associate of Arts or Associate of Science degree will (a) be accepted with junior class standing provided the student has completed at least 60 semester credit hours, and (b) be considered to have completed the baccalaureate University Studies requirements. However, additional University Studies courses may be needed if they are required for the student's major and/or degree and an equivalent course has not been transferred. Associate degrees completed before May 1995, will be reviewed by the Transfer Center. If the degree is determined to be baccalaureate-oriented and to have comparable content and credit hour criteria, the same benefits will be extended to those graduates.

Transfer Students Who Do Not Have an Approved Associate Degree. Students seeking a baccalaureate degree who, transfer fewer than six semester hours in the University Studies World's Historical, Literary, and Philosophical Traditions category will be required to

take HUM 211 and CIV 201 or CIV 202 toward completion of that block, unless their transfer credit includes courses which are clearly equivalent to Murray State's HUM 211 and CIV 201 or CIV 202.

Kentucky General Education Transfer Agreement

The Council on Postsecondary Education and the public colleges and universities in Kentucky have developed a University Studies core transfer component which reflects the distribution of disciplines included in university-wide lower division general education requirements for the baccalaureate degree. A **Fully General Education Certified** student, as verified by the sending institution, is considered to have completed Murray State's baccalaureate University Studies requirements. However, additional University Studies courses may be needed if they are required for the student's major and/or degree and an equivalent course has not been transferred.

To be **Fully Certified** a student must have a minimum cumulative GPA of 2.00 (4.00 scale) and have met each of the following criteria at the time of transfer:

1. earned at least 60 hours of college-level credits;
2. completed at least 45 hours of University Studies courses;
3. completed the 30 hour core transfer component.

If a student plans to transfer from another Kentucky state university or community college, please view the Transfer Center website (www.murraystate.edu/transfercenter/transfer) for updated regulations regarding transferring of general education courses or contact the Transfer Center at 270-809-3350.

Transfer Frameworks. The Baccalaureate Program Transfer Frameworks identify 12 hours of course work in a major which may be successfully transferred in addition to the general education block. Each framework represents a specific guide to the exact courses a student needs. For more information about the Transfer Frameworks contact the Transfer Center.

International Undergraduate Student Admission

University Admission. A *nonrefundable application fee of \$30 must accompany any application for admission as an international student.* A complete packet of admission forms is available at www.murraystate.edu/libraries/iis/interapp.sflb.ashx. All international students, including transfer students from non-English speaking countries, are required to take the Test of English as a Foreign Language (TOEFL), the International English Language Testing System (IELTS), or complete Murray State's English as a Second Language Program. A student *must* request that an official score report be mailed by the testing service directly to The Office of International Admissions, 171 Woods Hall, Murray, KY 42071. **These score requirements are subject to change.** In addition, an applicant must certify that he or she has adequate financial support to cover at least the first year of the entire period of time that the student would be at Murray State. Each international applicant must submit official or certified copies of all previous academic records. **A student who withholds or gives false information or documents can be denied**

admission and/or withdrawn from school. Because of mail turnaround time and the extra time needed to evaluate international educational records, students are strongly urged to apply at least six months in advance.

NOTE: University admission with ESP Condition requires completion of a university ESP placement test and one to two ESP classes may be required concurrently with university classes. Admission with ESL Condition requires full-time enrollment and completion of Murray State's English as a Second Language (ESL) program and achievement of the institutional TOEFL score required by the applicant's academic program major. If determined to be eligible, students may be enrolled into a transition program in which selected university classes may be taken on a conditional basis along with further designated language study.

English as a Second Language Program Admission. Undergraduate students who have not taken the TOEFL or IELTS, or who have a score below the admission standard of the undergraduate program for which they wish to apply, may apply for conditional admission through the English as a Second Language (ESL) program. The ESL program offers students six levels of English language instruction to prepare them for university study.

A student who enters the ESL program is tested and placed into the appropriate level of language study, ranging from level one (beginner) to level six (high advanced). Each level of study consists of an eight-week course in nine different skill and knowledge areas which include the following: applied grammar, computer-assisted composition, error analysis, oral skills workshop, university orientation for new students, listening comprehension, conversation, speech development, academic reading, and TOEFL preparation. In total, students take 20 hours of classes per week over an eight-week term. A student who begins the ESL program at level one should expect to study English for six terms (three semesters).

The language courses are supplemented by activities outside of class, including the ESL Conversation Partners Program, which are intended to assist students in learning English and in adapting to American university life.

In order to advance through and complete all levels of language study in the ESL program, students must maintain the ESL program academic standards, which include satisfactory grades in ESL courses, appropriate exit proficiencies, and mandatory attendance.

Undergraduate applicants who satisfy all admission requirements other than English proficiency may apply for a combination of intensive language instruction and course work toward a degree. Upon successful completion of level six and the recommendation of the ESL program director, an ESL student may enroll in full-time university course work if all other admission requirements have been met.

For more information on the ESL program and fees, write to English as a Second Language, Institute for International Studies, 115 Woods Hall, Murray KY 42071-3304, USA; e-mail msu.esl@murraystate.edu; call 270-809-3265; or visit Murray State's website at www.murraystate.edu/students/international/iis/eslmain.

UNDERGRADUATE ADMISSION STATUS BASED ON LANGUAGE PROFICIENCY REQUIREMENTS

TEST	FULLY ADMITTED WITHOUT CONDITION	FULLY ADMITTED WITH AEP CONDITION ¹	FULLY ADMITTED WITH ESL CONDITION ²
Paper-Based TOEFL	527 or more	500-523	497 or below
Internet-Based TOEFL (iBT)	71 minimum on Academic Test with no band less than 16	61-70 on Academic Test or any band score of 13-15	60 or less on Academic Test or any band score of 12 or less
IELTS	6.0 minimum on Academic Test with no band less than 5.0	5.5 on Academic Test with any band score of 4.5 or 5.0	5.0 or below on Academic Test or any band score below 4.5 No TOEFL or IELTS scores

¹AEP - Academic English Program for Non-Native Speakers

²ESL - English as a Second Language Program



Graduate Admissions

Graduate Admissions
B2 Sparks Hall
(270) 809-3779 or 3756

POLICIES AND PROCEDURES

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Graduate Admission Standards

Although the student advising program at Murray State University is specifically designed to assist students as they progress through degree programs, **it is the responsibility of all students to be thoroughly familiar with rules, regulations, and requirements that apply to their programs of study.**

In addition to a baccalaureate degree from a regionally accredited institution, an applicant must satisfy the admission standards and prerequisites of the department and college/school in which the applicant plans to study. Prerequisites and requirements for specific degrees will be found in the appropriate departmental sections of this *Bulletin*. Applicants for doctorate degrees should also consult the specific program coordinator for admission details.

Admission Processes

Requests for admission to master's or doctorate study at Murray State University should be addressed to Graduate Admissions, Murray State University, Murray KY 42071. Applicants must submit an admission application and the \$40 nonrefundable application fee. **A graduate student may be required to submit a new application for admission if the level of program or their graduate program objective changes, or if the student does not enroll for a period of four or more consecutive semesters. Under the requirements of 12KAR2:045 as cited later in this chapter, review of residency for tuition purposes is a required part of the admission/readmission process. Documents to verify residency may be requested by Graduate Admissions for residents of AL, IL, IN, KY, MO, and TN, and must be provided before the beginning of the term for which the applicant seeks admission.**

Official transcripts reflecting **all** previous college credit should be forwarded to Graduate Admissions of Murray State University by the registrar(s) of the school(s) the applicant attended. In the event the student attended more than one college, an official transcript must be sent from **each** college. These credentials should be on file in Graduate Admissions no later than one month prior to the date the applicant expects to register.

Following the receipt of all required credentials, materials will be forwarded for departmental approval. After departmental review, the applicant will be sent an official letter indicating admission status.

The following standards represent minimum campus-wide requirements. Higher minimum standards for grade point average (GPA) and Graduate Record Examination (GRE) may be set by individual departments or colleges. In lieu of the GRE, some units may select other nationally recognized tests that are more appropriate to their disciplines. Detailed information about any program-specific admission requirements beyond these campus-wide requirements is provided in the individual program listings.

Unconditional Admission

Minimum university requirements for unconditional admission are an overall 2.75 grade point average (based on A equals 4.0). Some degree programs have additional requirements for unconditional admission. Refer to the program listings for additional information.

Conditional Admission

Conditional admission may be granted to a student with an overall grade point average between 2.25 and 2.74. Conditional admission may also be granted to a student with an overall grade point average of 2.0 to 2.24 if the academic college/school's review of the student's record indicates the likelihood of success. Some degree programs have additional requirements for conditional admission. Refer to the appropriate chapter in this bulletin for requirements relating to specific degrees.

Upon the completion of nine hours of graduate work a student admitted conditionally must have a 3.0 grade point average, or the student may be dropped from the graduate program. A graduate student dropped for failure to meet this requirement may reapply after having been out of the graduate program for one semester.

Any exceptions to this policy must be approved in writing by the departmental graduate coordinator, the department chair, and the collegiate graduate coordinator.

Unclassified Admission

An applicant holding a baccalaureate degree from a regionally accredited institution may be admitted as an unclassified graduate student if:

1. the student demonstrates promise but is not qualified for admission to a graduate program;
2. the student does not intend to complete a degree program at Murray State University;
3. the student has no degree objective; or
4. the student has files that are incomplete and cannot be processed for either conditional or unconditional admission.

Regulations Governing Unclassified Admission

1. A student whose files are incomplete as specified in point 4 above would have one month from the date of enrollment to complete the files and change to a degree status.

2. Students with incomplete files will be restricted to one-term enrollment only.

3. Up to 12 hours earned as an unclassified graduate student may be applied to a degree if approved by the appropriate graduate advisor.

4. Unclassified graduate students will pay graduate fees for all courses.

5. An unclassified graduate student is allowed to take no more than *13 hours per semester*.

Non-Degree Graduate Admission

An applicant holding a baccalaureate degree from a regionally accredited institution may be admitted as a non-degree graduate student. An official transcript reflecting all previous college credit must be submitted to Graduate Admissions at Murray State University by the registrar(s) of each school(s) the student attended. An undergraduate GPA of 2.75 is required for admission as a non-degree student.

Graduates of Nonaccredited Institutions

An applicant with an undergraduate degree from an institution not regionally accredited may enter an MSU graduate program if the applicant meets the following requirements:

1. A score of 300 on the aptitude portion (V+Q) of the Graduate Record Examination (GRE).

2. Completion of 32 hours of undergraduate course credit, with a GPA of 2.5 or better, at MSU or a regionally accredited institution which fulfill the following categories:

Communication and Basic Skills	6 hours
Social Sciences	6 hours
Sciences and Mathematics	8 hours
Electives	6 hours
Humanities and Fine Arts	6 hours

3. Any additional requirements of the department in which the student will do graduate work.

An applicant with an undergraduate degree from an institution not regionally accredited, who has completed fewer than nine graduate hours at an accredited institution, must fulfill the requirements of this policy. After the student's admission to a graduate program

at MSU, the graduate hours earned previously will be evaluated by the student's graduate department for transfer credit.

Early Master's Admission for MSU Seniors

Seniors at Murray State University who are within nine hours of completing the baccalaureate degree, who have a cumulative grade point average (GPA) of at least 3.0, and are meeting all undergraduate GPA requirements, may be admitted to graduate study provided they meet departmental and general admission requirements. Seniors admitted on this basis are considered graduate students, and will be charged graduate tuition for all courses scheduled. **Note: This type of admission may cause problems with financial aid.**

Students who fail to complete all undergraduate requirements during their first semester as graduate students will be denied graduate credit. All courses taken during that term will be permanently recorded as undergraduate, with no refund of graduate tuition. Early admission graduate students may apply for graduate assistantships.

Seniors enrolled at institutions other than MSU who meet the requirements outlined above may petition Graduate Admissions for early admission. However an official transcript with bachelor's degree posted will be required prior to registration.

Accelerated Graduate Admission

A Murray State University undergraduate student who needs 30 or fewer credit hours to complete all of the requirements of a baccalaureate degree and who has an overall undergraduate grade point average of at least 3.0 at the time of admission, may be considered for accelerated graduate admission as a graduate student in designated programs.

Students who wish to be considered for accelerated graduate admission to a graduate degree program are advised to take the GRE or other appropriate test during their junior year. Students should consult their intended graduate program for specific requirements. Application for accelerated graduate admission should be initiated by the student by completing a graduate admissions application.

NOTE: Federal regulations permit undergraduate students to receive financial assistance only for coursework required for their current degree program. Students who are enrolled in both undergraduate and graduate coursework in the same semester will receive less financial aid than if only enrolled for undergraduate coursework. **Students are strongly advised to contact Murray State University's Office of Financial Aid to find out how their financial aid amount would be adjusted.**

University scholarship, tuition waivers, athletic certification, and veteran's benefits may also be impacted. Graduate tuition will be charged for all coursework upon accelerated graduate admission.

Visiting Students

Any student in good standing in a recognized graduate school may enroll for graduate study at Murray State University for either a summer session or one regular semester as a visiting student.

A visiting student is not required to submit an official transcript, but must secure a visiting student form from Graduate Admissions of Murray State University. This form must be completed by the appropriate official of the student's home college/university and forwarded to MSU Graduate Admissions. A visiting student who elects further graduate study at Murray State University must either fulfill all requirements for admission to graduate study or have a new visiting student form submitted by the student's "home" graduate school.

Graduate Program

All candidates for the master's or doctorate degrees at Murray State University are required to follow a planned program of graduate study. **Although a student may be required to take prerequisite courses, only approved courses completed while enrolled as a graduate student may apply toward a graduate program.**

Information regarding the graduate program form will be sent along with the letter of acceptance to graduate study. The student's academic advisor should be consulted prior to registration for assistance in planning a program. **By the end of the first term enrolled, the student must complete the graduate program form and submit it to the specified advisor, who will secure the required signatures and return the form to the Office of the Registrar. To be approved, a program must meet all requirements stipulated in the *Academic Bulletin*.**

Any subsequent change in the program must be approved by the student's advisor and the collegiate/school graduate coordinator. The collegiate graduate coordinator is responsible for notifying the Office of the Registrar of the program changes on an **official graduate substitution form** available on *myGate*.

Readmission

A graduate student in good standing who has previously attended Murray State University but has had four semesters of non-attendance will be readmitted upon completion of the graduate application and the \$40 nonrefundable fee. All graduate applicants must apply through the Graduate Admissions for an initial review of their application and transcripts. At that point, it may be determined that the application and transcripts will be forwarded to the appropriate academic department for approval. Before applying again or requesting new transcripts, the student should call Graduate Admissions to see if previous transcripts are still on file. Graduate Admissions will accept electronic transcripts from other accredited institutions. Students who applied for admission as a graduate student but did not enroll may need to complete a new application for admission. Before applying again or requesting new transcripts, the student should call Graduate Admissions to see if the materials sent before are still on file. Verification of residency for tuition purposes may be required. **Submitting with the application a copy of the applicant's driver's licence and vehicle registration will assist with this process. The applicant will be notified if other documents are required.**

A student who has been enrolled at other institutions since last attending Murray State must request an official transcript be mailed directly to Graduate Admissions from each college attended. Failure to furnish such official transcripts as required will delay admission and may affect the student's academic standing at Murray State. **A student who withholds or gives false information or documents can be denied admission or administratively withdrawn from school.** For further information, contact 270-809-3756.

International Graduate Student Admission

In addition to meeting departmental, collegiate, and general graduate study requirements, an international student must submit the following to International Admissions before an admission decision can be made:

1. A completed application for admission, including the non-refundable application fee of \$50 (US).
2. Official transcripts reflecting all previous college credit should be forwarded to International Admissions at Murray State University by the issuing officer (e.g. Registrar, Controller of Examinations) of each school the applicant attended. An official copy of the diploma or graduation certificate will also be required if a student received a degree and it is not indicated on the official transcript. Copies must be certified by the issuing institution. **Copies notarized by a**

third party will not be accepted. Credentials will be evaluated to determine if the course of study completed is equivalent to a four-year degree.

3. An official translation of any document not originally in English, sent directly from the translator.

4. Proof of adequate funds to finance their entire course of study. A statement of financial responsibility should be sent directly from the person and/or organization providing financial support. In addition, the appropriate documentation to verify that funds are readily available to the student will be required.

5. Proof of English language competency by one of the following:

- a. Official TOEFL score report with acceptable score,
- b. Official International English Language Testing System (IELTS) score report with acceptable score,
- c. Bachelor’s degree from a recognized US or UK institution,
- d. Successful completion of MSU’s English as a Second Language (ESL) program.

Conditionally admitted students may be assigned to full-time language study in the English as a Second Language (ESL) program or entered into a graduate transition program and permitted to take classes on a conditional basis along with further designated language study, or admitted unconditionally to graduate study if the student meets all other specific program requirements.

A student who has successfully completed the advanced level of the MSU English as a Second Language (ESL) program, and has been certified in English competency by the designated ESL/College Graduate Program Assessment Committee, and met all other specific program requirements will be allowed to enroll in the designated graduate program. Performance in ESL classes, TOEFL scores, and written and oral proficiency in the specific area of graduate study will form the basis for language proficiency assessment.

Notes: 1) Academic departments may set standards for English proficiency requirements higher than the minimums listed above. Students must meet the specific language proficiency requirements listed in each respective department’s admission requirements of this Bulletin.

2) Conditional Admission requires completion of MSU’s English as a Second Language (ESL) program and achievement of the Institutional TOEFL score required by the applicant’s desired program.

3) The Computer-Based TOEFL test is no longer available, however scores maintained by ETS will be honored.

GRADUATE ADMISSION STATUS BASED ON LANGUAGE PROFICIENCY REQUIREMENTS

TEST	FULLY ADMITTED WITHOUT CONDITION	FULLY ADMITTED WITH AEP CONDITION ¹	FULLY ADMITTED WITH ESL CONDITION ²
Paper-Based TOEFL	527 or more	500-523	497 or below
Internet-Based TOEFL (iBT)	71 minimum on Academic Test with no band less than 16	61-70 on Academic Test or any band score of 13-15	60 or below on Academic Test or any band score of 12 or less
IELTS	6.0 minimum on Academic Test with no band less than 5.0	5.5 on Academic Test with any band score of 4.5 or 5.0 Departmental approval required.	5.0 or below on Academic Test or any band score below 4.5 No TOEFL or IELTS scores

¹AEP - Academic English Program for Non-Native Speakers

²ESL - English as a Second Language Program



Financial Information



270-809-4227 or 800-272-4678 ext. 5
msu.bursar@murraystate.edu

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Costs

A student who is classified as a graduate or doctoral student will be assessed graduate or doctoral fees for all courses, regardless of course level. All fees, including applicable room and board, must be paid by noon on the due date shown on the semester billing statement (see *Fee Payment* section below). Students who do not make payment of required fees are not registered students. All fees imposed by the university are subject to change without notice by action of the Murray State University Board of Regents.

All accounts owed by a student to the university must be paid in full before the student is entitled to receive a degree, a transcript, a record of grades, schedule classes for preregistration, or to enroll in classes.

Tuition and Registration Fees

Refer to *Costs* on the Murray State University website: www.murraystate.edu/admissions/bursarsoffice.

Fee Payment

Payments are due by noon on the due date shown on the semester billing statement. Payments can be made online using an electronic check from a checking or savings account, debit card, or credit card through Pay-Path®. There is a 2.75% or minimum \$3 charge if making payment by credit card. Other payment methods do not have an additional charge and include checks, money orders, and cashier's checks. Other payments may be mailed to the **Cashier's Office**, 200 Sparks Hall, Murray, KY 42071.

Payment options. Payment arrangements with appropriate payment must be made with the Bursar's Office when parents and/or students are unable to make payment in full from personal funds by noon on the due date shown on the semester billing statement. Accounts with a balance of \$200 or less are due in full.

Acceptable payment arrangements consist of the following:

- Payment of all fees in full by noon on the due date as published by MSU each semester and as posted on students **myGate** accounts. Credit cards, debit cards and checks are acceptable.
- Enrollment in the Murray State University Payment Plan (MSUPP) with appropriate payment. **Note:** There is a \$30 fee to enroll in the payment plan. Students will enroll in the payment plan via their **myGate** account. Acceptable third-party agencies are foreign embassies, vocational rehabilitation, Kentucky state agencies, Veterans Affairs, Department of Labor, Fort Campbell, TAA, WIA, and company direct billing.

Payment must be credited to student's account in order to be officially enrolled at MSU and have access to *Canvas*.

Late registration fee. The late registration period begins approximately 14 calendar days prior to the first day of classes. (See the official university calendar under Racer Tools at www.murraystate.edu or at www.murraystate.edu/admissions/bursarsoffice for exact dates.) All current or returning students registering for the semester for the first time during the late registration period will be assessed a late registration fee. Failure to make payment by the published due dates will cause the student's class schedule to be dropped (purged) from the computer system. **Students who elect to reschedule after their original schedules have been officially purged will be assessed a late registration fee.**

Schedule change fee. Schedule changes made after the published deadline date to do so may be subject to a \$50 schedule change fee. Please review the Academic Calendar for published add and drop dates, www.murraystate.edu/academics/academiccalendars.

Housing

All freshmen and sophomores who have not reached their 21st birthday prior to the first day of registration as it appears in the

university academic calendar will be required to live in university housing and to purchase one of the available university food services meal plans.

Exempted from this requirement are students who are veterans of at least two years of active military service; students who daily commute from the permanent, legal residence of their parents or legal guardian (within a 50 mile radius); students who are married and living with their spouse; students who have resided in a university residential college four semesters, excluding summer terms; non-regional tuition students who have obtained junior status (sixty hours earned); regional tuition students who have obtained senior status (ninety hours earned); and students who have been enrolled full time at a postsecondary institution for four semesters, excluding summers.

Freshmen and sophomores receiving family grants or freshmen, sophomores, and juniors whose legal residence is in one of the regional tuition counties of Missouri, Illinois, Indiana, Ohio, Tennessee, and Alabama and who accept the regional tuition discount are also required to live in university housing.

For complete housing regulations, rules, discounts, and miscellaneous information, refer to the Residence Life section of the *Student Life Handbook* or contact the Housing Office, 270-809-2310, 809-3811, or 877-551-7774 or online at www.murraystate.edu/campus/housing.

Meal Plans

Freshman and sophomore students living in the residential colleges must participate in a meal plan program. All meal plans include Flex dollars that can be used in any dining location and are non-taxable thereby saving customers 6% at most locations.

For a listing and description of available meal plans, visit the Dining Services at: www.murraystate.edu/dining.

Racer ID

Students enrolled at Murray State are entitled to health services, admission to athletic events, Murray Civic Music Association performances, and certain activities sponsored by the University Center Board by presenting their MSU RacerCard Identification (ID Card).

The Murray State University RacerCard fee is assessed once to all students enrolled in main campus courses. Students enrolled in off-campus or online-only courses are not assessed an ID fee unless specifically requested by the student. Scheduling courses and payment for all financial obligations are necessary for appropriate ID activation each semester.

Other General Fee and Payment Information

All of the fees and charges in this *Bulletin* are subject to change without notice. The Bursar's Office, located on the first floor of Sparks Hall, is responsible for the interpretation and application of the university's policies related to fees and refunds. Any questions related to these should be directed to this office.

If a satisfactory determination or explanation of a specific fee or refund cannot be obtained after discussion with the Bursar's Office personnel, a written appeal should be made to the vice president for administrative services. Appeals should include as much detail as possible to allow for adequate and speedy review.

Refunds

Refunds will be made in accordance with the university's official *Schedule of Fees*, refer to the **Proration of Charges** on the Murray State website: www.murraystate.edu/admissions/bursarsoffice. Any questions concerning refunds should be directed to the Bursar's Office. **Students can have their refunds direct-deposited or have a check mailed.**

Withdrawal. A student who completes official withdrawal via their myGate account or is dismissed will receive a refund of tuition, fees, room and board in accordance with the official *Schedule of Fees*. Students residing in Murray State University residence halls will receive refunds only in the event of withdrawal from school, dismissal or marriage.

Federal Return of Title IV Funds Policy. This policy applies to all students receiving federal loans or grants. For complete information concerning this policy refer to the University Bursar's Office web page under Pro-Ration of Charges.

Dropping Classes. A student who drops through myGate may receive a refund of tuition and/or course fee if the student (1) drops below full-time, (2) is part-time and drops a class(es), or (3) is full-time and drops a class with refundable course fee. A student who drops a meal plan will receive a refund. Both types of refund will be in accordance with the dates given in the official *Schedule of Fees*. See the previous paragraph regarding withdrawing from all courses. Students should verify all changes through his or her myGate account.

Appeals Process. Students who wish to appeal their refund amount must do so in writing to Refunds Appeals Committee, Bursar's Office, 1st Floor Sparks Hall.

Returned Check Policy

All checks returned by the bank as unpaid for any reason will carry a penalty of \$20 per check. Any account for tuition, fees, room and board paid by a check which is returned by the bank will be considered not paid. Students who do not clear all returned checks within ten working days may be administratively withdrawn for non-payment of required fees and/or be subjected to the appropriate legal action. Students who have had five or more returned checks will lose check-writing privileges on campus.

SREB Academic Common Market

The Academic Common Market is a cooperative tuition-reduction agreement among 14 Southern Regional Education Board states. If the public institutions in one of the states does not offer degree programs in a certain field of study, it may be possible to arrange a waiver of out-of-state tuition to attend a cooperating public institution of higher education in another participating state. Periodic changes are made in the inventory of programs available. Participating states are Alabama, Arkansas, Delaware, Florida (graduate programs only), Georgia, Kentucky, Louisiana, Maryland, Mississippi, Oklahoma, South Carolina, Tennessee, Texas (graduate programs), Virginia and West Virginia.

Write directly to the college or university for admission information. Once you have been accepted into a program and can prove you are a legal resident of Kentucky, contact the Kentucky Academic Common Market coordinator at the Council on Postsecondary Education, 1024 Capital Center Drive, Suite 320, Frankfort KY 40601, 502-573-1555 to certify your eligibility.

Reciprocity Tuition Discount

Students from the Tennessee counties of Henry, Weakly, and Obion counties will be assessed non-resident tuition. A tuition discount will be credited for the difference between Murray State University's non-resident tuition and in-state tuition. **Note:** This will result in the student paying the same as in-state tuition.

Regional Tuition Discount

Students from Montgomery County in Tennessee and students from Massac County in Illinois, or Posey, Vanderburgh or Warrick Counties in Indiana will be assessed non-resident tuition. A tuition discount will be credited for the difference between Murray State University's non-resident tuition and in-state tuition. Regional

Tuition Discount for students admitted or re-admitted (after a one year absence):

- Other than residents from the Illinois, Indiana and Tennessee counties referred to above, residents of Alabama (admitted for Fall 2011 or after), Illinois, Indiana, Missouri, Ohio (admitted for Fall 2011-Summer 2014), and Tennessee will be charged non-resident tuition. A tuition discount will be credited for the difference between Murray State University's non-resident tuition and an average in-state rate, based on colleges from the student's state of residency on record with Admissions Services.

- In order to receive the Regional Tuition Discount, freshman, sophomore, and junior undergraduate students must be eligible for admission, enroll full-time, and pay for university housing. Graduate students will not be required to be full-time nor pay for university housing.

- Summer Regional Tuition Rates for all students will be based on their state's respective institution rates.

Senior Citizen's Tuition Waiver (Donovan Scholarship)

Murray State University in accordance with KRS 164.284, will waive tuition charges and fees (except for application fees, special workshops and noncredit continuing education courses) for any person sixty-five (65) years of age or older who is a resident of Kentucky. The individual must be 65 before the late registration dates for the term in which he or she wishes to enroll. Special **course fees** or necessary materials for class use are not covered in the waiver.

In the event that classes are full or the granting of free tuition requires additional staff or course sections, the university may deny an individual's request.

War Orphans and Spouse/Children of Disabled American Veterans Waivers

Murray State University in accordance with KRS 164.505 and 164.515 will waive tuition (except for special workshops and non-credit continuing education courses) for a dependent, widow or widower of servicemen or national guardsmen killed while in service or having died as a result of service-connected disability and the spouse or child of permanently disabled national guardsmen, war veterans, prisoners of war, or servicemen missing in action upon receipt of the required certification or other documents satisfactory to the university. For additional information contact Veterans' Affairs, in the Office of the Registrar in Sparks Hall.

Other State-Mandated Waivers

For information concerning other state-mandated waivers, contact msu.bursar@murraystate.edu or 270-809-4227.

Financial Assistance

Murray State University offers a wide variety of financial aid for deserving students. This aid is designed to assist students in financing their education, to recognize scholastic achievement, to encourage continued educational growth and to reward service to the university and community.

In all cases, the student and/or the student's family or spouse are expected to contribute to the costs of education in proportion to their total financial capabilities.

If the student and his/her parents or spouse will commit all possible resources, the Financial Aid Office will make every effort to bridge the economic gap by a financial aid package. That package may consist of one or more of the following types of aid:

- College Access Program Grant (CAP)
- Federal Pell Grant
- Federal Perkins Loan
- Federal PLUS (Parent) Loan

- Federal Subsidized Direct Loan
- Federal Unsubsidized Direct Loan
- Federal Supplemental Educational Opportunity Grant
- Federal Work-Study (part-time employment)
- Kentucky Educational Excellence Scholarship (KEES)
- KHEAA Scholarships
- Nursing Student Loan
- Scholarship
- TEACH Grant
- University Student Employment (part-time employment)

A student should begin by completing the **Free Application for Federal Student Aid (FAFSA)** at fafsa.gov. Application forms and information concerning loans, grants, student employment, and scholarships may be obtained from the Financial Aid Office, 500 Sparks Hall or from www.murraystate.edu/students/undergraduate/payingforcollege/fas/financialaid/financialaidforms.

Financial Aid Satisfactory Academic Progress (SAP)
This policy applies to all students even if you are not receiving financial aid for the period currently being monitored.

The Department of Education and the Commonwealth of Kentucky each require you to meet Satisfactory Academic Progress (SAP) requirements in order to maintain eligibility for federal and state loans and grants. Failure to meet the standards as discussed below could lead to loss of eligibility for both federal and state financial assistance.

Students who are not meeting the Financial Aid Policy will be notified via Murray State University email and can review their status in the Financial Aid tab within their myGate account.

How SAP is Determined

Qualitative and Quantitative requirements for SAP include:

- A minimum cumulative grade point average (GPA) (earned at Murray State University and all transferred credits)
- A maximum amount of time allowed to complete all degree requirements
- A minimum percentage of completed hours earned

Qualitative Standard - Minimum GPA

The minimum cumulative GPA requirements for Murray State University (as shown in the chart below) are determined by the number of credit hours you have attempted. Once the academic probationary period leads to academic suspension, you will also be suspended for financial aid.

GPA Hours Attempted	Cumulative GPA
1 - 32	1.50
33 - 64	1.70
65 - 79	1.90
80 or more	2.00

Quantitative Standard - Maximum Timeframe

The longest time you can take to complete your degree is 1½ times the length of the published program length as shown below:

Degree Type	Published Program Length (Hours)	Maximum Attempted Hours
Associate	60	90
Baccalaureate	120	180
Post-Baccalaureate seeking		
an Associate ¹	180	270
a Baccalaureate ¹	240	360
Graduate/Master's	36	54
Doctoral	79	119

¹These hours reflect first baccalaureate attempted hours.

Completion Rate

You must earn a minimum of 67% of the total number of hours you have attempted during your entire college career after high school. To determine if you are meeting this requirement, multiply the total cumulative hours you have attempted times .67 (.665 or above will be rounded up to .67.)

Example:

95 cumulative hours x .67 = requirement of 64 hours earned

Actions impacting course completion when calculating attempted and earned hours:

Action	Counts Toward Attempted	Counts Toward Earned
Audited, Withdrawn or Incomplete course	Yes	No
Transfer or Remedial course	Yes	Yes
Repeat or Non-degree related course	Yes	Yes ¹

¹Only the last time attempted

Semester Withdrawal

More than two (2) official academic and/or administrative withdrawals from a semester while attending Murray State University will prevent you from meeting SAP.

Additional Information

- The same time frame to complete requirements apply even if changing majors.
- Financial Aid reviews SAP at the end of each spring semester and covers the preceding summer, fall, and spring terms.
- Financial Aid SAP requirements are not the same as the academic SAP regulations – each requires a separate appeal process.
- You may review your SAP status in the Financial Aid tab within your myGate account.

Impact of Not Meeting SAP

Failure to meet any of the SAP requirements will result in a Financial Aid Suspension and make you ineligible to receive any additional federal or state financial aid.

Official notice of suspension will be sent to you via your Murray State University email account.

What to Do if You are Suspended

If you receive a financial aid suspension, you may want to consider filing an appeal if you believe you have mitigating circumstances.

All appeals must be received within 30 days of the start of the semester for which you are appealing. Appeals received after this time frame will be administratively denied for that semester. However, you can request to have the appeal filed for the following semester.

To initiate a Financial Aid SAP appeal, you must complete a SAP Financial Aid Appeal form and provide supporting documentation as outlined below. The form may be obtained in the Financial Aid tab from within your myGate account.

Appeals may fall into one of the following categories and appropriate supporting documentation must be provided:

Medical

- Broken bone
- Cancer
- Catastrophic health or mental illness

Documentation Needed

-Official documentation from medical provider reflecting confirmed diagnosis and dates of illness or injury.

-If this is a recurring illness or other health issue, provide a state-

ment explaining what has changed to enable you to perform better going forward.

-Additional documentation if there is a change in medication for recurring illness which addresses your ability to improve performance.

Severe Personal or Family Problems

- Death of immediate family member (parent/guardian, sibling, child, spouse)
- Divorce
- Accident
- Incarceration

Documentation Needed

-Death certificate or copy of obituary and documentation reflecting family connection.

-Divorce decree or letter confirming separation from an objective third party (representative of the court, pastor, counselor, social worker, etc.).

-Copy of police report.

-If accident resulting in injury, official documentation from medical provider reflecting confirmed diagnosis and dates of illness or injury.

-Court documentation reflecting period of incarceration for self or immediate family member and documentation reflecting family connection.

-If court documentation is unavailable, must provide other documentation substantiating arrest and/or period of incarceration.

Academically Related

- Seeking additional degree
- Change of major
- Failed to apply myself to my studies

Documentation Needed

-Completed SAP Academic Plan form signed by academic advisor.

-Written statement explaining what has changed to enable you to perform better going forward.

Extenuating Circumstances

- Work conflict
- Financial emergency
- Technology issue
- Transportation issue

Documentation Needed

-Written statement explaining what has changed to enable you to perform better going forward.

-Other supporting documentation depending on situation.

NOTE: Additional supporting documentation may be requested after initial review.

Next Steps

Once a completed appeal and all supporting documentation is received by the Financial Aid Office, a review of your individual circumstance will be conducted and a determination will be made.

Decisions will fall into one of four potential categories.

- 1) Approved without Academic Plan
- 2) Approved with Academic Plan
- 3) Denied
- 4) Administratively Denied

Decisions will be communicated to you via your Murray State University email. All decisions are final.

If your appeal is approved, you will be placed on probation for a minimum of one (1) semester or for the length of the academic plan. At the end of the probationary term, you must meet all requirements of the Satisfactory Academic Progress Policy.

If your appeal is denied, you may continue enrollment without financial aid assistance and attempt to meet all requirements and regain eligibility. If you have met the requirements, or significantly improved performance, you may file a new appeal with the Financial Aid Office.

Depending on your credit, third party loans may be available to cover the cost of your tuition if you have been prohibited from receiving further federal and state aid. Visit <http://www.murraystate.edu/fastchoice> for more information.

General Information

If you do not meet SAP requirements, to allow consideration for financial aid in future terms, you must still complete the Free Application for Federal Student Aid (FAFSA) in a timely manner.

The Admissions, Academic Standing, Bursar, and Housing appeals are separate application processes. Decisions of these appeals are independent of each other.

If you have additional questions, please contact the Financial Aid office at 500 Sparks Hall, 270-809-2546 or 800-272-4678 option 3, or msu.sfa@murraystate.edu.

Student Employment

Murray State University offers part-time employment to a large number of students each year. The Federal Work-Study Program provides on-campus employment to eligible students who are enrolled in at least one (1) credit hour and who show a need for the earnings. The University Student Employment Program offers jobs to students enrolled in at least one (1) credit hour who do not qualify for the federal program. All student employees are paid biweekly and are required to perform their assigned duties in a satisfactory manner.

Scholarships

Scholarship Application Deadline - January 15

Non-Traditional Student Specific Deadline - June 1

Murray State University awards a number of scholarships each year to qualified students. Scholarships are supported by the Alumni Association, the Murray State University Foundation, and academic departments. Information on scholarships is available online at www.murraystate.edu/scholarships or in person through the Scholarship Office located in the Curris Center.

Students use one application which is updated each year. Qualifications and restrictions are listed, along with the names and requirements of all scholarships. In some areas, talent and proficiency are considered as well as academic information.

Generally, scholarships are offered on the basis of scholastic achievement, standardized testing scores (new freshmen only), character, leadership, and the promise of continued educational growth. In some cases, financial need is considered.

Scholarship applications can be accessed through *myGate* from the Financial Aid section beginning October 1 each year and must be submitted by the deadline of January 15. Awards are made for academic years and may be adjusted due to other aid students receive from federal, state, or external organizations. Policies for awarding, adjusting, and renewing scholarships can be accessed online at www.murraystate.edu/scholarships.

Questions may be directed to the Scholarship Office at 800-272-4678, ext. 4, or 270-809-3225.

Graduate Assistantships

Graduate teaching and research assistantships are available in most departments for highly qualified graduate students. To be eligible for a graduate assistantship, students must be admitted to a graduate program at MSU, have earned a cumulative GPA of at least 3.00, and be enrolled in a minimum of six graduate credit hours

at Murray State. Full-time status for all graduate students is enrollment in a minimum of nine semester hours. To maximize academic success, graduate assistants may not carry a course load exceeding 13 hours. No overload requests will be approved for graduate assistants. Graduate students in their final semester of coursework may petition (in writing) the University Graduate Coordinator to qualify for an assistantship while enrolled in fewer than six graduate hours. During the summer, students on an assistantship must be enrolled for a minimum of three hours of coursework.

Non-resident graduate students awarded an assistantship may be charged the equivalent of in-state tuition during the semesters in which they are actively employed. In-state tuition equivalencies do not modify residency status. A student who has, or will have an approved graduate assistantship may request an in-state equivalency for one summer during his/her graduate career. Normally, assistantships are awarded to an individual student for a maximum of four semesters (excluding summers). Students may petition the associate provost for graduate education and research for up to two additional semesters. Stipends for assistantships may vary between departments.

Graduate assistants are expected to familiarize themselves with university policies and to fulfill their professional responsibilities to the university. An applicant for a graduate assistantship must be admitted to a graduate program as a degree-seeking student and enrolled in graduate courses during the semester of employment.

Applications for assistantships should be filed with the chair of the department of the student's major field of interest. Contact the academic department for information regarding deadlines and the application process.

Residency Reclassification

A student who wishes to request a review of residency classification should review the policy on Residency for Tuition Purposes found at <http://www.murraystate.edu/residency>. The affidavit should be completed, signed, and notarized. All supporting statements and documents must be attached. Insufficient information may delay the request indefinitely. The student should then present the affidavit to the Office of the Registrar, first floor, Sparks Hall, no later than 30 calendar days after the first day of classes of the semester for which the appeal is being made. Students applying during or after registration must pay fees as originally assessed.

The registrar will act upon the request within 14 calendar days. Questions concerning eligibility or the status of a request should be directed to the Registrar at (270) 809-3759 or emailed to msu.registrar@murraystate.edu. A student whose request was denied by the Registrar will have 14 calendar days from the receipt of the denial letter, as determined by the postal notification of receipt of certified mail, to formally appeal the decision. Appeals should be addressed to the Bursar's Office, 200 Sparks Hall, Murray KY 42071-3312. The appeal should include a letter and any additional supportive documentation. Students whose requests were approved by the registrar or by the residency review committee will be reported to the bursar so that fee adjustments or refunds can be processed accordingly.

A copy of the complete operational policy on classification of residency for fee assessment purposes is available at <http://www.murraystate.edu/residency> or in the Office of the Registrar, first floor of Sparks Hall.

Residency Fee Policy

As a part of the state-supported system of higher education in Kentucky, Murray State University is governed by the following statewide policy (approved January 14, 1991). For additional information and a copy of the affidavit for a review of residency status, write Office of the Registrar, Murray State University, 113 Sparks Hall, Murray KY 42071-3312, call 270-809-5630 or visit www.murraystate.edu/registrar.

13 KAR 2:045. Determination of residency status for admission and tuition assessment purposes.

RELATES TO: KRS 13B, 164.020, 164.030, 164A.330(6) 38 U.S.C 3301-3325 (As amended at ARRS, June 9, 2015) STATUTORY AUTHORITY: KRS 164.020(8) NECESSITY, FUNCTION, AND CONFORMITY: KRS 164.020(8) requires the Council on Postsecondary Education to determine tuition and approve the minimum qualifications for admission to a state-supported postsecondary education institution and authorizes the Council to set different tuition amounts for residents of Kentucky and for nonresidents. This administrative regulation establishes the procedure and guidelines for determining the residency status of a student who is seeking admission to, or who is enrolled at, a state-supported postsecondary education institution.

Section 1. Definitions. (1) "Academic term" means a division of the school year during which a course of studies is offered, and includes a semester, quarter, or single consolidated summer term as defined by the institution.

(2) "Continuous enrollment" means enrollment in a state-supported postsecondary education institution at the same degree level for consecutive terms, excluding summer term, since the beginning of the period for which continuous enrollment is claimed unless a sequence of continuous enrollment is broken due to extenuating circumstances beyond the student's control, such as serious personal illness or injury, or illness or death of a parent.

(3) "Degree level" means enrollment in a course or program which could result in the award of a:

(a) Certificate, diploma or other program award at an institution;

(b) Baccalaureate degree or lower including enrollment in a course by a nondegree-seeking postbaccalaureate student;

(c) Graduate degree or graduate certification other than a first-professional degree in law, medicine, dentistry or "Pharm. D"; or

(d) Professional degree in law, medicine, dentistry, or "Pharm. D".

(4) "Dependent person" means a person who cannot demonstrate financial independence from parents or persons other than a spouse and who does not meet the criteria for independence established in Section 5 of this administrative regulation.

(5) "Determination of residency status" means the decision of a postsecondary education institution that results in the classification of a person as a Kentucky resident or as a nonresident for admission and tuition assessment purposes.

(6) "Domicile" means a person's true, fixed, and permanent home and is the place where the person intends to remain indefinitely, and to which the person expects to return if absent without intending to establish a new domicile elsewhere.

(7) "Full-time employment" means continuous employment for at least forty-eight (48) weeks at an average of at least thirty (30) hours per week.

(8) "Independent person" means a person who demonstrates financial independence from parents or persons other than a spouse and who meets the criteria for independence established in Section 5 of this administrative regulation.

(9) "Institution" means an entity defined in KRS 164.001(12) if the type of institution is not expressly stated and includes the Kentucky Virtual University, the Council on Postsecondary Education, and the Kentucky Higher Education Assistance Authority.

(10) "Kentucky resident" means a person determined by an institution for tuition purposes to be domiciled in and is a resident of Kentucky as determined by this administrative regulation.

(11) "Nonresident" means a person who is (a) domiciled outside of Kentucky (b) currently maintains legal residence outside Kentucky, or (c) is not a Kentucky resident as determined by this administrative regulation.

(12) "Parent" means one (1) of the following:

(a) A person's father or mother; or

(b) A court-appointed legal guardian if:

1. The guardianship is recognized by an appropriate court within the United States;
2. There was a relinquishment of the rights of the parents; and
3. The guardianship was not established primarily to confer Kentucky residency on the person.

(13) “Preponderance of the evidence” means the greater weight of evidence, or evidence which is more credible and convincing to the mind.

(14) “Residence” means the place of abode of a person and the place where the person is physically present most of the time for a noneducational purpose in accordance with Section 3 of this administrative regulation.

(15) “Student financial aid” means all forms of payments to a student if one (1) condition of receiving the payment is the enrollment of the student at an institution, and includes student employment by the institution or a graduate assistantship.

(16) “Sustenance” means

(a) Living expenses, such as room, board, maintenance, and transportation; and

(b) Educational expenses, such as tuition, fees, books, and supplies.

Section 2. Scope. (1) State-supported postsecondary education institutions were established and are maintained by the Commonwealth of Kentucky primarily for the benefit of qualified residents of Kentucky. The substantial commitment of public resources to postsecondary education is predicated on the proposition that the state benefits significantly from the existence of an educated citizenry. As a matter of policy, access to postsecondary education shall be provided so far as feasible at reasonable cost to a qualified individual who is domiciled in Kentucky and who is a resident of Kentucky.

(2) In accordance with the duties established in KRS 164.020, the Council on Postsecondary Education may require a student who is neither domiciled in nor a resident of Kentucky to meet higher admission standards and to pay a higher level of tuition than resident students.

(3) Unless otherwise indicated, this administrative regulation shall apply to all student residency determinations, regardless of circumstances, including residency determinations made by:

- (a) The state-supported institutions for prospective and currently-enrolled students;
- (b) The Southern Regional Education Board for contract spaces;
- (c) Reciprocity agreements, if appropriate;
- (d) The Kentucky Virtual University;
- (e) Academic common market programs;
- (f) The Kentucky Educational Excellence Scholarship Program; and
- (g) Other state student financial aid programs, as appropriate.

Section 3. Determination of Residency Status; General Rules.

(1) A determination of residency shall include:

(a) An initial determination of residency status by an institution:

1. During the admission process;
2. Upon enrollment in an institution for a specific academic term; or
3. For admission into a specific academic program;

(b) A reconsideration of a determination of residency status by an institution based upon a changed circumstance; or

(c) A formal hearing conducted by an institution upon request of a student after other administrative procedures have been completed.

(2) An initial determination of residency status shall be based upon:

(a) The facts in existence when the credentials established by an institution for admission for a specific academic term have been

received and during the period of review by the institution;

(b) Information derived from admissions materials;

(c) If applicable, other materials required by an institution and consistent with this administrative regulation; and

(d) Other information available to the institution from any source.

(3) An individual seeking a determination of Kentucky residency status shall demonstrate that status by a preponderance of the evidence.

(4) A determination of residency status shall be based upon verifiable circumstances or actions.

(5) Evidence and information cited as the basis for Kentucky domicile and residency shall accompany the application for a determination of residency status.

(6) A student classified as a nonresident shall retain that status until the student is officially reclassified by an institution.

(7) A student may apply for a review of a determination of residency status once for each academic term.

(8) If an institution has information that a student’s residency status may be incorrect, the institution shall review and determine the student’s correct residency status.

(9) If the Council on Postsecondary Education has information that an institution’s determination of residency status for a student may be incorrect, it may require the institution to review the circumstances and report the results of that review.

(10) An institution shall impose a penalty or sanction against a student who gives incorrect or misleading information to an institutional official, including payment of nonresident tuition for each academic term for which resident tuition was assessed based on an improper determination of residency status. The penalty may also include:

- (a) Student discipline by the institution through a policy written and disseminated to students; or
- (b) Criminal prosecution.

Section 4. Presumptions Regarding Residency Status. (1) In making a determination of residency status, it shall be presumed that a person is a nonresident if:

(a) A person is, or seeks to be, an undergraduate student and admissions records show the student to be a graduate of an out-of-state high school within five (5) years prior to a request for a determination of residency status;

(b) A person’s admissions records indicate the student’s residence to be outside of Kentucky when the student applied for admission;

(c) A person moves to Kentucky primarily for the purpose of enrollment in an institution;

(d) A person moves to Kentucky and within twelve (12) months enrolls at an institution more than half time; or

(e) A person has a continuous absence of one (1) year from Kentucky.

(f) A person attended an out-of-state higher education institution during the past academic year and paid in-state tuition at that institution.

(2) A presumption arising from subsection (1) of this section shall only be overcome by preponderance of evidence sufficient to demonstrate that a person is domiciled in and is a resident of Kentucky.

Section 5. Determination of Whether a Student is Dependent or Independent. (1) In a determination of residency status, an institution shall first determine whether a student is dependent or independent. This provision shall be predicated on the assumption that a dependent person lacks the financial ability to live independently of the person upon whom the student is dependent, and therefore, lacks the ability to form the requisite intent to establish domicile. A determination that a student is independent shall be one (1) step in the overall determination of whether a student is or is not a resident of Kentucky.

(2) In determining the dependent or independent status of a person,

the following information shall be considered as well as other relevant information available when the determination is made:

(a) 1. Whether the person has been claimed as a dependent on the federal or state tax returns of a parent or other person for the year preceding the date of application for a determination of residency status; or

2. Whether the person is no longer claimed by a parent or other person as a dependent or as an exemption for federal and state tax purposes; and

(b) Whether the person has financial earnings and resources independent of a person other than an independent spouse necessary to provide for the person's own sustenance.

(3) An individual who enrolls at an institution immediately following graduation from high school and remains enrolled shall be presumed to be a dependent person unless the contrary is evident from the information submitted.

(4) Domicile may be inferred from the student's permanent address, parent's mailing address, or location of high school of graduation.

(5) Marriage to an independent person domiciled in and who is a resident of Kentucky shall be a factor considered by an institution in determining whether a student is dependent or independent.

(6) Financial assistance from or a loan made by a parent or family member other than an independent spouse, if used for sustenance of the student:

(a) Shall not be considered in establishing a student as independent; and

(b) Shall be a factor in establishing that a student is dependent.

Section 6. Effect of a Determination of Dependent Status on a Determination of Residency Status. (1) The effect of a determination that a person is dependent shall be:

(a) The domicile and residency of a dependent person shall be the same as either parent. The domicile and residency of the parent shall be determined in the same manner as the domicile and residency of an independent person; and

(b) The domicile and residency of a dependent person whose parents are divorced, separated, or otherwise living apart shall be Kentucky if either parent is domiciled in and is a resident of Kentucky regardless of which parent has legal custody or is entitled to claim that person as a dependent pursuant to federal or Kentucky income tax provisions.

(2) If the parent or parents of a dependent person are Kentucky residents and are domiciled in Kentucky but subsequently move from the state: (a) The dependent person shall be considered a resident of Kentucky while in continuous enrollment at the degree level in which currently enrolled; and

(b) The dependent person's residency status shall be reassumed if continuous enrollment is broken or the current degree level is completed.

Section 7. Member or Former Member of Armed Forces of the United States, Spouse and Dependents; Effect on a Determination of Residency Status. (1) A member, spouse, or dependent of a member whose domicile and residency was Kentucky when inducted into the Armed Forces of the United States, and who maintains Kentucky as home of record and permanent address, shall be entitled to Kentucky residency status:

(a) During the member's time of active service; or

(b) If the member returns to this state within six (6) months of the date of the member's discharge from active duty.

(2)(a) A member of the armed services on active duty for more than thirty (30) days and who has a permanent duty station in Kentucky shall be classified as a Kentucky resident and shall be entitled to in-state tuition as shall the spouse or a dependent child of the member.

(b) A member, spouse, or dependent of a member shall not lose Kentucky residency status if the member is transferred on military

orders while the member, spouse, or dependent requesting the status is in continuous enrollment at the degree level in which currently enrolled.

(3) Membership in the National Guard or civilian employment at a military base alone shall not qualify a person for Kentucky residency status under the provisions of subsections (1) and (2) of this section. If a member of the Kentucky National Guard is on active duty status for a period of not less than thirty (30) days, the member shall be considered a Kentucky resident, as shall the spouse or a dependent child of the member.

(4) A person eligible for benefits under the federal Post-9/11 Veterans Educational Assistance Act of 2008, 38 U.S.C. 3301-3325, or any other educational benefits provided under Title 38 of the United States Code shall be entitled to Kentucky resident status for purposes of tuition charged at state-supported institutions.

(5) A person's residency status established pursuant to this section shall be reassessed if the qualifying condition is terminated.

Section 8. Status of Nonresident Aliens; Visas and Immigration.

(1)(a) A person holding a permanent residency visa or classified as a political refugee shall establish domicile and residency in the same manner as another person.

(b) Time spent in Kentucky and progress made in fulfilling the conditions of domicile and residency prior to obtaining permanent residency status shall be considered in establishing Kentucky domicile and residency.

(2) A person holding a nonimmigrant visa with designation A, E, G, H-1, H-4 if accompanying a person with an H-1 visa, I, K, L, N, R, shall establish domicile and residency the same as another person.

(3)(a) An independent person holding a nonimmigrant visa with designation B, C, D, F, H-2, H-3, H-4 if accompanying a person with an H-2 or H-3 visa, J, M, O, P, Q, S, TD, or TN shall not be classified as a Kentucky resident, because that person does not have the capacity to remain in Kentucky indefinitely and therefore cannot form the requisite intent necessary to establish domicile as defined in Section 1(6) of this administrative regulation.

(b) A dependent person holding a visa as described in paragraph (a) of this subsection, but who is a dependent of a parent holding a visa as described in subsection (2) of this section, shall be considered as holding the visa of the parent.

(c) A dependent person holding a visa described in subsection (2) of this section or paragraph (a) of this subsection, if a parent is a citizen of the United States and is a resident of and domiciled in Kentucky, shall be a resident of Kentucky for the purposes of this administrative regulation.

(4) A person shall be a Kentucky resident for the purpose of this administrative regulation if the person graduated from a Kentucky high school and:

(a) Is an undocumented alien;

(b) Holds a visa listed in subsections (2) or (3)(a) of this section; or

(c) Is a dependent of a person who holds a visa listed in subsections (2) or (3)(a) of this section.

(5)(a) Except as provided in paragraph (b) of this subsection, a person who has petitioned the federal government to reclassify visa status shall continue to be ineligible until the petition has been granted by the federal government.

(b) A person who has petitioned the federal government to reclassify his or her visa status based on marriage to a Kentucky resident and who can demonstrate that the petition has been filed and acknowledged by the federal government, may establish Kentucky domicile and residency at that time.

Section 9. Beneficiaries of a Kentucky Educational Savings Plan Trust. A beneficiary of a Kentucky Educational Savings Plan Trust shall be granted residency status if the beneficiary meets the requirements of KRS 164A.330(6).

Section 10. Criteria Used in a Determination of Residency Status. (1)(a) A determination of Kentucky domicile and residency shall be based upon verifiable circumstances or actions.

(b) A single fact shall not be paramount, and each situation shall be evaluated to identify those facts essential to the determination of domicile and residency.

(c) A person shall not be determined to be a Kentucky resident by the performance of an act that is incidental to fulfilling an educational purpose or by an act performed as a matter of convenience.

(d) Mere physical presence in Kentucky, including living with a relative or friend, shall not be sufficient evidence of domicile and residency.

(e) A student or prospective student shall respond to all requests for information regarding domicile or residency requested by an institution.

(2) The following facts, although not conclusive, shall have probative value in their entirety and shall be individually weighted, appropriate to the facts and circumstances in each determination of residency:

(a) Acceptance of an offer of full-time employment or transfer to an employer in Kentucky or contiguous area while maintaining residence and domicile in Kentucky;

(b) Continuous physical presence in Kentucky while in a nonstudent status for the twelve (12) months immediately preceding the start of the academic term for which a classification of Kentucky residency is sought;

(c)1. Filing a Kentucky resident income tax return for the calendar year preceding the date of application for a change in residency status; or

2. Payment of Kentucky withholding taxes while employed during the calendar year for which a change in classification is sought;

(d) Full-time employment of at least one (1) year while living in Kentucky;

(e) Attendance as a full-time, nonresident student at an out-of-state institution based on a determination by that school that the person is a resident of Kentucky;

(f) Abandonment of a former domicile or residence and establishing domicile and residency in Kentucky with application to or attendance at an institution following and incidental to the change in domicile and residency;

(g) Obtaining licensing or certification for a professional and occupational purpose in Kentucky;

(h) Payment of real property taxes in Kentucky;

(i) Ownership of real property in Kentucky, if the property was used by the student as a residence preceding the date of application for a determination of residency status;

(j) Marriage of an independent student to a person who was domiciled in and a resident of Kentucky prior to the marriage; and

(k) The extent to which a student is dependent on student financial aid in order to provide basic sustenance.

(3) Except as provided in subsection (4) of this section, the following facts, because of the ease and convenience in completing them, shall have limited probative value in a determination that a person is domiciled in and is a resident of Kentucky:

(a) Kentucky automobile registration;

(b) Kentucky driver's license;

(c) Registration as a Kentucky voter;

(d) Long-term lease of at least twelve (12) consecutive months of noncollegiate housing; and

(e) Continued presence in Kentucky during academic breaks.

(4) The absence of a fact contained in subsection (3) of this section shall have significant probative value in determining that a student is not domiciled in or is not a resident of Kentucky.

Section 11. Effect of a Change in Circumstances on Residency Status. (1) If a person becomes independent or if the residency sta-

tus of a parent or parents of a dependent person changes, an institution shall reassess residency either upon a request by the student or a review initiated by the institution.

(2) Upon transfer to a Kentucky institution, a student's residency status shall be assessed by the receiving institution.

(3) A reconsideration of a determination of residency status for a dependent person shall be subject to the provisions for continuous enrollment, if applicable.

Section 12. Student Responsibilities. (1) A student shall report under the proper residency classification, which includes the following actions:

(a) Raising a question concerning residency classification;

(b) Making application for change of residency classification with the designated office or person at the institution; and

(c) Notifying the designated office or person at the institution immediately upon a change in residency.

(2) If a student fails to notify an institutional official of a change in residency, an institutional official may investigate and evaluate the student's residency status.

(3)(a) If a student fails to provide, by the date specified by the institution, information required by an institution in a determination of residency status, the student shall be notified by the institution that the review has been canceled and that a determination has been made.

(b) Notification shall be made by registered mail, return receipt requested.

(c) Notification shall be made within ten (10) calendar days after the deadline for receipt of materials has passed.

(4)(a) The formal hearing conducted by an institution and the final recommended order shall be a final administrative action with no appeal to the Council on Postsecondary Education.

(b) A formal administrative hearing conducted by the Council on Postsecondary Education for residency determinations related to eligibility for the Academic Common Market and Regional Contract Programs shall be conducted pursuant to the provisions of KRS Chapter 13B and 13 KAR 2:070. The recommended order issued by the President of the Council shall be a final administrative action.

(5) A student shall not be entitled to appeal a determination of residency status if the determination made by an institution is because a student has failed to meet published deadlines for the submission of information as set forth in subsection (3) of this section. A student may request a review of a determination of residency status in a subsequent academic term.

Section 13. Institutional Responsibilities. Each institution shall:

(1) Provide for an administrative appeals process that includes a residency appeals officer to consider student appeals of an initial residency determination and which shall include a provision of fourteen (14) days for the student to appeal the residency appeals officer's determination;

(2) Establish a residency review committee to consider appeals of residency determinations by the residency appeals officer. The residency review committee shall make a determination of student residency status and notify the student in writing within forty-five (45) days after receipt of the student appeal;

(3) Establish a formal hearing process as described in Section 14 of this administrative regulation; and

(4) Establish written policies and procedures for administering the responsibilities established in subsections (1), (2), and (3) of this section and that are:

(a) Approved by the institution's governing board;

(b) Made available to all students; and

(c) Filed with the council.

Section 14. Formal Institutional Hearing. (1) A student who appeals a determination of residency by a residency review committee shall be granted a formal hearing by an institution if the request is made

by a student in writing within fourteen (14) calendar days after notification of a determination by a residency review committee.

(2) If a request for a formal hearing is received, an institution shall appoint a hearing officer to conduct a formal hearing. The hearing officer shall:

(a) Be a person not involved in determinations of residency at an institution except for formal hearings; and

(b) Not be an employee in the same organizational unit as the residency appeals officer.

(3) An institution shall have written procedures for the conduct of a formal hearing that have been adopted by the board of trustees or regents, as appropriate, and that provide for:

(a) A hearing officer to make a recommendation on a residency appeal;

(b) Guarantees of due process to a student that include:

1. The right of a student to be represented by legal counsel; and

2. The right of a student to present information and to present testimony and information in support of a claim of Kentucky residency; and

(c) A recommendation to be issued by the hearing officer.

(4) An institution's formal hearing procedures shall be filed with the Council on Postsecondary Education and shall be available to a student requesting a formal hearing.

Section 15. Cost of Formal Hearings. (1) An institution shall pay the cost for all residency determinations including the cost of a formal hearing.

(2) A student shall pay for the cost of all legal representation in support of the student's claim of residency.

(17 Ky.R. 2557; eff. 4-5-1991; Am. 22 Ky.R. 1656; 1988; eff. 5-16-1996; 23 Ky.R. 3380; 3797; 4099; eff. 6-16-1997; 24 Ky.R. 2136; 2705; 25 Ky.R. 51; eff. 7-13-1998; 25 Ky.R. 2177; 2577; 2827; eff. 6-7-1999; 749; 1238; eff. 11-12-2002; 36 Ky.R. 1083; 1951; 2033-M; eff. 4-2-2010; TAm eff. 11-20-2014; 41 Ky.R. 2108; 42 Ky.R. 9; eff. 7-13-2015; TAm 7-13-2015).

For additional information, write or call the Office of the Registrar, Murray State University, 113 Sparks Hall, Murray KY 42071-3312; 270-809-5630.

Veterans Affairs

The mission of Murray State's Office of Veterans Affairs is to assist the student veteran with the successful transition from military to university campus life. The Office of Veterans Affairs and the School Certifying Official (SCO) are located at 107 Sparks Hall. To contact the SCO, please call 270-809-3754 or email msu.va@murraystate.edu. VA education benefit-eligible candidates should contact the SCO immediately concerning general procedures and documents required to complete enrollment certification with the VA regional office. This will help ensure prompt payment of education benefits.

The primary means of communication between the Office of Veterans Affairs and students receiving VA education benefits is via MSU Racemail.

For more information pertaining to requirements and eligibility of various VA education benefits and chapters of benefits can be found on the U.S. Department of Veterans Affairs GI Bill® website at <http://www.benefits.va.gov/gibill/>. The U.S. Department of Veterans Affairs and/or the U.S. Department of Defense determine all eligibility for Veteran education benefits.

A Veteran Student Organization is available to all service members and veterans, as well as a Veterans Lounge located in Room 300 of Alexander Hall. Contact the Office of Veterans Affairs for more information.

Military Federal Tuition Assistance

Post 9/11, (Chap. 33) Yellow Ribbon Program

Murray State University participates in the U. S. Department of Veterans Affairs Post 9/11, Chap. 33 Yellow Ribbon Program.

If tuition and fee charges exceed the in-state tuition and fee amounts payable under the Post-9/11 GI Bill while the student is enrolled at Murray State University, additional funds may be available through the Yellow Ribbon Program. Institutions of higher learning that enter into a Yellow Ribbon Program Agreement with VA will choose the amount of funds they will contribute toward tuition and fees. VA will match that amount and issue payment directly to the institution on the student's behalf.

Only veterans, or their designated transferees, entitled to the maximum benefit rate may receive this funding. Active duty service members and their spouses are not eligible for this program. However, some child transferees of active duty service members may be eligible if the service member is qualified at the 100% rate. Therefore the student may be eligible if:

- Service member served an aggregate period of active duty after September 10, 2001 of at least 36 months.
- Service member was honorably discharged from active duty for a service connected disability and you served 30 continuous days after September 10, 2001.
- Student is a dependent eligible for Transfer of Entitlement under the Post-9/11 GI Bill based on a veterans service under the eligibility criteria listed above.

In-State Tuition

Kentucky Administrative Regulation 13 KAR 2:045 allows eligible Veterans of the U.S. Armed Forces and their dependents to receive in-state tuition rates. Section 7 of this KAR specifically states: "... A person eligible for benefits under the federal Post-9/11 Veterans Educational Assistance Act of 2008 (38 U.S.C. 3301 et seq.) or any other federal law authorizing educational benefits for veterans shall be entitled to Kentucky resident status." For more information concerning this KAR and for verification of eligibility, please contact Murray State's Office of Veterans Affairs at 270-809-3754, or email at msu.va@murraystate.edu.

Kentucky National Guard State Tuition Assistance

Members of the Kentucky Army and Air National Guard may be eligible to receive tuition assistance (TA) up to in-state tuition for full or part-time study at any Kentucky public college or university while funds are available. In order to be eligible, the student must be an active member of the Kentucky Army or Air National Guard, must maintain all minimum standards, be eligible for all positive personnel actions, and have completed Initial Entry Training (IET), or its equivalent. For application availability and registration, please visit <https://ky.ngb.army.mil/tuitionstudent/frmlogin.aspx> or contact the Boone National Guard Center State TA Manager at 502-607-1039. The deadlines for National Guard TA requests are October 1st (winter/spring terms) and April 1st (Summer/Fall Terms). **NOTE:** TA will NOT pay the additional amount charged for online courses.

Federal Tuition Assistance

Active members of the Armed Services may be eligible for federal tuition assistance (TA). In order to be eligible, active members must maintain all minimum standards, be eligible for all positive personnel actions, and must have completed a minimum of one year of creditable service from the date of Initial Entry Training (IET) completion. Service members can take up to 16 semester hours per fiscal year. Federal TA can be used for a post-baccalaureate degree after completing 10 years of military service. Federal TA is capped at \$250 per credit hour up to 130 semester hours for baccalaureate degree completion and 39 semester hours for a master's degree.

The method by which the student will apply will be determined by the branch of service. For more information and to apply, please contact the respective unit's education officer. **NOTE:** Service members cannot use Federal TA and VA Education benefits of MGIB Chapter 30 and/or MGIB-SR Chapter 1606/1607 simultaneously for the same course during the same semester as D.O.D. and U.S. Department of Veterans Affairs considers this a duplication of benefits.

Kentucky Department of Veterans Affairs Tuition Waiver

Tuition may be waived at any state-supported institution of higher education in Kentucky for those children, spouses and widow(er)s of Kentucky residents who, while serving in the armed forces or the Kentucky National Guard, were killed on active duty, who have died as a result of a service-connected disability, who are permanently and totally disabled, who were prisoners-of-war, or who have been declared missing-in-action. Dependents of living qualifying veterans must be between the ages of 17 and 26. Tuition fees are waived for up to 45 months, or until age 26, whichever comes first. Neither the age restriction nor the 45 month limitation applies to dependents of deceased veterans. For more information and to apply for this benefit, please visit the Kentucky Department of Veterans Affairs at: <http://veterans.ky.gov/Benefits/Pages/education.aspx>.

For current information and/or changes to federal, state, and public law affecting veteran's education benefits, please refer to our website at <http://www.murraystate.edu/students/veterans/veteransaffairs.aspx>, as well as the U.S. Department of Veterans Affairs at <http://www.benefits.va.gov/gibill/>.

Operation Graduation Scholarship

Murray State University offers a renewable fund to aid student veterans with purchasing textbooks needed to pursue their degree while attending MSU. Textbooks must be purchased from the Murray State University Bookstore only. The guidelines and requirements for eligibility of this scholarship can be found at www.murraystate.edu/students/undergraduate/gettingstarted/paying-forcollege/scholarships/index.aspx or you may contact 270-809-3754 or email at msu.va@murraystate.edu.

Military and Veterans Affairs Related Absences

Murray State University acknowledges and appreciates the important contributions of our students who have served or are currently serving in our armed forces. In order to support these students, Murray State pledges to make every effort to provide reasonable accommodations to students who must be absent from class due to military obligations or required medical treatment for service-connected conditions.

Students are highly encouraged to attend all scheduled classes. This policy protects students from being penalized due to class absences caused by military obligations or required medical treatment for service-connected conditions. Faculty will provide reasonable accommodations to make-up missed work. These accommodations may include a selection of comparable coursework as agreed upon by the faculty.

Both student and instructor must agree that the length of the absence is reasonable given the type and structure of the course. Student will initiate this process by providing the *Military Training and VA Absence Agreement Form*. Student and instructor will complete and sign the *Military Training and VA Absence Agreement Form* which details expectations for successful completion of the coursework. In situations where the length of absences is detrimental to the student's ability to successfully complete the agreed upon plan and remain current with the coursework, it may be deemed advisable for the student to withdraw. This document may be ac-

cessed via Murray State's Veterans Affairs website: <https://www.murraystate.edu/students/veterans/vaforms.aspx>.

Procedures and Documentation

In the case of military training or drill periods, the student must disclose the leave schedule to the instructor as soon as the unit provides such documentation, preferably prior to the event occurring. We understand that training schedules are subject to change and if a change occurs, the student shall submit a memorandum from his/her military unit to the instructor. If travel is required, a full eight (8) hours shall be excused before or after the military training or medical treatment.

In the case of service-connected medical treatment, documentation of a Veteran's Administration appointment may be requested to validate the reason for the absence. Documentation should be provided directly to the instructor or through Murray State's Office of Veterans Affairs. If the student chooses to submit such documentation to MSU's Office of Veterans Affairs, that office will notify the instructor of the legitimacy of the absence.

Students choosing to withdraw due to lengthy military training obligations or extended medical treatment during the semester, shall refer to the *withdrawal section* of this chapter and complete the withdrawal request process via *myGate*.



Registration and Academic Records

270-809-5630 or 800-272-4678 ext. 1
msu.registrar@murraystate.edu
msu.registration@murraystate.edu

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Office of the Registrar

For information regarding registration, graduation, degree audits, *myGate*, grade policies, and for instructions to request a transcript, see the Registrar’s website at www.murraystate.edu/registrar. Questions may be directed to the Office of the Registrar at 270-809-5630 or 800-272-4678 (extension 1), or in writing to the Office of the Registrar, 113 Sparks Hall, Murray, KY 42071-3312, or by email at msu.registrar@murraystate.edu. The Office of the Registrar considers Murray State email to be the primary and official source of communication.

myGate

Murray State University provides a secure portal to an on-line information network (*myGate*) to students and faculty. The system provides up-to-date access to students enabling them to register and view their class schedules, grade reports, transcripts, degree audits, account balances, 1098T tax information, student loan notices, contact information, personal information (majors, advisors, GPA, etc.), and account holds. Students also use *myGate* to add/drop classes, withdraw from the semester, request enrollment verification, apply for graduation, request transcripts, and update contact information. **It is the student’s responsibility to check their *myGate* account regularly and to keep all contact information current.** More information can be found on the Registrar’s website (www.murraystate.edu/registrar) or by clicking the *myGate* link on the www.murraystate.edu home page.

Students may choose to release non-directory (confidential) information to certain individuals by completing the *Consent to Release Student Information* process on their *myGate*. Refer to the FERPA section found later in this chapter.

If you cannot log into *myGate* because you have forgotten your password, contact the Service Desk at (270) 809-2346.

Policy Changes

Murray State University reserves the right to modify regulations regarding admission, registration, drop/add, course offerings/arrangements, curricula, retention, graduation, and other functions of the university. Such regulations shall govern both old and new students and are effective when adopted. A schedule of classes and updated information may be found on *myGate* and www.murraystate.edu. The University reserves the right to make any policy changes or adjustments in the *Academic Bulletin* which are deemed necessary.

2017-2018 Academic Calendar

FALL 2017	
Classes Begin	August 15
Fall Break	October 5–6
Holiday	September 4/November 22–24
Classes End	December 1
Finals	December 2–8
Commencement	December 9
WINTER 2017	
Classes Begin	December 11
Holiday	December 24–25, 31/January 1
Classes End	January 3
SPRING 2018	
Classes Begin	January 16
Spring Break	March 19–23
Holiday	January 15
Classes End	May 4
Finals	December 2 - 8
Commencement	December 9

SUMMER 2018	
Classes Begin	May 14
Holiday	May 28/July 4
Classes End	August 3

For additional information regarding the official university academic calendar visit *myGate* or www.murraystate.edu. Murray State University reserves the right to modify the academic calendar as deemed necessary.

Registration

Students who have been enrolled at Murray State in at least one regular term within the two years preceding the registration term will be in the active registration file. All other students must file a formal application for admission or readmission to determine their registration status. Refer to the section on admission or readmission in the *Undergraduate Admissions* or *Graduate Admissions* chapters.

Registration for qualified students at Murray State is via an on-line process on *myGate*. Questions may be directed to the Registration Office at 270-809-2394 or email, msu.registration@murraystate.edu. Refer to the university calendar, available on *myGate* or the Murray State website, for exact dates and times.

New freshmen and new transfers have an opportunity to schedule for the fall term during a summer orientation session. Graduate students who wish to take advantage of advanced scheduling must be admitted by the following deadlines: April 1 for summer and fall terms, and November 1 for the winter and spring terms. Others may schedule after they are admitted. Reference should be made to the official university calendar for the advanced scheduling dates for currently enrolled students. Specific scheduling times are assigned during advanced scheduling. Assignments are based on the number of semester hours earned as shown on the student’s MSU academic record plus the hours enrolled (in progress) at the time scheduling takes place.

A student who attends a class without being properly enrolled will not receive credit. Courses must be scheduled in the semester in which the actual coursework is completed. Attendance is expected on the first day of classes. Before a student is considered registered, he/she must be properly enrolled in class and have made payment of required tuition and fees. Once a student is officially enrolled in a course, he/she will gain access to their courses on Canvas.

Academic Advising

Before a student may schedule, he or she must have consulted with an academic advisor about his or her proposed class schedule. Undergraduate, and some graduate, students have a block on their registration access that can only be released by their assigned academic advisor. Intercollegiate Athletics and Honors College students are required to have additional approval from the appropriate program advisor.

Holds

Students should check their *myGate* to view all current holds. Holds must be cleared prior to scheduling classes. Students with the following situations will not be permitted to register until the related issue has been resolved: an undergraduate student who has earned 45 semester credit hours and is listed with an “undeclared” major; an undergraduate student who has earned 60 semester credit hours and is completing a major (as opposed to an area) and has not officially declared a second major or a minor; a student with an incomplete admission file; a student on academic suspension; a student who has any indebtedness to the university; a student who does not have a valid address on file; a U.S. citizen who does not

have a valid social security number on file; and a student who has completed a degree or certificate and has not been admitted to a new program or status.

Credit Hours

Murray State University maintains high academic standards in its curricular offerings with processes in place to ensure consistency in credit hours awarded and appropriate designation for the level of course content. The university operates on a semester system with one hour of credit equal to a minimum of fifteen one-hour sessions of lecture or thirty one-hour sessions of laboratory, studio, or practice and two hours of out-of-class work each week, or the equivalent based on the length of semester. All courses are reviewed for credit hour compliance and approved by the University Academic Council based on proposals submitted by an academic department and routed through its academic college/school. It is the responsibility of each academic department to monitor its courses for appropriate content and to determine the appropriate level and amount of credit awarded for course completion.

It is the practice of Murray State to be consistent in its course requirements, academic rigor, credit hour award, and expectation of student performance for any given course, regardless of course level, format, or mode of course delivery. If a course is offered both in a traditional campus-based format and via an asynchronous, distance-based model, the content and credit awarded must be equivalent. For curricular components offered only as distance-based courses, the academic department is expected to provide a determination and justification for the appropriate amount of credit awarded. This determination is based on an expectation that a fixed number of credit hours is assigned for the successful completion of course activities and achievement of course competencies as stated in the course syllabus.

Each academic year consists of a fall term that begins in August, a winter term that begins in December, a spring term that begins in January, and a summer term that begins in May and includes several sessions of varying durations. Each term may contain parts-of-term within that semester where classes begin and end at a different time than a 'full semester course'. These parts-of-term classes are wholly contained within a single term. All grades for parts-of-term courses will be recorded at the end of the entire term. Due to the nature of scheduling courses during certain times within respective terms, the university may approve a credit hour equal to 50-minutes of instructional time each week or the equivalent thereof. In all cases, the instructor is expected to utilize extra out-of-class communication and activities with the student to justify any time modification.

Classification

All students must comply with University policies, regardless of classification.

Undergraduate Level

Freshman	less than 30 semester hours of earned credit
Sophomore	30 to 59.9 semester hours of earned credit
Junior	60 to 89.9 semester hours of earned credit
Seniors	a minimum of 90 semester hours of earned credit
Post-Baccalaureate	students taking undergraduate classes after receiving a baccalaureate degree or higher

Graduate Level

Graduate	students working on an advanced certificate, degree, or certification
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Course Numbers

The numbers used to identify courses are as follows:

001-099	special category and/or developmental courses
100-299	lower division undergraduate courses
Requires at least a junior classification.	
300-499	upper division undergraduate courses
500-599	upper division undergraduate courses
Must be admitted to graduate studies prior to scheduling.	
600-799	graduate courses
800-999	doctoral courses

Freshman and sophomore students may take 300-level or 400-level courses with the approval of the chair of the department in which the course is offered. Sophomores who will be juniors before a 500-level course begins may schedule for the course, with the understanding courses may be removed from the schedule if junior status is not attained before the course begins. Only those who are classified as graduate students may take 600-level or higher courses.

Student Course Load

Audited and developmental classes are included when determining the total hours in a student's course load.

Undergraduate Students

The minimum full-time undergraduate course load is 12 semester hours. The typical load is 16 hours. Students who are on academic warning or academic probation are restricted to 16 hours. Since the maximum load without special approval for other undergraduate students is 19 semester hours, it is not possible to schedule for more than 19 hours via *myGate*. If an exception is to be made in any individual instance, the undergraduate student must be at least sophomore standing and have an overall grade point average of at least 3.00 or have earned at least 12 hours with a 3.00 for the previous semester. If the minimum GPA requirements are met, an approved Undergraduate Overload form, signed by the student's academic advisor and collegiate/school dean must be taken to the Registration Office, Sparks Hall. Under no circumstances may an undergraduate student enroll in more than 22 semester hours: 1) without approval of, and a letter of justification from, the student's collegiate/school dean and signed by the Provost and Vice President for Academic Affairs; and 2) who does not have a cumulative 3.00 GPA.

For more details on self-paced distance learning courses as they relate to course load, refer to *Regional Academic Outreach*.

For more details on cooperative education as it related to course load, refer to *Academic Degrees and Programs*.

Graduate Students

Full-time status requires graduate students to be enrolled in a minimum of nine semester hours. The maximum course load, without special approval, is 13 semester hours (maximums include undergraduate and graduate level courses) so it is not possible to schedule for more than 13 hours via *myGate*. For an exception to be granted to an individual, the graduate student must have an overall grade point average of at least 3.00. If the minimum GPA requirement is met, a *Graduate Overload* form signed by the student's program coordinator and collegiate/school dean must be taken to the Registration Office, Sparks Hall. Under no circumstances may a graduate student enroll in more than 16 semester hours: 1) without approval of, and a letter of justification from, the student's collegiate/school dean and signed by the Provost and Vice President for Academic Affairs; and 2) who does not have a cumulative 3.00 GPA. Full-time status for all graduate students is enrollment in a

minimum of nine semester hours regardless of Graduate Assistant employment status.

Concurrent Enrollment

Students enrolled in classes at multiple schools during the same semester are considered to be concurrently enrolled. A concurrently enrolled student may not enroll in a combined course load that exceeds the applicable Murray State student load regulation. Students requesting an overload of combined hours must get written approval by their academic advisor and dean on the appropriate overload form. See *Student Course Load* section above for the overload policy.

In order to receive financial aid for concurrently enrolled classes at another institution, the courses must be applicable to the student's degree program and pre-approved on the Concurrent Enrollment form found on MSU's Financial Aid website, www.murraystate.edu/admissions/financialaid. **Students should check www.murraystate.edu/evaluate to verify their course equivalency at MSU before registering for courses at other institutions.** See the *Repeating Courses* section for details on the repeat policy for transfer courses.

Degree-seeking MSU students concurrently enrolled in courses at other institutions are required to submit their official transcript directly from each institution to MSU after each semester of enrollment. Failure to submit transcripts after each semester may result in a change in academic standing, including academic suspension from MSU and could cause a student to take unnecessary classes.

International students must seek prior approval from the International Student Services, 174 Woods Hall, in addition to meeting all other concurrent enrollment requirements.

Course Prerequisites

Students are required to comply with the most current course prerequisites at the time they register for the course. The most current course prerequisites are listed on the online schedule of classes found on *myGate* and in the most recent *Academic Bulletin*.

Schedule Change

NOTE: Dropping below full-time status may affect total fees, benefits, insurance, financial aid, athletic eligibility, veteran benefits, international status, scholarships, etc. It is the student's responsibility to comply with all such policies.

Any schedule changes should be approved by the student's academic advisor. Additional approval is required for athletes, students in the Honors College, veterans, international students, and those who wish to audit a class. For changes that do not require special approval, the student will use *myGate* during the published drop/add periods. Forms for changes that require special permission should be taken to the Registration Office, in the basement of Sparks Hall, by the published deadline.

Dropping a class before the end of the first drop period will eliminate the course from the student's permanent record. For classes dropped during the second drop period, the student will receive a grade of withdrawn (*W*). Consult the current *Academic Calendar* for dates and deadlines at www.murraystate.edu/registrar.

Students should review their schedule on *myGate* after making changes to verify all transactions have been processed.

Schedule Change Fee. Effective Fall 2014 any course change after the published deadline may be subject to a \$50 schedule change fee. Please review the *Academic Calendar* for published add and drop dates at www.murraystate.edu/registrar.

Auditing of Courses

An auditor is one who enrolls and participates in a course without expecting to receive academic credit. A student may not schedule for audit or change a course from CREDIT to AUDIT via *myGate*, since the permission and signature of the instructor are required. The audit permission form is available in the Office of the Registrar or on the www.murraystate.edu/registrar website. Students interested in auditing a course must secure written permission from the instructor and discuss course requirements prior to enrolling. The approved audit permission form must be submitted to the Registration Office for processing by the published deadline (see *Academic Calendar*). The semester hours of an audited class count toward full-time status at Murray State; however, **audited courses do not have credit nor apply to any degree or certificate program and do not figure in completion hours required for NCAA, financial aid, or veterans' benefits eligibility.** Tuition and course fees are the same for credit and audit courses. Courses that were audited may be taken for credit in a later term. Also a class may be audited after having received credit for the course, but an audit grade will not replace/remove an earlier grade. Instructors reserve the right to deny audit permission for their classes.

Regular class attendance is expected of an auditor. Because audited classes are considered load credit, instructors have the authority to fail an auditing student if he or she does not do the required work, or fails to attend the class. A successful audit will be recorded on the record with the designation *AU*. A failure will be recorded as an *E*.

Any change from AUDIT to CREDIT must be done by the last day to add a class. See the university academic calendar for published deadlines. A change from CREDIT to AUDIT must be done by the last day to drop a course with a *W*, and requires the permission of the instructor of the course. Refunds for withdrawals from audited courses are prorated on the same basis as refunds for withdrawals from courses taken for credit.

Time Conflicts

Time conflicts between two different classes may be approved if the time conflict is 15 minutes or less. Time conflicts must be approved by one or both instructors in writing. The student will submit an approved Time Conflict Form to the Registration Office for processing by the last day to add a class (see *Academic Calendar*). The Audit/Time Conflict Form is found on the Office of the Registrar website, www.murraystate.edu/registrar.

Overrides

Course overrides may be given at the discretion of the individual instructor, chair of the department or dean of the college. Overrides are given on *myGate*.

Withdrawal

Students dropping all classes must submit their request to withdraw from the semester via their *myGate* Academics tab. Contact the Office of the Registrar for additional information concerning withdrawal procedures. **Students who do not submit their official withdrawal request will receive failing grades in all of their courses.** Withdrawal requests must be completed by the last date to drop a class with a *W* (see *Academic Calendar* for detailed withdrawal deadlines). Withdrawals will be recorded on the student's permanent record. Refund policies are published online each semester in the official *Schedule of Fees*.

Withdrawing from school before the end of the first drop period will eliminate the courses from the student's permanent record. Withdrawal during the second drop period, the student will receive grades of withdrawn (*W*). Consult the current *Academic Calendar* for dates and deadlines. Withdrawal of any type does not remove the student's financial obligation to the university.

Administrative Withdrawal

Students who fail to meet their obligations to Murray State University, either financial or administrative, may be administratively withdrawn from the university and lose all credit being attempted. This includes students who withhold or falsify information on documents during the admission process.

Active Duty Deployment Withdrawal

If an active duty serviceperson, a national guardsman or a reservist is deployed during the semester, he/she may withdraw from the university without penalty as of his/her deployment date. The student must submit their withdrawal request via their *myGate* Academics tab and provide proper documentation to the Registration Office as soon as possible. Contact the Registration Office at (270) 809-3776, msu.registration@murraystate.edu, or the VA office at (270) 809-3754, msu.va@murraystate.edu for additional information on the withdrawal process and required documentation.

Academic Records

Demographic and Address Change

Any student who changes his or her name or social security number is expected to notify the Office of the Registrar and provide requested documentation. Changing one's name does not change the name printed on the diploma. To make the change on the diploma, the student must contact the Graduation Office at (270) 809-5084 or msu.graduation@murraystate.edu.

Murray State University recognizes students may wish to use a name other than their legal name. When requested, the university will use a preferred first name on certain documents and online information sources. The official/legal name will remain on your permanent records, including but not limited to academic, employment, and tax records. **Students may not designate a preferred last name. Students are encouraged to add a preferred first name using the Preferred First Name Form as found on www.murraystate.edu/registrar prior to the start of a semester to assist instructors in consistently addressing a student throughout the course of a semester.**

The student will be held responsible for any communication from any university office sent to the Murray State e-mail address or the mailing address last given, and may not claim ignorance on the plea of having changed lodgings or name and therefore of not having received the communication. A student can review and update address and contact information on *myGate*. **Changing an address does not change residency for tuition purposes.**

Credit by Examination

Undergraduate Students

For students enrolled at Murray State, undergraduate residence credit may be earned through the Advanced Placement Program (APP), College Level Examination Program (CLEP), selected International Baccalaureate (IB) examinations, and challenge examinations developed by the academic departments. A listing of tests that Murray State accepts for credit is available from the the Testing Center, Applied Sciences Building. Official score reports must be sent directly to Murray State from the issuing agency to receive credit. The credit hours earned through these examinations will count toward graduation, but will not be used to compute grade point averages since a letter grade will not be given. Although a student may receive credit hours through any of these programs, duplicate credit may not be earned. For example, a student who earns credit for ENG 105 through APP may not receive additional credit for an ENG 105 class or the CLEP general or subject exam. Students currently enrolled at Murray State must have written permission prior to taking any tests for credit and may not be enrolled in the course in the same semester as the test is being taken. Permission forms may be

obtained from the Testing Center. Credit by examination may not be used as a repeat of a course taken earlier.

Advanced Placement Program (APP)

This is a program offered in cooperation with Educational Testing Service and various high schools. Generally, students will complete their APP tests while in high school. MSU encourages, but does not require students to complete a particular APP course prior to taking the examination in that area. A score of three is the minimum required for credit and in some cases a score of four or five will yield additional credit. A listing is available at www.murraystate.edu/testingcenter. A student must be enrolled at Murray State to receive credit based on satisfactory APP scores. APP credit may not be used as a repeat of a course taken earlier.

College Level Examination Program (CLEP)

This program provides an opportunity to earn credit for previous education or life and career experiences. The CLEP tests may be taken prior to enrollment; credit will be granted after enrollment at MSU. If currently enrolled at Murray State, a student must apply for permission to take the CLEP. A score of 50 is the minimum required for credit and in some cases higher scores will yield additional credit. The CLEP tests are administered on the main campus by the Testing Center. A student must be enrolled at Murray State to receive credit based on satisfactory CLEP scores. A CLEP test may be repeated with permission. A minimum of six months must elapse between retakes of the same test. It is the student's responsibility to ensure that retake attempts meet this requisite. CLEP credit may not be used as a repeat of a course taken earlier. A listing is available at www.murraystate.edu/testingcenter.

International Baccalaureate Examinations (IB)

This is a program offered at various high schools. A list of International Baccalaureate examinations that have been approved for credit is available through the Transfer Center. A student must be currently enrolled at Murray State to receive credit based on satisfactory IB scores. IB credit may not be used as a repeat of a course taken earlier.

Departmental Challenge Examinations

A student must be currently enrolled at Murray State University to receive credit for a departmental challenge examination. All requests for departmental challenge examinations must be approved by the chairman of the department offering the course. **All costs connected with a particular examination must be met by the student prior to the testing date.** A per credit hour fee is assessed for each course. A department may adopt a standardized examination available from outside the university or develop a departmental proficiency examination which may be oral, written or both. Students desiring to receive credit by departmental challenge must register and pay for the challenge exam on *myGate*. If the student passes the exam, the department will send the approval to the Office of the Registrar for posting credit to the academic record. Departmental challenge examination credit awarded will be posted to the student's academic record in the semester in which the student is enrolled, however, no earlier than the first day of the semester.

- A departmental challenge examination may only be taken once.
- Departmental challenge credit may not be used as a repeat of a course taken earlier.
- A grade received in a regular course may not be changed by departmental challenge examination.
- Please note that departmental challenge examinations are not offered for all subjects or courses.

Military Service Credit

Refer to the section on Transfer Students in *Undergraduate Admissions* regarding military service credit for undergraduate students.

Graduate Students

Murray State University does not grant graduate-level credit for correspondence courses, portfolio-based experiential learning, challenge examination or any national testing-for-credit in any course.

Military Service Credit

Contingent on the approval of the graduate advisor, the collegiate graduate coordinator, and Graduate Admissions, six hours of graduate credit may be accepted toward a master's degree for completion of U.S. Military Command and General Staff College.

Grades

All final grades are submitted by the instructor via their *myGate* and posted to students' academic record at the conclusion of each semester. Only grades submitted by the instructors via their *myGate* are considered official and recorded on the students' record. Grades posted elsewhere (such as Canvas) are not official and may be different than the official grade recorded on the permanent record. All grades for parts-of-term courses will be recorded at the end of the entire term. Mid-term grades are not posted to the academic record but can also be viewed on *myGate/Academics* tab. Students who have met their financial obligations to Murray State can view their academic record on *myGate*.

The following are grades used for the evaluation of course work, with a 4.00 grading scale used to determine grade point average:

- A** Excellent - valued at four points for each credit.
- B** Good - valued at three points for each credit.
- C** Fair - valued at two points for each credit.
- D** Poor - valued at one point for each credit.
- E** Failure, no credit - valued at 0 points but counted as GPA hours.
- P** Passing credit earned – credit valued at no points and no hours attempted. (Used for credit by exam and officially approved pass/fail courses as stipulated in the course description section of this *Academic Bulletin*.)
- AU** Audit - no credit. (Requires instructor's approval.)
- I** Incomplete - computed as non-punitive and converts to an *E* with punitive value if not completed and changed by published deadlines (see Incomplete Grades section below).
- R** Deferred grade - grade used in restricted instances for specifically approved courses. No credit is given and is not computed as hours attempted. For graduate students, this grade may be given for courses numbered 698, 699, 798, and 799. It will change to a grade of *I* (or an *E* at the department's discretion) if work has not been completed within two years from the time the *R* grade is given.
- W** Dropped or withdrawn - no hours attempted and no quality points. (May only be assigned to eligible students who have officially dropped courses or withdrawn from Murray State by published deadlines.)
- NR** Not reported - grade used when the instructor has not submitted final grades by the deadline. No credit is given and is not computed as hours attempted.
- IP** In progress - grade used in restricted approved instances. Computed as non-punitive.

Students may not submit missed work, make changes to already submitted work, nor complete additional assignments in order to change a grade of A, B, C, D, or E once the grade has been recorded.

Incomplete Grades

A **grade of I** (incomplete) is assigned when a student is unable to complete a small portion of all class assignments for reasons beyond the student's control and the reasons are satisfactory to the instructor. A student who receives an *I* grade must complete the work and the instructor must submit the grade **by mid-term of the fall or spring term** immediately following the term in which the *I* was received, regardless of the student's enrollment status. *I* grades received in the fall and winter must be completed and grades submitted to the Office of the Registrar by March 15 of the following spring term; spring and summer *I* grades, by October 15 of the following fall term. (*Degree pending students should see the note below.*) Students completing class assignments with the intent to change the *I* to a passing grade should not re-register for the course.

Should the student fail to complete the coursework within the designated time period, the *I* will be converted to a grade of *E* and the GPA will be recalculated. **This may change academic standing, including dean's list honors.**

Once a grade of *I* has been converted to an *E*, the grade will not be changed to a passing grade. After a grade of *E* has been assigned, the student must register, pay for the course, and complete all coursework in a future semester in order to receive the credit. Re-registering for the course will not prevent the original *I* grade from being changed to an *E* after the deadline has passed.

NOTE: If a student is pending a degree, incomplete grades must be changed **within five (5) weeks** after the semester ends; otherwise graduation will be delayed until the next semester, with the deadline of completing work for the incomplete of October 15 for spring and summer grades and March 15 for fall and winter grades, whichever is applicable. (See the Graduation Requirements section in *Academic Degrees and Programs* for additional information.)

Quality Points

Quality points are earned per credit hour and are used to calculate a student's grade point average. The number of points received for each course is determined by the grade earned and the grading scale used. Since Murray State uses the 4.00 grading system, each credit hour of *A* receives four quality points; each credit hour of *B* receives three; each credit hour of *C* receives two; and each credit hour of *D* receives one. For example, a student who earns an *A* in a four-hour course will receive 16 quality points.

Grade Point Average

The grade point average of a student is defined as the ratio of the total number of quality points to the total number of GPA hours, truncated (no rounding) to the second decimal point. For example, a 3.9999 calculation would be recorded as a 3.99 GPA. Institutional GPA (Murray State University coursework), transfer GPA (other institutions' accepted coursework), and cumulative GPAs are posted to a student's transcript and can be found on the Academics tab on *myGate*. For example, a student who earns a grade of *B* in all courses for a total of 120 semester hours would have 360 quality points and a GPA of 3.00. **A degree GPA is calculated at the time a degree is conferred and recorded. A student's record will not be changed by subsequent coursework after a degree is granted, including repeated courses.**

Grade Change Policy

Grades are recorded in the Office of the Registrar as reported by the faculty at the end of each term. No grade recorded on the student's record may be changed except upon a written statement signed by the instructor certifying an error in reporting had been made.

When an error is made in reporting a grade, the instructor may make the necessary change in the Office of the Registrar within the

first 20 days of the semester following the recording of the grade. A grade will not be changed after a degree is conferred. **Students may not submit missed work, make changes to already submitted work, nor complete additional assignments in order to change a grade of A, B, C, D, or E once the grade has been recorded.** The policy concerning the changing of *I* grades is addressed earlier in this section.

Dean's List Academic Honors

Full-time (courses in which a grade of *P* is received will not count toward full-time status for this purpose) undergraduate students who have attained a term grade point average of 3.50 or above in either a spring or fall semester will be placed on the "Dean's List" for that semester and will appear on the student's record. This requirement must be met at the time grades are posted. Grades changed after the initial posting of grades will not be used for determining Dean's List. Grades of *I* may prevent a student from being placed on the Dean's List. Dean's List information is also displayed under the Academics tab on *myGate*. For press release forms regarding Dean's List Honors, please contact the department of University Communications. The policy concerning degree honors is addressed in the Graduation Requirements section of *Academic Degrees and Programs*.

Repeating Courses

Undergraduate Students

An undergraduate student may, for the purpose of raising a grade, enroll in a course for credit no more than three times unless otherwise noted in the course description. Only the last attempt will be calculated in the overall GPA and count toward hours earned. Grades of *AU*, *R*, or *W* do not count toward repeat attempts. Transfer credit is also subject to this policy. Therefore, an equivalent course could 'mark off' a previously earned Murray State course. All attempts and the original grades are recorded on the academic record.

Note: All undergraduate coursework to date will be evaluated using this policy. Students who received credits or failures in a course, three or more times with only the first attempt removed from GPA calculation, will have all but the last attempt removed from the overall GPA. Repeating a course after a baccalaureate degree has been conferred will not mark off a previous grade.

Graduate Students

Repeating a graduate course does not remove the original grade received in the course. All graduate level grades remain on the academic record. In calculating grade point averages, a repeated course shall be considered an additional course. If a graduate student takes a course at Murray State and chooses to repeat that course at another institution, permission from the student's graduate advisor and collegiate graduate coordinator must be secured. Students are required to submit an official transcript from the other school to Murray State after each semester of enrollment. A repeated transfer course is added to the student's degree GPA calculation. A course substitution form must be forwarded to the Graduation Office in Sparks Hall to document departmental approval of transfer credit.

Minimum Academic Standards

Outcomes Assessment

Outcomes assessment, while not having impact on a student's grade point average or graduation status relative to the student's test performance, is nonetheless a required activity.

Academic Standings

Undergraduate Students

Academic Good Standing

Students who are not on warning, probation, or academic suspension or dismissal are considered in good standing. If a student is not in good standing but requests that a verification of good standing be sent to another institution, the verification will state that the student is eligible to re-enroll if applicable.

Undergraduate students are expected to maintain at least a 2.00 cumulative grade point average (GPA). The conditions and actions described below pertain to undergraduate students whose GPAs fall below 2.00. Some programs require students to maintain a higher cumulative grade point average.

Academic Warning

A student will be on academic warning when his or her cumulative GPA is less than 2.00 but is at or above the values listed below for the number of GPA hours the student has attempted. A student on academic warning may enroll for a maximum of 16 credit hours during a fall or spring term.

Academic Probation

A student will be on academic probation when his or her cumulative GPA is less than the value listed below for the number of GPA hours the student has attempted.

GPA Hours Attempted	Cumulative GPA
1 - 32	1.50
33 - 64	1.70
65 - 79	1.90
80 or more	2.00

An undergraduate student will be placed on Academic Probation at the end of the first grading period in which his/her cumulative GPA falls below the appropriate threshold listed above. A student on probation may register for a maximum of 16 hours during a fall or spring term.

Academic Probation Continued

A student who does not meet the cumulative GPA threshold listed above for his/her GPA hours attempted, but earns a term GPA of at least 2.00 for the probationary semester will remain on probation and may register for a maximum of 16 hours during a fall or spring term.

Removal from Probation

A student will be removed from probation after the probationary semester by reaching or exceeding the appropriate cumulative GPA threshold listed above. Failure to do so will result either in Continued on Probation or Academic Suspension.

Academic Suspension

An undergraduate student will be suspended from the University following a probationary semester in which he or she does not meet the criteria for continued on probation or removal from probation (see above). A student suspended for the first time may not re-enroll until one succeeding (fall or spring) term has passed. Academic Suspension is noted on the academic record. An undergraduate student who receives a second academic suspension may not re-enroll for two calendar years. An undergraduate student who receives three or more academic suspensions will be indefinitely dismissed from the University. **Being reinstated does not remove prior academic standings from a student's academic record.**

Graduate Students

Graduate Academic Probation

When graduate students have completed nine or more semester hours of graduate course work with a grade point average of less than 3.00, they may be placed on academic probation and are subject to dismissal from their program(s). These are the minimum university regulations governing scholastic probation for graduate students. Each college/school may set additional requirements for academic probation in its graduate programs.

Academic Second Chance (Undergraduate)

Academic Second Chance (ASC) is an appeal procedure for an undergraduate student to request academic forgiveness for their courses. It applies to one or more semesters within which a student earned grades lower than a C. If approved, the requested terms would be excluded when calculating the student's grade point average. No courses taken during the semesters approved for ASC would apply toward requirements for a degree.

A student who wishes to petition for ASC must have been separated from all institutions of higher learning for a minimum of two consecutive calendar years. (Ex: Grades earned in May 2016 would require the student to be separated until May 2018.) If a student withdrew from a semester and the withdrawal appears on their transcript, the student is considered "enrolled" during that term.

An ASC request form may be submitted by an enrolled student after the student has reentered Murray State University and has earned a minimum of 12 new degree credit hours at Murray State University with a minimum GPA of 2.50 on all hours since re-enrolling. ASC requests are only valid for the student's first baccalaureate degree. The ASC request form must be submitted to the Office of the Registrar, specifying the terms for which ASC is requested.

ASC courses remain a part of the transcript with a notation that academic second chance has been applied and those grades are not included in GPA calculations. If a course excluded by ASC was used as a repeat of an earlier course, the original course which had been excluded from grade point average consideration due to the repeat policy will be reinstated into the GPA as though it had never been repeated. ASC may impact VA education benefits awarded during those terms. Prior to ASC request, please contact the VA office.

The new GPA is the official GPA of the university. Students need to be aware that some schools, agencies, academic areas, organizations, and scholarship programs may not recognize or allow ASC. **ASC may be declared only once and may not be revoked. ASC does not remove prior academic standings from a student's academic record.**

Academic Appeals

Suspension Appeal

A student who has been academically suspended or dismissed and feels there were extenuating circumstances beyond his/her control which led to the suspension or dismissal, may request reinstatement for the following semester by submitting an Academic Suspension Appeal Form with supporting documentation to the Office of the Registrar. The Academic Suspension Appeal Form can be found on the Office of the Registrar website at www.murraystate.edu/registrar. Submitted academic suspension appeals will be heard by the Academic Appeals Board in May, August, and January. All appeals must be on file at least seven days before the first day of the semester for the appeal for reinstatement. **Being reinstated on academic probation does not remove prior academic standings from a student's academic record.** The decision of the Academic Appeals Committee is final.

Grade Appeal

Murray State University recognizes that differences of opinion or interpretation may arise between students and faculty members regarding the assignment of course grades. The university urges the student to first seek resolution through informal discussion with the appropriate faculty member. The following policy has been adopted as a formal avenue for the resolution of a student grievance or appeal, in the event that such differences cannot be resolved informally. The university recognizes the right of a student to present a grievance to an established committee and to have that grievance considered on its merit by an expeditious and orderly process. It should be noted that situations involving academic misconduct should be directed to the University Judicial Board.

Definitions

Complainant: one who files a grievance, complaint or appeal within the scope of this policy.

Respondent: one against whom a grievance is filed.

Days: counted when classes or exams are scheduled.

Faculty: all persons, whether full or part-time, who are responsible for, assist in, or administer the instructional program. (See Sec. 2.1 of the Faculty Handbook for a complete definition.)

Grievance: a written allegation or complaint that there has been a violation, misinterpretation, or improper application of existing policies, rules, regulations, practices, and/or procedures which a student believes to be unfair, inequitable, or a hindrance to that student's effective performance.

Limitations. *A grievance by the student must be initiated with the instructor within the first twenty (20) days of the semester immediately following the term during which the incident of grievance is alleged to have occurred, exclusive of summer session.* Informal discussions with the appropriate chair and dean must take place within ten (10) days of the initial discussion with the instructor. Any special circumstance or request involving the time limitation set forth above will be considered and evaluated by the appropriate academic dean. Documentation of any revision of the time limitation will be included with the grade appeals form. **Under no circumstances will an appeal of a grade be accepted after one year from the end of the semester in which the grade was received.**

A faculty member has the responsibility to retain all course material and/or records not left in the student's possession which contribute to the final course grade. These materials must be kept for the 20-day period of the following semester during which a student may appeal a grade, or in the event of an appeal, until conclusion of the appeal process.

Procedures

Step 1: Before a formal grievance may be filed with the Academic Appeals Board, the complainant should first seek resolution through informal discussion with the instructor. In the event that the instructor is a teaching assistant, the faculty supervisor should also be present during these discussions.

Step 2: Should the matter not be resolved to the satisfaction of the complainant, informal discussion should be sought with the appropriate department chair. In the event that the chair is the respondent of the grievance, informal discussion will be held with the academic dean.

Step 3: Should the informal discussions as outlined above not prove satisfactory to the complainant, informal discussion should be sought with the appropriate academic dean, if the dean has not been previously consulted.

Step 4: Once all means of informal resolution on the collegiate level have been exhausted, **the complainant should present a completed grade appeal form with supporting documentation to the Registrar within fifteen (15) days of the initial discussion with the instructor.** Grade appeal forms are available in the Office of the Registrar, on the Office of the Registrar's website www.murraystate.edu/registrar, and in the office of each collegiate dean.

Step 5: The Registrar shall immediately forward the grade appeal form to the chair of the Academic Appeals Board who in turn will notify the faculty member/respondent that a formal grievance has been filed. The faculty member/respondent will be provided a copy of the completed grade appeals form.

Step 6: The chair of the Academic Appeals Board shall convene that committee within twenty (20) days of the receipt of the grade appeals form. (The Academic Appeals Board is defined in Section 1.6.3.1 of the University Committee System.) Prior to the hearing, both complainant and respondent may elect to choose a university advisor(s) for the purposes of collecting data and/or presenting that individual's position to the board. Complainant and respondent have the right to be accompanied by their advisors during any open meeting of the board at which the board's agenda includes that particular grievance. The board holds the prerogative to call for pertinent testimony from any party involved in the grievance, or any party whom the board believes could clarify the grievance.

Step 7: Unless an extension of time is sought by the board, the written recommendation of the Academic Appeals Board shall be forwarded to the provost for final disposition. Copies of the recommendation and final decision by the provost shall be sent to the appropriate academic dean, the complainant, and the respondent, within ten (10) days of the completion of the hearing, unless notified otherwise. Telephone notification to the complainant of the availability of the recommendation shall fulfill the terms of this requirement. The text of the recommendation and all pertinent testimony and gathered data shall be kept in confidence.

NOTE: If at any point in this process, the student alleges that actions have taken place that may be in violation of Murray State University Non-Discrimination Policies, this process must be suspended and the matter directed to the Office of Institutional Diversity, Equity and Access.

Academic Record and Transcript

The academic record is the **unabridged** academic history of a student. It contains a chronological academic history of all courses attempted at Murray State and accepted coursework from other accredited institutions. Grade point averages (GPAs) are recorded for each semester and a cumulative GPA is recorded for each level of coursework (undergraduate, graduate, ESL). If a student earns credit at the same level after completing a degree, the cumulative GPA will reflect all coursework prior to and after the degree was awarded.

For a fee, an official Murray State transcript of a student's **unabridged** academic history will be released at the student's written request and in compliance with existing state and federal statutes pertaining to the release of student academic records. The student may request a transcript for a specific level only (such as graduate-level coursework); otherwise, the student's transcript will contain all levels of attendance. Transcript(s) cannot be released with only a select course(s) or only a select degree(s). For transcript information, visit www.murraystate.edu/transcripts or contact the Office of the Registrar via email at msu.transcriptrequests@murraystate.edu. All transcript requests must be ordered online. An unofficial transcript can be viewed on the *Academics* tab of the student's *myGate* account at no charge.

The official academic record is the property of the university. Consequently, the university reserves the right to withhold the release of an official transcript of that record if the student has an obligation to the University (such as debt or incomplete admission). If the university withholds the release of the official transcript for these reasons the student may contact the Office of the Registrar to view his/her academic record; however, he/she will not be permitted to make photographs nor be given copies of their academic record. The university reserves the right to maintain the informa-

tion contained in the permanent record according to established practice and in compliance with state and federal laws.

Documents received from third parties (including high school and college transcripts, test scores, etc.) are the property of Murray State University. These documents cannot be released by Murray State to other institutions or agencies nor can they be returned to the student. Students needing a copy of their high school transcripts, other school transcripts, test scores, etc., should contact the original source.

Enrollment and Degree Verifications

Verification of enrollment, degree, and academic information may be requested on the Academics tab of the student's *myGate* account. Verifications requested through *myGate* are processed the next business day. All other verifications are processed within 2-3 business days. Verifications are not available on demand. For more information, please email msu.verifications@murraystate.edu.

Family Educational Rights and Privacy Act (FERPA)

The Family Educational Rights and Privacy Act (FERPA) affords students certain rights with respect to their education records. These records include:

1. The right to inspect and review the student's education records within 45 days of the day the University receives a request for access. Students should submit to the registrar, dean, head of the academic department, or other appropriate official, a written request that identifies the record(s) they wish to inspect. The University official will make arrangements for access and notify the student of the time and place where the records may be inspected. If the records are not maintained by the University official to whom the request was submitted, that official shall advise the student of the correct official to whom the request should be addressed. Release of such information is at the discretion of the registrar.

2. The right to request the amendment of the student's education records that are believed to be inaccurate or misleading. The student should write the University official responsible for the record, clearly identify the part of the record they want changed, and specify why it is inaccurate or misleading. If the University decides not to amend the record as requested by the student, the University will notify the student of the decision and advise the student of his or her right to a hearing regarding the request for an amendment. Additional information regarding the hearing procedures will be provided to the student when notified of the right to a hearing. See the section on *General Student Complaint Procedure and Request to Amend an Educational Record* in Chapter 1.

3. The right to consent to disclosures of personally identifiable information contained in the student's education records, except to the extent that FERPA authorizes disclosure without consent.

The University discloses education records without the student's prior written consent under FERPA exception for disclosure to school officials with legitimate education interests. A school official is a person employed by the University in an administrative, supervisory, academic, research, or support staff position (including law enforcement unit personnel and health staff); the University attorney; appropriate community safety and emergency personnel to whom information regarding students is to be provided pursuant to KRS 164.9495; a contractor, consultant, volunteer, or other person or entity to which the University has outsourced institutional services or functions, and who is limited as to use, maintenance, and re-disclosure of information; a person or company with whom the University has contracted (such as an attorney, auditor, or collection agent); a person serving on the Board of Regents; or a student serving on an official committee, such as a disciplinary or grievance committee, or assisting another school official in performing his or her tasks.

In addition to the above listing, the following groups are specifically recognized as “school officials” within the definition of FERPA for the limited purpose of receiving at any time listings of names and addresses of students, including in-coming students, and/or student directory information: MSU Alumni Association; Murray State University Foundation, Inc; a person or company who performs a service for MSU that serves a legitimate educational interest; authorized representatives of federal or state supported education programs if disclosure is in connection with an audit or evaluation of supported programs or for the enforcement of or compliance with legal requirements that relate to those programs.

A school official has a legitimate educational interest if the official needs to review or receive any education record in order to fulfill his or her professional responsibility or if the service to or for MSU is of a type that MSU would normally perform itself including one which Murray State has outsourced.

As of January 3, 2012, the U.S. Department of Education’s FERPA regulations expand the circumstances under which your education records and personally identifiable information (PII) contained in such records — including your Social Security Number, grades, or other private information — may be accessed without your consent. First, the U.S. Comptroller General, the U.S. Attorney General, the U.S. Secretary of Education, or state and local education authorities (“Federal and State Authorities”) may allow access to your records and PII without your consent to any third party designated by a Federal or State Authority to evaluate a federal- or state-supported education program. The evaluation may relate to any program that is “principally engaged in the provision of education,” such as early childhood education and job training, as well as any program that is administered by an education agency or institution. Second, Federal and State Authorities may allow access to your education records and PII without your consent to researchers performing certain types of studies, in certain cases even when we object to or do not request such research. Federal and State Authorities must obtain certain use-restriction and data security promises from the entities that they authorize to receive your PII, but the Authorities need not maintain direct control over such entities. In addition, in connection with Statewide Longitudinal Data Systems, State Authorities may collect, compile, permanently retain, and share without your consent PII from your education records, and they may track your participation in education and other programs by linking such PII to other personal information about you that they obtain from other Federal or State data sources, including workforce development, unemployment insurance, child welfare, juvenile justice, military service, and migrant student records systems.

FERPA allows the institution to routinely release information defined as “directory information.” The following student information is included in the definition of directory information: the student’s name, addresses, telephone listings, campus e-mail address, date and place of birth, field(s) of study, photograph, participation in officially recognized activities and sports, weight and height of members of athletic teams, dates of attendance, enrollment status (including full-time, part-time, not enrolled), degrees (pending and received), awards or honors received and the most recent previous educational institution attended. When a student wants the directory information to remain confidential, an official request form must be completed in the Office of the Registrar. That request remains in force until such a time as a formal written statement is received from the student rescinding that request.

Murray State will release directory information to school officials or others with a legitimate educational interest.

4. The right to file a complaint with the Family Compliance Office of the United States Department of Education concerning an alleged failure by Murray State University to comply with the provisions of FERPA.

a) The complaint must contain specific allegations of fact giving reasonable cause to believe that a FERPA violation has occurred. A complaint does not have to allege that a violation is based on a policy or practice at MSU.

b) To be timely, a complaint should be submitted to the Family Compliance Office within 180 days of the date of an alleged violation. The Family Compliance Office may extend the time limit for good cause shown.

c) The complaint may be filed at: Family Compliance Office, U.S. Department of Education, 400 Maryland Ave, S.W., Washington D.C., 20202.

Students may choose to release non-directory (confidential) information to certain individuals by completing the *Consent to Release Student Information* process on their *myGate*. Non directory information cannot be released via phone or email to anyone, including the student, without consent on *myGate*. A photo ID is required to release non directory information to the student in person.



Academic Degrees and Programs

270-809-5630 or 800-272-4678 ext. 1
 msu.registrar@murraystate.edu
 msu.registration@murraystate.edu

GENERAL

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Degrees and Certificates

Murray State University confers the following degrees:

- **Associate:** Associate of Arts (A.A.) and Associate of Science (A.S.)
- **Baccalaureate:** Bachelor of Arts (B.A.), Bachelor of Arts in Business (B.A.B.), Bachelor of Fine Arts (B.F.A.), Bachelor of Integrated Studies (B.I.S.), Bachelor of Music (B.M.), Bachelor of Science (B.S.), Bachelor of Science in Agriculture (B.S.A.), Bachelor of Science in Business (B.S.B.), Bachelor of Science in Engineering (B.S.E.), Bachelor of Science in Nursing (B.S.N.), and Bachelor of Social Work (B.S.W.)
- **Master's:** Master of Arts (M.A.), Master of Arts in Education (M.A.Ed.), Master of Arts in Teaching (M.A.T.), Master of Business Administration (M.B.A.), Master of Fine Arts (M.F.A.), Master of Music Education (M.M.E.), Master of Public Administration (M.P.A.), Master of Science (M.S.), Master of Science in Athletic Training (M.S.A.T.), and Master of Science in Information Systems (M.S.I.S.)
- **Specialist:** Specialist in Education (Ed.S.)
- **Doctorate:** Doctor of Arts (D.A.), Doctor of Education (Ed.D.), Doctor of Nursing Practice (D.N.P.)
- **Certificate:** Please visit www.murraystate.edu for a complete list of certificates available.

Definitions

The University approved academic programs of study listed in the collegiate/school chapters in this *Academic Bulletin* are the only ones that may be declared by students eligible to follow this *Academic Bulletin*.

Undergraduate

Courses may not be shared between areas, majors, and minors unless specifically noted below. The minimum number of hours indicated below must be unduplicated for each.

- **Area:** An area is an approved program of study that requires a minimum of 48 hours of credit, 15 of which must be upper-level, in addition to University Studies courses, and can be completed in lieu of a major-minor combination.
- **Major:** A major is an approved program of study that requires a minimum of 30 semester hours of credit, 9 of which must be upper-level, in addition to University Studies courses and must be accompanied by a unique minor or second major.
- **Minor:** A minor is an approved program of study of a minimum of 21 semester hours of credit, six of which must be upper-level, completed in conjunction with an area or a major to apply toward a degree.
- **Collateral courses:** Courses that may be shared between areas, majors, and minors.
- **Core:** A set of courses that are common among all concentrations or tracks of a particular program of study. These courses may not be shared between areas, majors, and minors.
- **Concentration or Emphasis:** A set of courses that is unique to a specific track of study within a particular program. These courses cannot be shared between areas, majors, and minors.
- **Co-Requirement:** Courses that may be shared between areas, majors, and minors.
- **Support courses:** Courses that support the knowledge needed within the program of study. If the area/major or minor has more than the minimum number of required hours, support courses may be shared between areas, majors, and minors.

Graduate

- **Doctorate Degree:** Advanced degree of graduate study consisting of a minimum of 76 graduate hours of concentrated and approved coursework beyond a bachelor's degree.

- **Specialist Degree:** Advanced degree of study consisting of a minimum of 60 graduate hours of concentrated and approved coursework beyond a bachelor's degree.

- **Master's Program:** A graduate program of study consisting of a minimum of 30 graduate hours.

Certificates

Certificate programs are a specialized set of courses emphasizing a professional skill or knowledge base offered by Murray State University. Certificate programs enhance an existing degree discipline or provide additional educational background in a new field or profession. The requirements for admission vary by program and typically range from 12 to 21 credit hours. Successful completion of certificate program requirements will be posted to the student's transcript. The maximum completion time allowed is eight years from the start of certificate coursework. Certificate programs are neither degree programs nor teacher certification programs.

Program

The Council on Postsecondary Education (CPE) has defined certain terminology for portions of a program that vary by degree level.

- **Track:** A track is a set of courses designed to develop expertise within a major or area at the undergraduate level.
 - **Concentration:** A concentration is a set of courses designed to develop expertise within a major or area at the master's level.
 - **Specialization:** A specialization is a set of courses designed to develop expertise within a major at the doctoral level.
- Tracks, Concentrations, and Specializations are noted on the academic transcript as "Concentration."

Pre-Professional Curriculum Advisors

The university offers baccalaureate programs that serve as pre-professional academic foundation for the professional areas listed below. Students interested in the details of a specific program should consult with the advisor listed.

- **Architecture:** Kevin Perry, Institute of Engineering.
- **Dentistry:** Dr. Gary ZeRuth, Department of Biological Sciences; Dr. Ricky Cox, Department of Chemistry.
- **Chiropractic:** Dr. Amelia Dodd, Department of Applied Health Sciences.
- **Engineering:** Dr. Ted Thiede, Institute of Engineering.
- **Equine Chiropractic:** J.D. Van Hooser, Department of Animal and Equine Science.
- **Forensics:** Dr. Daniel Johnson, Department of Chemistry.
- **Law:** Dr. Alkatib Ihsan, Department of Political Science and Sociology.
- **Medicine:** Dr. David Canning, Department of Biological Sciences; Dr. Ricky Cox, Department of Chemistry.
- **Occupational Therapy:** Dr. Amelia Dodd, Department of Applied Health Sciences.
- **Optometry:** Dr. Sterling Wright, Department of Biological Sciences.
- **Pharmacy:** Dr. Gary ZeRuth, Department of Biological Sciences; Dr. Wafaa Fawzy, Department of Chemistry.
- **Physical Therapy:** Dr. Claire Fuller, Department of Biological Sciences; Dr. Amelia Dodd, Department of Applied Health Sciences.
- **Physician Assistant:** Dr. Chris Trzepacz, Department of Biological Sciences; Dr. Amelia Dodd, Department of Applied Health Sciences.
- **Pre-Health Professions:** Dr. Amelia Dodd, Department of Applied Health Sciences.
- **Speech-Language Pathology:** Susan Brown, Center for Communication Disorders.
- **Veterinary Medicine:** Dr. Terry Derting, Department of Biological Sciences; Dr. Terry Canerdy and Dr. William DeWees, Department of Veterinary Technology and Pre-Veterinary Medicine.

Undergraduate Degree Policies and Procedures

General Degree Requirements

Degree Credit

The following courses **do not count** toward the credit hours required for graduation but **are included in calculating GPAs** (other courses may be added in the future): All ESL and CEC courses, courses in which a student earned a grade of *E* or *I*; multiple enrollments in a course that exceed the number of permissible attempts specified in the course description, and developmental courses listed in Mandatory Developmental Courses section later in this chapter. Refer to the Repeat Policy found in Academic Policies and Procedures. **The GPA that is calculated at the time a degree is conferred and recorded will not be changed by subsequent coursework, including repeated courses.** A grade of *I* must be changed within five weeks after the semester ends for students pending graduation; otherwise graduation will be delayed until the next semester, with the deadline for completing the work being October 15 for spring and summer *I* grades and March 15 for fall and winter *I* grades, whichever is applicable. Grades may not be changed after the degree is conferred.

The following courses **do not count** toward the credit hours required for graduation, and **are not included in GPA calculations**: audited courses, courses with a grade of *R* or *W*, courses approved for Academic Second Chance, and courses taken at another institution that are determined to be nontransferable.

Residence Credit for Graduation

Undergraduate residence credit is any academic credit awarded by Murray State University and placed on students' transcripts after they enroll with Murray State University. Nonresidence credit is any academic credit which Murray State accepts as transfer credit from another college or university, including credit through the National Student Exchange and the International Student Exchange programs. (See section on Transfer Credit.)

Undergraduate Certificates

A candidate for an undergraduate certificate must complete a minimum of 12 semester hours. A minimum of nine semester hours must be earned in residence at Murray State. The certificate candidate must have a grade point average of at least 2.00: (1) in all credits presented for the certificate program whether earned at Murray State or elsewhere (cumulative GPA); and (2) in all credits for the certificate program completed at Murray State. Graduation honors are not posted for certificate programs.

Undergraduate Certificates may be awarded: (1) prior to completion of a baccalaureate degree; (2) in the same semester as a baccalaureate degree; or (3) after a baccalaureate degree is awarded. Courses may be shared between an undergraduate certificate program and an area, major, or minor. Post-baccalaureate transfer work will not be posted to the student's academic record until the Undergraduate Certificate is conferred. Only the transfer work specifically required for the certificate will be posted.

All students seeking an undergraduate certificate must be appropriately admitted/readmitted to Murray State and must have the specific program plan pre-approved by the department chair and dean of the certificate program. Undergraduate courses do not expire; however, some certificate programs may have time limitations for specific courses within the program. The department has the right to reject courses if the courses were not completed within an appropriate time frame as determined by the academic department. Failure to seek approval in advance from these parties will likely result in the undergraduate certificate not being awarded.

The application for the Undergraduate Certificate Completion, available on *myGate*, and processing fee are due by May 1st (spring

graduation), December 1st (fall graduation), or August 1st (summer graduation). Undergraduate Certificate Program forms must be completed by the appropriate undergraduate certificate program advisor and submitted to the Office of the Registrar prior to certificate conferral. After the student successfully completes all courses towards the certificate program, the certificate completion will be posted to the Murray State transcript. No document will be printed and/or mailed to the student.

Associate Degree

A candidate for an associate degree must complete a prescribed, planned specialty program with a minimum of 19 semester hours chosen from the University Studies component. The minimum amount of credit required for an associate degree is 60 semester hours. A minimum of 24 semester hours must be earned in residence at Murray State. The associate degree candidate must have a grade point average of at least 2.00: (1) in credits presented for graduation whether earned at Murray State or elsewhere (cumulative GPA); (2) in all credits completed at Murray State; and (3) in the courses completed for the planned specialty program. Graduation honors are not posted for associate degrees.

Second Associate Degree

A student who has earned or is seeking an associate degree from Murray State may earn a second associate degree in a different planned specialty program upon meeting course requirements for that degree and upon completing at least 24 additional hours in residence at Murray State, over and above requirements for the first degree. The student may be required to complete additional University Studies courses if they are specifically required for the intended second degree. Nine hours must be completed toward a new planned specialty program and GPA requirements are the same as required for the first associate degree.

All students seeking a second degree must apply for admission/re-admission to Murray State University and must have the specific program plan pre-approved by the department chair and dean of their new area or major and by the Office of the Registrar. Failure to seek approval in advance from these three parties will likely result in a second degree not being awarded as not all areas and majors will be possible for those seeking the second degree.

Baccalaureate Degree

A candidate for a baccalaureate degree must complete a minimum of 120 degree-applicable semester credit hours. A minimum of 40 hours must be earned in residence at Murray State. A candidate for the Bachelor of Integrated Studies degree will require 32 hours to be earned in residence at Murray State.

At least 42 semester hours of the 120 hours required for a baccalaureate degree must be earned in courses at the 300-level or above (upper level courses); Bachelor of Integrated Studies requires at least 39 semester hours to be earned at the 300-level or above. Course credit level for transfer work is based on the course level at the sending institution (courses taken at a community college are lower-level credit). No more than six hours in cooperative education courses will apply toward minimum graduation requirements (some departments have further restrictions). Other courses with limits on their application toward graduation are so designated in their course descriptions.

A student completing a degree in a field that is a non-AACSB accredited business program may not take more than 25 percent of the total hours required for that degree in any combination of the following business prefixes/courses: ACC, BUS, CIS, FIN, LSC, MGT, MKT, RES, or COM 340, COM 439, JMC 391, JMC 394, LST 240, LST 440, and POL 442.

All students seeking a baccalaureate degree must complete the University Studies requirements as outlined later in this chapter.

Transfer students should refer to the transfer section in *Undergraduate Admissions* of this *Academic Bulletin* for important information on University Studies courses. Also, each candidate for a baccalaureate degree must complete either 1) an area; 2) a major plus a minor; 3) a major plus a second major; or 4) a major plus an area. Courses of an appropriate nature may apply toward University Studies requirements and either a major or a minor without additional courses being required in that major or minor. **A minimum of nine hours in the major(s), six hours in the minor(s), and 15 hours in the area(s), must be in upper-level courses.**

The baccalaureate degree candidate must have a GPA of at least 2.00: (1) in all credits presented for graduation whether earned at Murray State or elsewhere (cumulative GPA); (2) in all credits completed at Murray State; and (3) in the courses for each major, minor or area.

Professional Degree Transfers

A student who completes three years (90 semester hours) of appropriate pre-professional courses at Murray State and then enters an accredited professional school to pursue an advanced degree in dentistry, engineering, law, medicine, optometry, theology, or veterinary science may apply the courses from the first year of professional school (up to 32 semester hours) toward a Murray State baccalaureate degree. All MSU University Studies, departmental, and other graduation requirements must be met.

Second Baccalaureate Degree

Students who have earned or are seeking a baccalaureate degree may earn a second baccalaureate degree in a different major or area. The student must complete a minimum of 32 new semester hours in residence at Murray State University, exclusive of hours taken toward requirements of the first degree, including any specific departmental requirements, prerequisites, and co-requirements. A student completing a new major toward a second degree is not required to complete a new minor. Fifteen semester hours of upper-level courses must be earned in completion of the new area or major. The student may be required to complete additional University Studies courses if they are specifically required for the intended second major or area. Post-baccalaureate transfer work will not be posted to the student's academic record until their degree is conferred. Only the transfer coursework required for the second degree will be posted. The second baccalaureate degree candidate must have a GPA of at least 2.00: 1) in all credits present for graduation whether earned at Murray State or elsewhere (cumulative GPA); 2) in all credits presented for graduation that were completed at Murray State; and 3) in the courses for each major, minor, or area.

All students seeking a second degree must be appropriately admitted/readmitted to Murray State University and must have the specific program plan pre-approved by the department chair and dean of their new area or major and by the Office of the Registrar. Failure to seek approval in advance from these three parties will likely result in a second degree not being awarded as not all areas and majors will be possible for those seeking a second degree. The Bachelor of Integrated Studies degree is only available as a first baccalaureate degree.

See the *Academic Honors for Graduation* section in this chapter for information regarding academic honors for second degrees.

RACR - Racer Academic Completion Report

The Racer Academic Completion Report (RACR) is available to undergraduate associate and baccalaureate students to describe the steps and courses needed to achieve a degree.

The RACR is available through *myGate* and should be used in conjunction with information from the student's advisor and the *Academic Bulletin* to ensure all graduation requirements are being met. "What-if" audits are also available through *myGate* for stu-

dents to explore the requirements needed should they decide to change degree objectives or add/delete areas, majors, or minors.

It is the student's responsibility to verify all requirements have been completed and to question any information they do not understand. The RACR is not available to graduate students or students seeking a second baccalaureate degree.

Program, Advisor and Catalog Assignments

Students are expected to confer regularly with their academic advisors in conjunction with reviewing their RACR prior to the actual time of registration each semester. Although the student advising program at Murray State University is specifically designed to assist students as they progress through a degree program, it is the responsibility of all students to be thoroughly familiar with the university's *Academic Bulletins*, student handbook and all rules, regulations and requirements that apply to their programs of study, and decisions made in connection therewith are the sole responsibility of the student.

Each student is initially assigned an academic advisor based upon the major indicated by the student on his or her application for admission. Undergraduate students who have not declared a specific major are assigned to the Center for Academic Advising. After enrolling, a student may apply for a change of area, major, minor, advisor, or degree objective by filling out an undergraduate change of major/advisor form, which may be obtained from any department. To have a major changed, the student must be eligible for the degree level and major selected and meet admission requirements for that program, if applicable. If approved, a faculty member in the department of the new major will be assigned as his/her advisor, the Office of the Registrar will be notified of the change, and all records will be updated. Current information about a student's area, major, or minor can be found on *myGate*. Departments reserve the right to require the most current catalog requirements of students switching to a new major. Students who were admitted to Murray State as non-degree seeking will have to complete the admission process to change to degree-seeking.

Students are assigned to the latest *Academic Bulletin* (catalog) in effect at the time they apply for admission but may choose to move to a more current *Academic Bulletin* or be required to move to a more current *Academic Bulletin* if they change majors. Students who are re-admitted or transferring to Murray State may declare any active *Academic Bulletin* since their initial enrollment at any accredited institution. The students will have the same catalog year for their degree, area/major, and/or minor.

Application for Degree

Degrees are awarded in December, May, and August. Students must apply for graduation and pay a degree fee via *myGate*. Students planning to graduate in December must apply by April 1; May graduates must apply by November 1; and August graduates must apply by March 1. (See deadlines listed on *myGate* for specific dates.) Students who will finish their coursework during the summer term must apply for August graduation, not May, since degree requirements will not be satisfied by May.

A summary of graduation status is furnished to the student and advisor by the Office of the Registrar via mail. All subsequent communication regarding graduation status and outstanding degree requirements will be sent to the student and advisor through MSU email only. If the student does not meet graduation requirements, the application will automatically be moved to the next graduation term. Should the student fail to meet the degree requirements by the deadline for that graduation term, the student's name will be removed from the pending graduation list. It will then be the student's responsibility to submit a NEW Graduation Application via

myGate by the deadline for the term in which the student plans to graduate. The new application will result in another degree fee.

Degree Applications may be submitted after the published deadline ONLY with prior approval of the Office of the Registrar. An additional late fee will be required.

Academic Honors for Graduation

Baccalaureate degree candidates are considered for graduation honors if they have earned a minimum of 40 semester hours in residence at Murray State University and also must have earned the required GPA indicated: 1) on Murray State course work alone, and 2) overall including transfer work. The honors distinctions are: Summa cum laude — minimum of 3.80; Magna cum laude — 3.60 - 3.79; and Cum laude — 3.40 - 3.59.

Students will have their honor status published and announced at the appropriate Commencement ceremony. Honors cords may be purchased at the University Store.

Honors that appear in the commencement program are calculated at the end of the previous semester. Honors printed on the diploma and academic record will reflect the final GPA after all degree requirements have been met. Honors distinction is based on the current *Academic Bulletin* requirements, not individual students' catalogs.

Contact Public Relations and Photo Services, 412 Sparks Hall, for help with a press release for the student's hometown media outlets.

Second Degree Honors

Students seeking an honors designation for their second degree must follow the honors requirements for a first degree, including the completion of a total of 40 new hours in residence at Murray State and have earned the required GPA listed in the Academic Honors for Graduation section. Only courses used to satisfy the new degree requirements are included for second degree honors calculations.

Departmental Graduation Requirements

Individual departments, with the appropriate university approval, may set admission or graduation standards which are higher (but not lower) than the minimum university-wide standards. It shall be the responsibility of the department to inform students of these more stringent requirements, to publish them in the *Academic Bulletin*, and to monitor their completion.

Commencement

A student must apply for graduation and be recommended for the degree to the Board of Regents of Murray State University before any degree is conferred. Graduation requirements for a student are defined by one specific *Academic Bulletin* (University Studies, area/major/minor requirements must be from the same *Academic Bulletin*). Each *Academic Bulletin* expires in August of the seventh year from the year of publication. No student will be graduated under the requirements of an *Academic Bulletin* that has expired.

Formal commencement exercises are held at the end of the spring and fall semesters. August graduates are included in the May graduation ceremony of the same year. Academic honors for August graduates will appear only in the May program. Academic regalia is required and may be purchased at the University Store. For more information, visit www.murraystate.edu/commencement.

Senior Salute

Senior Salute is hosted by the University Store in the fall and spring semesters for students participating in that semester's commencement. Representatives from the Office of the Registrar, Bursar's Office, Financial Aid, Career Services, Alumni Association, and the photographer are present to answer questions and help students with commencement regalia, invitations and other graduation questions.

Diplomas

Diplomas will be available for pickup for a specified period of time within the Office of the Registrar after degrees are conferred. Students will be notified by email regarding these pickup dates. Diplomas not picked up will be mailed to the diploma address on file. A student must have satisfied all debts to the university or the diploma will be held until the student's account is cleared. Associates, baccalaureate, masters and specialists diplomas are 11x14 inches and contain the name of the graduate (no nicknames), the degree received, and honors if applicable. Details about areas, majors, and minors appear on the academic record only. Doctoral diplomas are 12x17 inches and contain the name of the graduate (no nicknames) and the degree received.

University Studies Program

Murray State's University Studies program is based on an interdisciplinary approach that reinforces the *Characteristics of the MSU Graduate*. The program relies on a thematic structure that places emphasis on the connectedness of learning, rather than on the more traditional discipline-centered approach to knowledge. University Studies, for example, sets the stage for helping students learn how to communicate in the twenty-first century by requiring all students take COM 161 Public Speaking as well as the four-hour ENG 105 course in Critical Reading, Writing, and Inquiry. In addition, all academic majors have designated writing and technology intensive courses within their programs so students will continue to write throughout their academic careers.

Courses within the program encourage students to understand the ways in which important ideas straddle many disciplines, and to experience and value the unique lens of each one. Students learn to think independently and creatively while applying sound standards of information gathering, analysis, and evaluation to reach logical decisions. These foundational approaches provide the basis for students to write well and to speak clearly and coherently.

Through a broad array of course selections in mathematics and the physical and life sciences, Murray State University undergraduates will become familiar with the roles and applications of science and technology for imagining solutions of the problems facing a complex and changing world. In addition, students will gain a critical understanding of the world's historical, literary, philosophical, and artistic traditions. To ensure this dynamic perspective, students are required to take a 200-level World Civilization course to compliment the required sophomore-level Humanities course. To emphasize the importance of developing cross-cultural awareness, knowledge of a second world language holds a key place in all B.A. degrees awarded at Murray State; and taking a course in a modern language is also an option for the B.S. degrees.

In other thematic categories, students will be able to select from among a number of courses that will help them to better understand the complexity of cultural diversity, of competing economic and political systems, and of complex moral and ethical issues in our increasingly interconnected world. Learning how to live an ethical life and to assume social responsibility are also built into the program through a number of selected courses in another thematic area.

Certain programs may require specific University Studies courses to be completed in order to meet program requirements. These specifically required University Studies courses apply toward the number of credits for the program and are reflected in the program grade point average.

Transfer students should refer to the section on transfer of credits in Undergraduate Admissions for important additional University Studies information as they may not be required to complete all of the courses specified below.

English Composition Registration

Students fulfill a portion of the Oral and Written Communication category of University Studies by the successful completion of ENG 105 Critical Reading, Writing, and Inquiry. Because ENG 105 is a prerequisite for subsequent University Studies requirements, students should enroll in the course during their first year. Students qualify for ENG 105 on the basis of credits earned or the English and Reading sub scores of the ACT examination. Students with ACT English score of 18 or above and an ACT Reading score of 20 or above may enroll in ENG 105. Students with an ACT English score of 17 or below or an ACT Reading score of 19 or below are required to enroll in and successfully complete ENG 096 and/or REA 096 and ESS 120 prior to taking ENG 105. Refer to the ENG 105 course description. International students admitted unconditionally may register for ENG 105.

Composition credit may also be earned through the Advanced Placement Program. A score of 3 on the AP English Language/Composition exam or on the English Literature exam will give the student credit for ENG 101 (3 hours), but the student must still complete ENG 105. A score of 4 or 5 on these exams will give the student credit for ENG 105.

ENG 101 credit will be granted for a CLEP English general exam score report of at least 50 or an English subject exam score report of at least 50. NOTE: Students who have completed both ENG 101 and 102 have satisfied the ENG 105 requirement. **The combination of ENG 101 and 102 repeats ENG 105. ENG 105 repeats the combination of ENG 101 and 102. Only the last sequence completed (ENG 101/102 or ENG 105) will be calculated in the overall GPA and count towards hours earned.** Transfer students who have completed the first-year writing requirement at another university should see the composition coordinator about satisfying the ENG 105 requirement.

Mandatory Developmental Courses

All Kentucky state-supported colleges and universities are required by the Council on Postsecondary Education to enroll freshmen in a subject-specific developmental course when the student's ACT/SAT scores do not meet minimum standards. Refer to *Undergraduate Admissions* for requirements.

NOTE: Credit earned in ENG 095, ENG 096, MAT 095, MAT 096, MAT 097, REA 095, REA 096 or MUS 097 does not apply toward the hours required for graduation but letter grades received in the appropriate classes will count in a student's grade point average. Other courses can be added in the future. Developmental credit earned at another institution but is considered non-transferrable at Murray State or is transferred with 0 credit hours cannot be used as a repeat of a prior Murray State course.

Bachelor of Arts (B.A.)

University Studies Requirements 41-44 hours
All Bachelor of Arts degree candidates should follow the course of University Studies instruction indicated below.

Oral and Written Communication7
COM 161 [or HON 165] - 3 hours
ENG 105 [or ENG 150] - 4 hours

Global Awareness, Cultural Diversity, and the World's Artistic Traditions9
Modern language courses (single language), attaining a 202-level proficiency - 6 hours¹
One University Studies elective in this category - 3 hours

Scientific Inquiry, Methodologies, and Quantitative Skills7-10
One University Studies science course with lab—4-5 hours
One University Studies mathematics course—3-5 hours

Social and Self-Awareness and Responsible Citizenship6
One Ethics, Social Responsibility and Civic Engagement category course - 3 hours
One Social Science category course - 3 hours

World's Historical, Literary, and Philosophical Traditions.....9
CIV 201 or CIV 202 [or HON 201 or 202] - 3 hours
HUM 211 [or HON 251] - 3 hours
One University Studies elective in this category - 3 hours

University Studies Approved Elective.....3
Choose from the list of University Studies electives

¹To reach proficiency at the 202-level, a student may have to complete up to six hours of 100-level prerequisites.

NOTE: Specifically required University Studies courses may be required for certain degrees or programs.

Bachelor of Science (B.S., B.S.A., B.S.E., B.S.N., B.S.W.)

University Studies Requirements38-43 hours
All Bachelor of Science degree candidates should follow the course of University Studies instruction indicated below.

Oral and Written Communication7
COM 161 [or HON 165] - 3 hours
ENG 105 [or ENG 150] - 4 hours

Global Awareness, Cultural Diversity, and the World's Artistic Traditions3
One University Studies elective in this category - 3 hours

Scientific Inquiry, Methodologies, and Quantitative Skills 10-15
One University Studies science course with lab—4-5 hours
One University Studies mathematics course—3-5 hours
One University Studies science or mathematics course—3-5 hours

Social and Self-Awareness and Responsible Citizenship6
One Ethics, Social Responsibility and Civic Engagement category course - 3 hours
One Social Science category course - 3 hours

World's Historical, Literary, and Philosophical Traditions.....6
CIV 201 or CIV 202 [or HON 201 or 202] - 3 hours
HUM 211 [or HON 251] - 3 hours

University Studies Approved Electives6
Choose from the list of University Studies electives.
NOTE: Specifically required University Studies courses may be required for certain degrees or programs.

Bachelor of Arts in Business (B.A.B.)

University Studies Requirements 44-49 hours

All Bachelor of Arts in Business degree candidates should follow the course of University Studies instruction indicated below.

Oral and Written Communication7

COM 161 [or HON 165] - 3 hours
ENG 105 [or ENG 150] with a grade of C or better - 4 hours

Global Awareness, Cultural Diversity, and the World's Artistic Traditions9

Modern language courses (single language), attaining a 202-level proficiency - 6 hours¹
One University Studies elective in this category - 3 hours

Scientific Inquiry, Methodologies, and Quantitative Skills10-15

One University Studies science course with lab—4-5 hours
One University Studies math or science course—3-5 hours
MAT 220 or MAT 250—3-5 hours

Social and Self-Awareness and Responsible Citizenship6

One Ethics, Social Responsibility and Civic Engagement category course - 3 hours
ECO 230 - 3 hours

World's Historical, Literary, and Philosophical Traditions.....6

CIV 201 or CIV 202 [or HON 201 or 202] - 3 hours
HUM 211 [or HON 251] - 3 hours

University Studies Approved Electives6

CSC 199 - 3 hours
ECO 231 - 3 hours

¹To reach proficiency at the 202-level, a student may have to complete up to six hours of 100-level prerequisites.

NOTE: Specifically required University Studies courses may be required for certain degrees or programs.

Bachelor of Science in Business (B.S.B.)

University Studies Requirements 38-43 hours

All Bachelor of Science in Business degree candidates should follow the course of University Studies instruction indicated below.

Oral and Written Communication7

COM 161 [or HON 165] - 3 hours
ENG 105 [or ENG 150] with a grade of C or better - 4 hours

Global Awareness, Cultural Diversity, and the World's Artistic Traditions3

One University Studies elective course in this category - 3 hours

Scientific Inquiry, Methodologies, and Quantitative Skills 10-15

One University Studies science course with lab—4-5 hours
One University Studies math or science course—3-5 hours
MAT 220 or MAT 250—3-5 hours

Social and Self-Awareness and Responsible Citizenship6

One Ethics, Social Responsibility and Civic Engagement category course - 3 hours
ECO 230 - 3 hours

World's Historical, Literary, and Philosophical Traditions.....6

CIV 201 or CIV 202 [or HON 201 or 202] - 3 hours
HUM 211 [or HON 251] - 3 hours

University Studies Electives6

CSC 199 - 3 hours
ECO 231 - 3 hours

NOTE: Specifically required University Studies courses may be required for certain degrees or programs.

Bachelor of Fine Arts (B.F.A.)

Art Tracks

University Studies Requirements 35-38 hours

All Bachelor of Fine Arts, art degree candidates should follow the course of University Studies instruction indicated below.

Oral and Written Communication7

COM 161 [or HON 165] - 3 hours
ENG 105 [or ENG 105] - 4 hours

Global Awareness, Cultural Diversity, and the World's Artistic Traditions3

ART 211 or ART 213 - 3 hours

Scientific Inquiry, Methodologies, and Quantitative Skills7-10

One University Studies science course with lab—4-5 hours
One University Studies mathematics course—3-5 hours

Social and Self-Awareness and Responsible Citizenship6

One Ethics, Social Responsibility and Civic Engagement category course - 3 hours
One Social Science category course - 3 hours

World's Historical, Literary, and Philosophical Traditions.....6

CIV 201 or CIV 202 [or HON 201 or 202] - 3 hours
HUM 211 [or HON 251] - 3 hours

University Studies Approved Electives6

ART 212 - 3 hours
One elective from the list of University Studies electives - 3 hours

NOTE: Specifically required University Studies courses may be required for certain degrees or programs.

Bachelor of Fine Arts (B.F.A.)

Creative Writing Tracks

University Studies Requirements 44-47 hours

All Bachelor of Fine Arts, creative writing degree candidates should follow the course of University Studies instruction indicated below.

Oral and Written Communication7

COM 161 [or HON 165] - 3 hours
ENG 105 [or ENG 150] - 4 hours

Global Awareness, Cultural Diversity, and the World's Artistic Traditions9

Modern language courses (single language), attaining a 202-level proficiency - 6 hours¹
One University Studies elective in this category - 3 hours

Scientific Inquiry, Methodologies, and Quantitative Skills 10

One University Studies science course with lab—4-5 hours
One University Studies mathematics course—3-5 hours

Social and Self-Awareness and Responsible Citizenship6
 One Ethics, Social Responsibility and Civic Engagement category course - 3 hours
 One Social Science category course - 3 hours

World’s Historical, Literary, and Philosophical Traditions.....9
 CIV 201 or CIV 202 [or HON 201 or 202] - 3 hours
 HUM 211 [or HON 251] - 3 hours
 One University Studies elective in this category - 3 hours

University Studies Approved Electives6
 ENG 214 - 3 hours
 One elective from the list of University Studies electives - 3 hours

¹To reach proficiency at the 202-level, a student may have to complete up to six hours of 100-level prerequisites.

NOTE: Specifically required University Studies courses may be required for certain degrees or programs.

Bachelor of Music (B.M.) Certification and Composition Tracks

University Studies Requirements 35 hours
 All Bachelor of Music degree candidates should follow the course of University Studies instruction indicated below.

Oral and Written Communication7
 COM 161 [or HON 165] - 3 hours
 ENG 105 [or ENG 150] - 4 hours

Global Awareness, Cultural Diversity, and the World’s Artistic Traditions6
 One course from the following:
 ART 105, 121, 211 or 212 - 3 hours
 One University Studies elective course in this category - 3 hours

Scientific Inquiry, Methodologies, and Quantitative Skills7
 One University Studies science course with lab - 4 hours
 One University Studies mathematics course - 3 hours

Social and Self-Awareness and Responsible Citizenship9
 EDP 260 - 3 hours
 One Ethics, Social Responsibility and Civic Engagement category course - 3 hours
 One Social Science category course - 3 hours

World’s Historical, Literary, and Philosophical Traditions.....6
 CIV 201 or CIV 202 [or HON 201 or 202] - 3 hours
 HUM 211 [or HON 251] - 3 hours
NOTE: Specifically required University Studies courses may be required for certain degrees or programs.

Bachelor of Music (B.M.) Performance Track

University Studies Requirements 32 hours
 All Bachelor of Music degree candidates should follow the course of University Studies instruction indicated below.

Oral and Written Communication7
 COM 161 [or HON 165] - 3 hours
 ENG 105 [or ENG 150] - 4 hours

Global Awareness, Cultural Diversity, and the World’s Artistic Traditions6
 Modern language courses (single language), attaining a 202-level proficiency - 6 hours¹
 For future graduate study in music, German or French is recommended.

Scientific Inquiry, Methodologies, and Quantitative Skills7
 One University Studies science course with lab - 4 hours
 One University Studies mathematics course - 3 hours

Social and Self-Awareness and Responsible Citizenship6
 One Ethics, Social Responsibility and Civic Engagement category course - 3 hours
 One social science category course - 3 hours

World’s Historical, Literary, and Philosophical Traditions.....6
 CIV 201 or CIV 202 [or HON 201 or 202] - 3 hours
 HUM 211 [or HON 251] - 3 hours
NOTE: Specifically required University Studies courses may be required for certain degrees or programs.

Associate Degrees (A.A., A.S.)

A variety of programs of study leading to associate degrees are offered through several colleges. Please see the appropriate collegiate/school section of this *Academic Bulletin* for additional details.

Students enrolled in associate degree programs have the same privileges as other undergraduate students. Students are eligible for financial aid in the form of grants, loans, or work study, and in some cases are eligible to apply their coursework taken at Murray State toward a baccalaureate degree. Entrance requirements for associate degree students are the same as those that apply to other undergraduate students.

University Studies Requirements 19-21 hours
 See *University Studies Electives* below for course listing.

Oral and Written Communication7
 COM 161 [or HON 165] - 3 hours
 ENG 105 [or ENG 150] - 4 hours

Global Awareness, Cultural Diversity, and the World’s Artistic Traditions3

Scientific Inquiry, Methodologies, and Quantitative Skills3-5

Social and Self-Awareness and Responsible Citizenship (Social Science sub-category)3

World’s Historical, Literary, and Philosophical Traditions.....3

Undeclared Majors

During the freshman and sophomore years, students will enroll in university studies courses that are required for all Murray State graduates. While completing these essential and valuable courses, students will explore their interests and strengths and decide which major is best. Undeclared majors enroll in a first year transitions course to help them make connections on campus and understand the effort and commitment it takes to be a successful college student. Undeclared majors are advised by professional advisors.

At Murray State University, a student is required to declare an area/major by the time a minimum of 45 credit hours are earned. If 15 credit hours are successfully completed each semester, the student should declare a major no later than the first semester of their sophomore year.

Note: Specifically required University Studies courses may be required for certain degrees or programs.

University Studies Requirements 38-43 hours

All Bachelor of Science degree candidates should follow the course of University Studies instruction indicated below.

Oral and Written Communication7

- COM 161 [or HON 165] - 3 hours
- ENG 105 [or ENG 150] - 4 hours

Global Awareness, Cultural Diversity, and the World's Artistic Traditions3

- One University Studies elective in this category - 3 hours

Scientific Inquiry, Methodologies, and Quantitative Skills 10-15

- One University Studies science course with lab—4-5 hours
- One University Studies mathematics course—3-5 hours
- One University Studies science or mathematics course—3-5 hours

Social and Self-Awareness and Responsible Citizenship6

- One Ethics, Social Responsibility and Civic Engagement category course - 3 hours
- One Social Science category course - 3 hours

World's Historical, Literary, and Philosophical Traditions.....6

- CIV 201 or CIV 202 [or HON 201 or 202] - 3 hours
- HUM 211 [or HON 251] - 3 hours

University Studies Approved Electives6

- Choose from the list of University Studies courses.

While advisors support exploration of majors and taking time to make educated decisions, declaring a major clears the way for a student to 1) start taking courses specific to the declared major; 2) connect with students and faculty in the major; 3) participate in field-related internships and study abroad opportunities; and 4) be eligible for field-related scholarship opportunities. Making this educated decision early in the college career will save time and money.

Students can make an educated decision through self-assessments; discussions with faculty or people working in careers of interest; involvement in on-campus clubs or organizations; and participating in internships, student exchanges, and study abroad opportunities.

University Studies Electives

The courses listed below are approved as electives for the University Studies curriculum. This list may be revised as the University Studies Committee considers proposals for courses to be included in the curriculum. Check course descriptions for specific limitations or prerequisites. Only students admitted to the Honors College may enroll in HON prefix courses, including ENG 150 Honors English.

Oral and Written Communication

CHN 101	Elementary Chinese I.....	3
CHN 102	Elementary Chinese II.....	3
CHN 201	Intermediate Chinese I.....	3
CHN 202	Intermediate Chinese II.....	3
COM 131	Introduction to Interpersonal Communication.....	3
COM 161	Introduction to Public Speaking.....	3
COM 260	Communication Ethics.....	3
ENG 105	Critical Reading, Writing, and Inquiry.....	4
ENG 150	Honors Rhetoric, Composition and Research.....	4
ENG 204	Advanced Expository Writing.....	3
ENG 205	Writing for the Social Sciences.....	3
ENG 214	Introduction to Creative Writing.....	3
ENG 224	Writing in the Professions.....	3
FRE 101	Fundamental Communication in French.....	3
FRE 102	Social Interactions in French.....	3
FRE 110	Basic Conversational French.....	3
FRE 201	Intercultural Communications in French.....	3
FRE 202	Practical Applications in French.....	3
FRE 210	Intermediate French Conversation.....	3
GER 101	Fundamental Communication in German.....	3
GER 102	Social Interactions in German.....	3
GER 110	Basic Conversational German.....	3
GER 201	Intercultural Communications in German.....	3
GER 202	Practical Applications in German.....	3
GER 210	Intermediate Conversational German.....	3
HON 165	Honors Seminar in Communication.....	3
JPN 101	Elementary Japanese I.....	3
JPN 102	Elementary Japanese II.....	3
JPN 110	Basic Conversational Japanese.....	3
JPN 201	Intermediate Japanese I.....	3
JPN 202	Intermediate Japanese II.....	3
JPN 210	Intermediate Conversational Japanese.....	3
PHI 142	Philosophy-The Big Questions.....	3
SPA 101	Fundamental Communication in Spanish.....	3
SPA 102	Social Interactions in Spanish.....	3
SPA 110	Basic Conversational Spanish.....	3
SPA 201	Intercultural Communications in Spanish.....	3
SPA 202	Practical Applications in Spanish.....	3
SPA 210	Intermediate Spanish Conversation.....	3
THD 211	Oral Interpretation.....	3

Global Awareness, Cultural Diversity, and the World's Artistic Traditions

Courses taken as Study Abroad may apply.

AGR 200	International Agricultural Experience.....	3
AGR 353	World Food, Agriculture and Society.....	3
ANT 140	Introduction to Cultural Anthropology.....	3
ARC 150	Introduction to Archaeology.....	3
ART 105	Studio Art for Non-Majors.....	3
ART 121	Art Appreciation.....	3
ART 211	Introduction to the History of Art I.....	3
ART 212	Introduction to the History of Art II.....	3
ART 213	Introduction to the History of Art III.....	3
CHN 101	Elementary Chinese I.....	3
CHN 102	Elementary Chinese II.....	3

CHN 105	Contemporary Chinese Culture	3
CHN 201	Intermediate Chinese I	3
CHN 202	Intermediate Chinese II	3
CHN 340	Chinese Diversity through Food.....	3
CIV 190	Special Topics in World Civilizations	3
FRE 101	Fundamental Communication in French	3
FRE 102	Social Interactions in French	3
FRE 105	Introduction to French Culture	3
FRE 110	Basic Conversational French	3
FRE 201	Intercultural Communications in French	3
FRE 202	Practical Applications in French	3
FRE 210	Intermediate French Conversation	3
GDS 201	Introduction to Gender and Diversity	3
GER 101	Fundamental Communication in German	3
GER 102	Social Interactions in German	3
GER 105	Introduction to German Culture	3
GER 110	Basic Conversational German	3
GER 201	Intercultural Communications in German	3
GER 202	Practical Applications in German	3
GER 210	Intermediate Conversational German	3
GSC 110	World Geography.....	3
HIS 105	The History of Fashion	3
HIS 202	Understanding Global History	3
HON 150	Honors Seminar in Archaeology	3
HON 161	Honors Seminar in Visual Arts	3
HON 162	Honors Seminar in Music.....	3
HON 163	Honors Seminar in Theatre.....	3
HON 164	Honors Seminar in Arts and Culture Abroad	3
HON 270	Honors Seminar in International Relations.....	3
HON 272	Honors Seminar in International Politics	3
HUM 215	Humanities in the Contemporary World: Border Crossings	3
JPN 101	Elementary Japanese I	3
JPN 102	Elementary Japanese II	3
JPN 105	Introduction to Japanese Culture	3
JPN 110	Basic Conversational Japanese	3
JPN 201	Intermediate Japanese I	3
JPN 202	Intermediate Japanese II	3
JPN 210	Intermediate Conversational Japanese	3
MUS 104	Introduction to Jazz History.....	3
MUS 105	Introduction to Music History.....	3
MUS 106	Music in Film	3
MUS 107	Introduction to American Musical Theatre.....	3
MUS 108	Introduction to World Music	3
MUS 109	Introduction to Music Theory	3
POL 250	Introduction to International Relations	3
POL 252	Contemporary Political Systems	3
RGS 200	Introduction to Religious Studies	3
SOC 269	Popular Culture.....	3
SPA 101	Fundamental Communication in Spanish	3
SPA 102	Social Interactions in Spanish	3
SPA 105	Introduction to Hispanic Culture	3
SPA 106	Basic Spanish and Culture for Agriculture	3
SPA 110	Basic Conversational Spanish	3
SPA 201	Intercultural Communications in Spanish	3
SPA 202	Practical Applications in Spanish	3
SPA 210	Intermediate Spanish Conversation	3
THD 101	Dance Appreciation	3
THD 104	The Theatrical Experience	3
THD 201	World Theatre.....	3

Scientific Inquiry, Methodologies, and Quantitative Skills

Mathematics Category

HON 262	Honors Seminar in Mathematics	3
MAT 117	Mathematical Concepts.....	3
MAT 120	College Algebra with Business Applications	4
MAT 130	Technical Math I.....	5
MAT 140	College Algebra.....	4
MAT 145	Trigonometry	3
MAT 150	Algebra and Trigonometry.....	5
MAT 220	Business Calculus.....	3
MAT 230	Technical Math II.....	5
MAT 250	Calculus and Analytic Geometry I.....	5
MAT 308	Calculus and Analytic Geometry II.....	5
MAT 309	Calculus and Analytic Geometry III.....	4
MAT 330	Technical Math III.....	3
STA 135	Introduction to Probability and Statistics	4
STA 235	Introduction to Probability and Statistics II	3

Science Category

AST 115	Introductory Astronomy	3
AST 116	Introductory Astronomy Laboratory.....	1
BIO 101	Biological Concepts.....	4
BIO 102	Introductory Biology.....	3
BIO 109	Biology of Cancer.....	3
BIO 216	Biological Inquiry and Analysis	4
BIO 221	Zoology: Animal Form and Function.....	4
BIO 222	Botany: Plant Form and Function	4
CHE 101	Consumer Chemistry	4
CHE 105	Introductory Chemistry I.....	4
CHE 111	Essentials of Chemistry and Biochemistry	5
CHE 201	General College Chemistry	5
CHE 202	General Chemistry and Qualitative Analysis.....	5
CHE 210	Brief Organic Chemistry	3
CHE 215	Organic Chemistry Laboratory	1
GSC 101	The Earth and the Environment.....	4
GSC 102	Earth Through Time.....	4
GSC 125	Weather and Climate.....	4
GSC 199	Earth Science	4
PHY 105	The Science of Sound.....	4
PHY 125	Brief Introductory Physics.....	4
PHY 126	Brief Introductory Physics Laboratory	1
PHY 130	General Physics I.....	3
PHY 131	General Physics I Laboratory	1
PHY 132	General Physics II.....	3
PHY 133	General Physics II Laboratory	1
PHY 235	Mechanics, Heat and Wave Motion	4
PHY 236	Mechanics, Heat and Wave Motion Laboratory	1
PHY 255	Electricity, Magnetism and Light.....	4
PHY 256	Electricity, Magnetism and Light Laboratory	1

Social and Self-awareness and Responsible Citizenship

Ethics, Social Responsibility and Civic Engagement

BIO 103	Saving Planet Earth.....	3
BIO 308	Ethics in Biology.....	3
COM 260	Communication Ethics.....	3
CRJ 140	Introduction to Criminal Justice.....	3
ENG 226	Argument and Discourse	3
HEA 191	Personal Health	3
HEA 260	Introduction to Medical Ethics	3
HIS 176	History of the U.S. Constitution	3
HIS 221	American Experience to 1865.....	3
HIS 222	American Experience since 1865.....	3
HON 140	Honors Seminar in American National Government ..	3
HON 212	Honors Seminar in Ethics.....	3

HON	290	Honors Seminar in Service and the Nonprofit Sector ..	3
INF	101	Research in the Information Age	3
NLS	290	Introduction to the Role of Service and the Nonprofit Sector	3
PHI	142	Philosophy-The Big Questions	3
PHI	202	Ethics	3
POL	140	American National Government.....	3

Social Science

AGR	199	Contemporary Issues in Agriculture	3
ECO	140	Contemporary Economics.....	3
ECO	190	Consumer Economics	3
ECO	230	Principles of Macroeconomics.....	3
ECO	231	Principles of Microeconomics.....	3
EDP	260	Psychology of Human Development.....	3
EDU	103	Issues and Practices of American Education.....	3
FIN	230	Personal Financial Planning	3
GDS	201	Introduction to Gender and Diversity	3
HON	133	Honors Seminar in Sociology.....	3
HON	180	Honors Seminar in Psychology.....	3
HON	232	Honors Seminar in Economics	3
HON	270	Honors Seminar in International Relations.....	3
POL	250	Introduction to International Relations	3
PSY	180	General Psychology.....	3
SOC	133	Introduction to Sociology	3
SOC	231	Social Problems	3

World's Historical, Literary, and Philosophical Traditions

ART	211	Introduction to the History of Art I.....	3
ART	212	Introduction to the History of Art II.....	3
ART	213	Introduction to the History of Art III	3
CIV	201	World Civilizations I	3
CIV	202	World Civilizations II	3
ENG	201	Appreciation of Literature	3
ENG	213	Film and Literature	3
ENG	243	Literary Masterpieces: Fantasy, Myth and Legend	3
HIS	201	Modern Europe	3
HIS	221	American Experience to 1865.....	3
HIS	222	American Experience since 1865.....	3
HON	109	Interdisciplinary Humanities and Fine Arts.....	3
HON	201	Honors Seminar in Social Science.....	3
HON	202	Honors Seminar in Social Science II	3
HON	212	Honors Seminar in Ethics.....	3
HON	251	Honors Seminar in Literature and Philosophy I	3
HON	252	Honors Seminar in Literature and Philosophy II	3
HUM	205	Humanistic Tradition Abroad.....	3
HUM	211	The Western Humanities Tradition	3
PHI	103	Critical Thinking	3
PHI	142	Philosophy-The Big Questions	3
PHI	201	Introduction to Philosophy	3
PHI	202	Ethics	3
PHI	221	Philosophy of Religion	3
PHI	357	Feminist Philosophy.....	3
POL	261	Introduction to Political Theory.....	3
RGS	200	Introduction to Religious Studies.....	3
THD	201	World Theatre.....	3

Writing-Intensive and Technology-Intensive Electives

CSC	101	Introduction to Problem Solving Using Computers	3
CSC	125	Internet and Web Page Design	3
CSC	199	Introduction to Information Technology	3

Other Academic Programs

Cooperative Education

As a complement to the placement process, Murray State University offers to qualified students an opportunity to gain course credit through approved work experiences. According to the National Commission for Cooperative Education, this program is a structured educational strategy integrating classroom studies with learning through productive work experiences in a field related to a student's academic or career goals. It provides progressive experiences in integrating theory and practice. This extension of classroom study to practice in a profession adds a unique dimension to the student's preparation for entering a career and assists in developing an understanding of human relationships involved in the work setting. The program is a three-way partnership between the students, the educational institution and the employers with specific responsibilities for each party.

In order to participate in this program, the student must be a currently enrolled, degree-seeking student at the time of appointment, with a minimum of 24 credits accumulated at an accredited college or university. The student must have earned at least six credit hours at Murray State prior to participation. In addition, the student must have an established cumulative GPA of 2.00 or higher and be in good academic standing in order to participate. A student can elect to participate in this program for a summer, a semester or an academic year. No more than six hours of coop/internship credit will apply towards minimum baccalaureate graduation requirements. **Enrollment in the program must be concurrent with employment.** Tuition will be assessed at the in-state rate (only for the coop/internship courses) for students enrolled during that semester.

Work assignments must be approved by an academic department and are made in businesses, industries, educational, non-profit, governmental and research organizations located throughout the world. The university makes no guarantee as to placement into a coop/intern experience or earnings, but makes every effort to place students to their best educational advantage. Work experiences may be paid or non-paid. The minimum number of hours a student must work in order to receive three hours of credit is 300. Coop courses numbered 488 are graded pass/fail. Coop courses numbered 489 are letter-graded. Internships may be graded or pass/fail. **If a student participates in the program while taking other courses, no more than 12 credit hours of courses can be taken in addition to the three-hour coop/internship.** A student's advisor must approve any additional hours (up to 12) in advance. Individual departments may have more restrictive requirements.

To apply, students need to download the appropriate forms from the MSU Career Services web site. These forms must be taken to the academic advisor and department chairperson or co-op advisor for approval and submission to the Office of the Registrar for scheduling. Payment of the course credit must be arranged prior to leaving for the work assignment. **Failure to register and pay concurrent with employment will result in the credit not being awarded.**

Service Learning Program

Service Learning uses experiential learning techniques to combine community service with specific learning objectives in a course. Through Service Learning students perform meaningful service to the community while engaging in a study that is related to that service. Philosophically, service learning reflects the belief that education should be connected to values and character, as well as vocational and social responsibility.

- Students learn and develop through active participation in carefully organized service experiences that meet actual community needs and that are coordinated in collaboration with the university and the community.

- The instructional method is integrated into the academic curriculum and provides time for students to reflect on their activities through small group discussions, class activities, and journal writing.

- Students have opportunities to use newly acquired knowledge and skills in actual community situations.

- The lessons taught in the classroom and extended into the communities help students develop a sense of caring and responsibility for others (National Community Service Act, 1990).

For students to earn recognition as a Service Learning Scholar they need to complete twelve (12) hours of credit in Service Learning designated courses. Additionally, the student must have an overall GPA of 2.75 and a minimum GPA of 3.00 in the designated classes. This designation will be recognized on the student's academic record at the time of degree conferral.

Courses that have been officially recognized as including service learning are designated with a letter "S" in the section number in the Schedule of Classes. For example: NLS 290-S01 Introduction to the Role of Service and the Nonprofit Sector.

National Student Exchange

The National Student Exchange program provides a wonderful opportunity for MSU students to attend another college or university in the United States, Puerto Rico or the Virgin Islands for up to one full calendar year. This unique program allows students to take classes at a host campus and place those same classes on their MSU academic record following the exchange. Murray State students can enroll at MSU or at the host campus. If they enroll at MSU they will pay MSU tuition (Plan B). Registration at the host campus (Plan A) will allow the student to pay that campus its in-state tuition. In either case, classes taken at the host campus will be placed on the student's academic record and counted as credit towards graduation. Contact the Career Services Office for more details.

Education Abroad

Education abroad provides the opportunity for students to earn academic credit toward graduation requirements on programs around the world. Students can participate in education abroad with their own MSU faculty, enroll directly in universities abroad, or study, research, or intern on any number of program provider options across the globe. Research and internship opportunities are available and a limited number of graduate opportunities exist across the curriculum. Course credit is offered in any major and university studies courses are available as well. Faculty-led programs are designed around experiential engagement principles to guide students and faculty in hands-on learning abroad.

Providers are education abroad companies and consortia that provide programs to students for study, intern, work, and other education abroad opportunities. These include current MSU partners CCSA, CEA, Experience Scotland, KIIS, ISA, IBS, and IPAI. For the purposes of these policies and procedures all of these partners will be referred to as "provider" throughout.

Application and Selection Process Eligibility

All MSU students are eligible to apply for education abroad if they are in good academic and disciplinary standing with a minimum cumulative GPA of 2.00. Transfer students must be admitted to MSU as a student prior to applying to participate in education abroad programs and must meet all participation requirements at the time of application. Freshmen will be considered for admission to education abroad programs on a case by case basis.

Eligibility and requirements for individual programs vary and may be determined by the program director or program provider. This may include a higher GPA requirement, course prerequisites, language fluency, and/or other requirements as determined by the program.

This information is available for providers on the provider website and for MSU programs online at murraystate.edu/educationabroad. Participants enrolled as students at MSU who do not also have faculty or staff status must participate in education abroad as a student or intern earning credit for the program. Exceptions to the required credit enrollment may be issued for internship or research programs. MSU alumni may participate in education abroad programs by enrolling for credit at MSU.

Participants who wish to bring companions on their education abroad program will be considered on a case-by-case basis. Approval should not be assumed and is not guaranteed.

Application Requirements

A completed application will include an MSU application and mandatory nonrefundable application fee through the online application system, which may require an essay, reference, and transcript. Additional application components such as proof of language proficiency may apply for specific programs as determined by the program or provider. Application to an education abroad program does not automatically assume admission to the program. All application components, including disciplinary standing with Murray State University, will be taken into consideration for program approval. Applicants to provider programs will require a separate application to the provider. Applicants to provider programs must complete and submit both the MSU and provider applications to have your application to the program considered complete. Your provider application may also have additional essay, audition, language proficiency, or prerequisite requirements for admission. Applicants found to have falsified information will be disqualified from participation.

Selection

Incomplete applications will not be reviewed. Complete applications will be reviewed by the appropriate selection committee. Selection committees consist of the leadership of the program applied to as well as a representative of the Education Abroad Office (EAO). Interviews may be requested. Admission is competitive and not guaranteed. Admission decisions cannot be appealed. Applicants to provider programs will be subject to provider selection standards.

Exchange Program Selection

Applicants to MSU Exchange Programs will be interviewed at MSU by a committee of faculty and/or professional staff. If nominated to participate in the exchange, the application is then submitted to the exchange university for full review and approval. Failure to submit any additional materials required for the exchange in a timely manner will result in rejection by MSU to the exchange program. Final admission decisions are made by the exchange university and issued directly to the student and simultaneously to the EAO. Exchange admissions will fall on the admission schedule of the exchange university. The MSU EAO has no control over when this will take place or what the outcome will be. Admission decisions cannot be appealed.

Conditional Admission

In some cases conditional admission may be issued to an applicant. This means the applicant must meet specific conditions within a certain time frame in order to be fully admitted to the program. If these conditions are not met within the specified time allotted, the applicant will be rejected from the program. While under conditional status, applicants are considered full participants, are expected to attend class, and must meet all program obligations.

Waitlist

Some programs are in high demand and may receive more applications than space available. A waitlisted applicant may be moved

to full admission should a fully admitted applicant drop out of the program far enough in advance of program departure.

Rejection

An application may be rejected for several reasons including, but not limited to: cumulative GPA below 2.00, poor academic or disciplinary standing at MSU, an incomplete application, poor reference, inadequate academic connection to the program course(s), or a Bursar or Study Abroad HOLD on the student account.

Admission

Admission decisions are sent via email to the email address provided in the MSU online application. Once approved or conditionally approved to participate in an education abroad program, it is the responsibility of the participant to login to the online application to complete the post-acceptance steps for their program. The post-acceptance deadlines are posted on the EAO website at murraystate.edu/studyabroaddeadlines. Participants with post-acceptance steps not completed by this date will have a Study Abroad HOLD placed on their MSU account until completion is final. Participants with post-acceptance steps remaining after the campus orientation date will incur a \$250 non-compliance fee charged to their MSU account. Passport, visa, and flight components of post-acceptance are due 30 days prior to departure. Participants who have not completed these by that time will incur a HOLD and \$250 non-compliance fee to their MSU account.

Registration

Registration for courses is the responsibility of the participant.

Until participants are registered for appropriate courses at MSU financial aid and education abroad scholarships cannot be released for any program. Program fees may not be placed onto a participant account until registration is complete. This does not mean that participants are not enrolled in the program, but that they are not officially registered to receive academic credit. Registration requirements vary by program and are detailed on the EAO website by program at murraystate.edu/studyabroadprocedures.

Course Credit and Grade Transfer

It is the responsibility of the participant to understand prior to studying abroad how the course(s) they wish to take will figure into graduation requirements. Credit is not automatic. Students must follow the appropriate procedure for their program as detailed at murraystate.edu/studyabroadprocedures. Students who do not obtain credit approval prior to the start of the program may be rejected or expelled from a program and/or fail to receive academic credit upon return.

Students who take courses abroad that have not been pre-approved are not guaranteed credit upon return. Students should make sure they do not enroll in courses on their education abroad program that will count for courses at MSU that have already been completed. If a course is transferred back to substitute for an MSU course that was already completed, MSU's repeat policy will be followed.

Course approval and registration must be completed prior to student orientation and program departure in order to receive credit for the program. **Courses will not be created or re-created for a student after a program has been completed.**

Grades

Education abroad courses taught by MSU faculty are submitted directly to MSU unless taught through a consortial partner (such as CCSA, KIIS, Experience Scotland). This submission may not meet the regular submission schedule. Some students may receive an "Incomplete" grade until the program and course assignment deadlines

are completed. It is the responsibility of the participant to ensure that all materials/coursework are submitted by the MSU deadline to have their earned grade submitted for the program course(s). It is the responsibility of the student to know how a grade of I (Incomplete) will impact their financial aid and academic standing at MSU and discuss any relevant issues with their instructor and the Education Abroad Office.

Grade Transfer

All grades received from foreign or domestic institutions on behalf of MSU students who earn college credit will be calculated into the MSU cumulative grade point average (GPA). If letter grades are received, these will be configured into the MSU GPA. In order to receive pass/fail credit for education abroad courses, the transferring institution must send the grade report in the form of pass/fail without letter grades.

Education abroad grades are received directly from program providers and institutions abroad and cannot be reported by the participant. Grades will be issued via paper and mailed by the institution reporting the grades. The academic calendars of education abroad programs do not traditionally match the MSU academic calendar. As such, grades are often received after the following semester has begun at MSU.

Until the student's transcript arrives the student's MSU status may not show satisfactory academic progress. As a result, Federal Financial Aid and Scholarships may be held until the transcript is received and grades/credit posted to the academic record. This does not mean that these funds will be revoked by MSU, but until a transcript is received that confirms satisfactory academic progress has been met, funds will not be available for use.

Grade Appeals

If a participant wishes to appeal a grade, this appeal must take place with the program provider and faculty member who issued the grade. MSU cannot change grades issued by another institution. For MSU issued grades, refer to the MSU policy on grade appeals.

Billing

Exchange Program Fee

Exchange program students will be billed at MSU for the applicable exchange program fees. The Horizons program description details which fees will be charged at MSU. Full-time semester tuition is charged at MSU at the rate normally applied based on classification and residency. Additional charges for MSU web classes taken while on the exchange program will apply. Additional fees may or may not include room, board, excursion fees, visa fees, and other exchange program charges. When a program fee is not charged to a student account or does not include room and board, these expenses will be paid by the participant on-site.

MSU Signature Program Fee

Students will be billed to their MSU account for the Signature program fee. MSU billing can be set up on a payment plan through the MSU Bursar's Office. Setting this up through *myGate* is the participant's responsibility. Billing is not applied to a participant account until the participant registers for the education abroad class. It is possible that class registration will take place after bills have been sent out by the Bursar's Office. It is the student's responsibility to check their *myGate* account and make payments on time for their program. Billing timelines are set by the Bursar's Office and follow the schedule found online at murraystate.edu/admissions/bursar-soffice/criticaldates.aspx.

Signature Program Tuition

Students on MSU Signature Programs will have tuition assessed to their MSU account at the regular tuition rate. For details on your

tuition rate, refer to *Costs* on the Murray State University website www.murraystate.edu/admissions/bursarsoffice.

Provider Programs Tuition

Participants in provider programs will not pay additional tuition at MSU for their provider program abroad when they are registered at a provider receiving a transcript from another institution.

Program Withdrawal

For full program withdrawal, an applicant must submit in writing their intention and reason for withdrawing from an education abroad program to BOTH the MSU EAO and to the program provider (if applicable). Until written notification is received in the EAO and the applicant receives a confirmation email from EAO, approved and conditional applicants are considered full participants in the program and billing will remain on the student account.

Participants withdrawing from a program for any reason after the withdrawal deadline, found online at murraystate.edu/study-abroaddeadlines, will be assessed any fees that cannot be recovered for the program and will forfeit their application fee. This may be up to the full cost of the program. Withdrawal fees will be charged to the participant's MSU account. Withdrawal fees will apply whether or not the full program fee has been applied to the student account by the withdrawal date.

Students who fail to meet program requirements such as obtaining a passport or visa, medical paperwork, or other requirements will incur the withdrawal fees specified here.

Withdrawal or expulsion from programs while abroad will result in a failing course grade. Course grades for medical withdrawals will be considered on a case by case basis. Withdrawals or expulsions taking place while abroad will receive no program refund and the cost of returning home will be at the participant's expense.

Program cancellation due to terrorist activity or acts of nature will follow the withdrawal policy.

Class Withdrawal

It is the responsibility of the student to drop classes or withdraw from their education abroad classes through myGate when withdrawing from the program. Refer to the MSU "Schedule Change" policy in this bulletin for fees and restrictions. Lack of participation in class or failure to pay program fees does not constitute program withdrawal. Program participants who attempt to drop the class after the program abroad experience will receive an *E* for the course. Students who drop/add after receiving course approvals may become ineligible for Federal Financial Aid and will be at risk of courses not transferring and/or not applying to degree completion.

Financial Aid and Scholarships

To apply Federal Financial Aid to an education abroad program, participants must be taking courses in the program that will count toward graduation requirements. Participants who have received the maximum Federal Financial Aid eligibility during the fall and spring academic year may not be eligible for additional semester or summer aid for education abroad. To be eligible for summer aid participants must complete a FAFSA for the current academic year if it is the first time requesting federal financial aid. Participants who are eligible for and have not yet met the maximum Pell for the academic year could receive Pell for the education abroad program.

Participants receiving education abroad scholarships and Federal Financial Aid will receive them as an award on their MSU *myGate* account. If the MSU account has a zero balance, awards will then be used to cover education abroad fees that are applied to the MSU account. For provider programs, these fees will be refunded to the participant directly to pay your balance with the provider. It is the participant's responsibility to ensure that education abroad fees are paid in full prior to departure. Participants who receive a refund of

any kind are encouraged to check their *myGate* account and the program provider account to ensure there is a zero balance prior to utilizing refunds for other expenses.

Participants on summer programs must be enrolled for at least 6-credit hours for the summer term to be eligible for federal student loans. Participants may meet this 6-hour requirement by enrolling in a 3-credit hour education abroad program in addition to a summer session at MSU.

Education Abroad Scholarship Application

In order to be considered for education abroad scholarships administered within the Education Abroad Office, students must first complete the online program application at murraystate.edu/study-abroadapplication. The online scholarship application is available through the Scholarship Office. Applicants must submit all required pieces of the program application in order to be considered for scholarship funding. Incomplete applicants will not be considered under any circumstances.

Education Abroad Scholarship Eligibility

Eligibility guidelines for education abroad scholarships are specified online at murraystate.edu/studyabroadfunding. Guidelines may include a minimum GPA requirement, specific major requirements, specific program participation, or financial need requirements. The online scholarship application will determine for which awards students are eligible. Students who do not meet the minimum eligibility requirements will not be considered.

Education abroad Scholarship Selection

Applications will be reviewed by a committee. Award notifications are made via email to the email address provided in the online application approximately three weeks after the scholarship deadline. Scholarships are competitive and applicants should make every effort toward submitting the best application possible for the greatest chance to receive funding. Applications found to have falsified information will be disqualified for scholarship funding of any kind.

Current MSU Scholarship Recipients

MSU students receiving scholarships through the regular scholarship awarding process at MSU should know the following important information:

- Participants in an MSU Signature semester program may use tuition awards toward the tuition charges applied to the MSU account for that semester program.
- Participants in an MSU Signature semester program may use MSU scholarships toward tuition or program fee charges applied to the MSU account for that semester program.
- Students may not use any portion of their MSU merit scholarships for provider programs.
- Regular MSU scholarships are not provided during any summer study, whether that study is domestic or international. As such, these funds cannot be applied to summer education abroad.
- The housing portion of a Presidential Fellowship and the Marvin D. Mills Scholarship may be available for use on MSU Signature semester programs. Students receiving these funds should speak with the Scholarship Office to verify if their housing award is available for the education abroad program.

Outside Scholarship Sources

Students who have been awarded funds from outside sources must inquire directly with those sources and/or the Scholarship Office to verify what portion of funds may be available to apply to education abroad fees.

Travel Warning for Certain Countries

According to the website of the U.S. Department of State (DOS) at travel.state.gov, Travel Warnings are issued by the U.S. DOS “when long-term, protracted conditions that make a country dangerous or unstable lead the State Department to recommend that Americans avoid or consider the risk of travel to that country. A Travel Warning is also issued when the U.S. Government’s ability to assist American citizens is constrained due to the closure of an embassy or consulate or because of a drawdown of its staff.”

Understanding that the DOS issues Travel Warnings for parts of a country and not the whole, MSU supports education abroad programs taking place in countries with a travel warning if the following are in place:

- the formal geographic region of study must take place in a location that is NOT under a current Travel Warning; and
- program providers, or MSU faculty if the program is a Faculty-Led MSU Signature Program, must provide proof that insurance coverage is valid in the country and region of study; and
- program providers, or MSU faculty if the program is a Faculty-Led MSU Signature Program, must provide full exit strategy and warning details to the MSU Education Abroad Office and to participants; and
- program travel for sponsored excursions must not take place in the geographic region under the Travel Warning; and
- participants, providers, and MSU faculty shall not travel independently or as part of a program activity to the geographic region under the Travel Warning; and
- participants and MSU faculty agree to sign a Travel Warning Release Form prior to travel to the country.

Passport and Visa

It is the responsibility of the program participant to obtain and maintain a valid passport book and visa (where applicable) for all travel and education abroad. **Passports must be valid for at least six months beyond the return date of your program abroad.**

Visas are the full responsibility of the participant. The Education Abroad Office will not advise students on visa requirements for their country of study. It is the responsibility of the participant to request paperwork and verifications required for visa issuance well in advance of their visa appointment with specifications for the format and information required.

Failure of participants to obtain a valid passport or visa will mean the inability to travel abroad for participation in the education abroad program. Students who do not comply with this international requirement will not receive a program refund and Federal Financial Aid and education abroad scholarships will be partially or fully revoked due to the inability to begin and/or complete the course. To determine if the country of study requires a visa and to determine visa costs and procedures, see the Consulate website of that country.

Travel

Participants may travel via personal vehicle, commercial airlines, and other public and private transportation both stateside and abroad. During this travel participants will be subject to airline and TSA rules, and rules and regulations of foreign entities, which may change at any time without notice.

Transportation delays or cancellations are not the responsibility of MSU or the program provider. Cancellations and delays may result in the loss of program time abroad and/or the cancellation of activities without refund to the participant. MSU and/or the program provider will make every possible effort to work with airlines and other transportation providers to reschedule travel that affects program length and activities as little as possible.

Conduct

It is the responsibility of the education abroad participant to:

- Adhere to the MSU Student Life Handbook and Policies found online at murraystate.edu/studentaffairs; and
- Communicate in a timely manner with the EAO, program provider (if applicable) and faculty member at the contact details provided in the application; and
- Provide a personal email address that belongs to the participant and check that account regularly for information requests, program status reports, and/or other updates; and
- Complete all application and program materials him/herself; and
- Read all program materials; and
- Provide accurate and correct information to the best of his/her knowledge and complete all mandatory components of the application and post-acceptance by the indicated deadlines; and
- Attend mandatory education abroad orientation; and
- Comply with the laws of the foreign country; and
- Comply with the rules and regulations of the university of study and/or the program provider and attend all program and class activities; and
- Obtain the appropriate approval for courses in writing prior to participation in the program; and
- Notify the EAO in writing of a decision to withdraw from the program, paying any unrecoverable costs already spent on their behalf if withdrawal takes place after the withdrawal deadline found online at murraystate.edu/studyabroaddeadlines; and
- Complete required forms and processes required by the offices of MSU, including but not limited to, the Offices of Financial Aid, Scholarships, Registration, and Housing, and maintain full-time status while abroad in order to ensure applicability of scholarships and financial aid both for the program and upon return to MSU; and
- Purchase travel insurance that covers the duration of the program.

Misconduct abroad will become part of a participant’s permanent Murray State University disciplinary record. Visiting students on MSU programs will have their home university notified in the event of disciplinary action against the student. Resulting charges including but not limited to property damage, excessive use of electricity where applicable, mistreatment of property, lack of cleaning, and personal charges to MSU program faculty, directors, or accounts will result in a direct financial charge to the participant’s MSU account to cover charges in full.

Conduct that interferes with or inhibits the experience of others, both participants and non-participants, whether in residential settings, classrooms, and any public domain, including during independent travels, could be grounds for expulsion from the program. Engagement in risky activities such as vehicle rental or extreme sports is at the participant’s own risk. It is the participant’s responsibility to determine whether any travel insurance will cover these activities.

Any use of illegal substances as defined by United States statute will result in expulsion from the education abroad program. Repeated alcohol intoxication that impairs active participation in the program, disrupts the participation of others, or disrupts the program itself may result in expulsion from the education abroad program and other sanctions as stated in the *MSU Student Life Handbook*.

Expulsion will result in failure of the courses taken on the program, regardless of expulsion date, including expulsions made prior to the Murray State University Drop Date. Expelled students will be sent home immediately at their own expense regardless of visa classification or on-site grace period allowance. In event that a participant is expelled, removed, or withdraws from a program, MSU will notify the Emergency Contact person listed in the education abroad application. Expulsion details will become a permanent part of the MSU disciplinary record and will require a meeting with the MSU Disciplinary Officer upon return to Murray State to resume studies.

Graduate Degree Policies and Procedures

Graduate Degree Programs

Graduate degree programs are significantly more advanced in their content than baccalaureate degree programs.

Doctorate Degree: Candidates for the doctorate degree must complete a minimum of 76 credit hours of graduate level coursework with a planned program beyond the bachelor degree. Doctoral programs shall be composed of at least 50 percent of the total course requirements at the 800-level or above. A maximum of 12 credit hours may be transferred from a regionally accredited institution with the approval of the academic advisor and collegiate graduate coordinator and/or dean. Graduate transfer work will not be posted to the student's academic record until the degree is being conferred. Only the coursework required for the degree will be posted.

Specialist Degree: Advanced degree of study consisting of a minimum of 60 graduate hours of concentrated and approved coursework beyond a bachelor's degree. A maximum of nine credit hours of completed graduate work from any graduate degree work completed after the initial master's degree program may be applied toward the specialist degree if the courses are appropriate for the degree and are approved by the department. All transfer work must fall within the eight-year time limit for completion of the doctorate degree. Graduate transfer work will not be posted to the student's academic record until the degree is being conferred. Only the coursework required for the degree will be posted. Reference the section regarding Transfer Credit later in this chapter for specific rules pertaining to MSU grade point average and minimum transfer grade requirements.

Master's Degree: A graduate program is an approved program of study that requires a minimum of 30 graduate hours. If the student has not previously earned a master's degree, a maximum of 12 credit hours may be transferred from a regionally accredited institution with the approval of the academic advisor and collegiate graduate coordinator and/or dean. If the student has already earned a master's degree and this program is a second master's degree, a maximum of nine semester hours of completed graduate work from any previous graduate degree or program may be applied toward an additional degree if the courses are appropriate for the degree and are approved by the department. All transfer work must fall within the eight-year time limit for completion of the master's degree. Graduate transfer work will not be posted to the student's academic record until the degree is being conferred. Only the coursework required for the degree will be posted. Reference the section regarding Transfer Credit later in this chapter for specific rules pertaining to MSU grade point average and minimum transfer grade requirements.

Graduate Certificate: A specialized set of courses emphasizing a professional skill or knowledge base typically ranging from 12 to 18 hours. Courses may be shared between a graduate certificate program and a graduate degree program. Graduate transfer work will not be posted to the student's academic record until the graduate certificate is conferred. Only the transfer work specifically required for the certificate will be posted. All students seeking a graduate certificate must be appropriately admitted/readmitted to Murray State and must have the specific program plan pre-approved by the department and dean of the certificate program.

Program and Advisor Assignments

All graduate students admitted to a degree or certificate program at Murray State University are required to follow a planned program of graduate study. Although a student may be required to take undergraduate prerequisite courses, only approved graduate

courses completed while enrolled as a graduate student may apply toward a graduate program.

The student's advisor should be consulted before or during registration for assistance in planning a program. Before the end of the first term enrolled, the student must complete the graduate program form and submit it to the specified advisor, who will secure the required signatures and return the form to the Office of the Registrar. To be approved, a program must meet all requirements stipulated in the *Academic Bulletin*.

Any subsequent change in the planned program must be approved by the student's advisor and the collegiate/school graduate coordinator. Changes to doctoral programs also require the approval of the Associate Provost for Graduation Education and Research. The collegiate graduate coordinator is responsible for notifying the Office of the Registrar of the program changes on an official graduate substitution form available on *myGate*.

After enrolling, a student may request to change to a different graduate program by filling out a change of program form which may be obtained through *myGate*. The form must be submitted to Graduate Admissions and Records. The student's request will then be referred to the appropriate department for approval and advisor assignment.

Graduate Degree/Course Time Limits

All course work used to fulfill the graduate certificate, master's degree, specialist in education degree, or doctoral degree program requirements must be completed within the eight-year period prior to awarding the degree, beginning with the date the student initially enrolls in a class for graduate credit. Example: A graduate course begun in August 2010 must be used for a degree no later than August 2018.

Failure to complete a degree in eight years will result in the loss of all credits taken outside of the time limits and the student being unable to continue with the approved program unless an extension is sought and granted. Graduate degree grade point averages are based on the courses listed on the graduate program form and applying to the program being sought. Any courses excluded by the eight-year rule shall not be included in the computation of the grade point average.

Students may request a time extension through their advisor by submitting the Request for Time Extension form and a justification letter. The request must also be approved by the program coordinator, department chair (where applicable), collegiate graduate coordinator or academic dean, and the university graduate coordinator. The request may be denied at any level of the review.

Extensions are considered on a case-by-case basis. Students are strongly discouraged from requesting more than one extension. In cases where all graduate coursework has expired, no time extension will be granted. Student appeals of any decision will be handled by the Graduate Studies Committee of the Academic Council.

Since graduate students do not always enroll for courses in consecutive semesters, it is important to note the following:

- Enrolled graduate students need not apply every semester unless they have not been enrolled for four consecutive semesters, or have completed their graduate programs;
- Each graduate course must be used toward a degree within eight years of enrolling in that course.

Transfer Credit

A maximum of 12 graduate hours may be transferred from a regionally accredited graduate school after a student has been admitted. All transfer credit must be approved by the student's advisor and collegiate graduate coordinator. Departments and colleges may set more restrictive policies concerning the kind and amount of transfer hours they will accept. All transfer credit must have been

earned within the eight-year period allowed for the degree. The student must have an overall GPA of at least 3.00 on graduate work at Murray State University and a grade of B or better in any course that the student wishes to transfer to Murray State. It is the responsibility of the student to initiate a request for transfer of credit. Graduate transfer credit will not be posted to the student's transcript or included in the calculation of the student's GPA until the point of graduation.

Transfer Credit to Repeat MSU Courses

If a graduate student takes a course at Murray State and chooses to repeat that course at another institution, permission from the student's graduate advisor and collegiate graduate coordinator must be secured. All graded attempts of the repeated transfer course are included in the student's degree GPA calculation. A course substitution form must be forwarded to the Office of the Registrar in Sparks Hall to document departmental approval of transfer credit. Students are required to submit an official transcript from the other school to Murray State after each semester of enrollment.

Graduate Thesis/Dissertation Requirements

Many graduate programs require a thesis for which a maximum of six hours of credit may be earned (doctoral students should consult program curriculum under the appropriate departmental section). If a thesis is required, the student's departmental advisor should be consulted early in the first term of graduate study. The advisor will assist the student in choosing a thesis topic, a thesis director, and a thesis committee (to consist of three to five members, including the director). Typically, thesis courses are not scheduled until the student is at least mid-way through a graduate program.

Prior to conducting studies that involve human subjects, the individual student must receive approval for his/her activities from the Institutional Review Board (IRB) following the current Procedures and Guidelines for the Protection of Human Subjects. Students involved with research involving animals should obtain permission from the Institutional Animal Care and Use Committee (IACUC). Please consult your thesis advisor for details on either requirement. Failure to receive the appropriate approval may result in the disqualification of the thesis.

Thesis/Dissertation Approval

The submission, approval, and archival process can be found at www.murraystate.edu/finishyourthesis. Failure to meet the stated deadline may result in postponement of the student's degree conferral until the following semester.

Complete procedural and structural instructions are contained in Guidelines for the Preparation of Master's Thesis available from the MSU website. It is the responsibility of the student to secure and comply with these guidelines.

Students who change from thesis track to non-thesis track in a graduate program may not receive credit for Thesis courses.

Tests

Nationally recognized tests of aptitude are required by some colleges, departments, and programs of the university. Test scores may be used for admission or as a condition of degree completion. Test score requirements for specific degrees will be found in the *Academic Bulletin* under the appropriate departmental sections. Test scores must be received in Graduate Admissions and Records directly from the testing service to be considered official.

Summative Evaluation

In addition to completing required courses, students in some graduate degree programs will be expected to demonstrate that they have successfully met program standards through summative

evaluation procedures administered near the end of the course of study. Murray State University also uses information on student performance gathered in summative evaluations for purposes of program improvement.

Comprehensive Examination

A student should refer to the section containing degree requirements of the student's graduate program for information regarding the comprehensive examination, if required by the department. Deadlines are published in the online Academic Calendar.

A master's student normally takes the comprehensive examination during the semester in which the student graduates; however, a student who has completed 24 hours toward the master's degree may also elect to take the examination.

An application for the comprehensive examination must be submitted to student's academic department during the first three weeks of the semester in which the student plans to take the examination. Applications are available in the academic department.

The comprehensive examination is usually administered three weeks prior to the conclusion of the semester. Doctoral students should consult their specific program coordinator for any comprehensive examination details.

Application for Degree

The Application for Graduate Degree is available on the Academics tab of *myGate*. Contact the Office of the Registrar for help with inactive *myGate* accounts.

This application is effective for one semester only. If a student does not graduate after making application, the application will be updated one time at no additional charge. If a student is still unable to complete all degree requirements it is the student's responsibility to submit a new application via *myGate* by the deadline for the term in which the student plans to graduate. The new application will result in another degree fee.

The Graduate Degree Application and fee are due in the Office of the Registrar by February 15 for students graduating in May of the same year; March 15 for students graduating in August of the same year; and September 15 for students graduating in December of the same year. Submission deadlines are posted on the university calendar.

Degree Applications may be submitted after the published deadline ONLY with prior approval of the Office of the Registrar. Late degree applications cannot be submitted through *myGate*. An additional late fee is required.

A candidate for a master's degree, specialist in education degree, or doctoral degree must have a minimum grade point average of 3.00 in all the approved program graduate courses before the degree is conferred. No credit shall be granted for a grade below C.

See the Diplomas and Commencement sections for additional information.

Application for Certificate Completion

The Application for the Graduate Certificate Completion, available on *myGate*, and processing fee are due in the Office of the Registrar by May 1 (spring graduation), December 1 (fall graduation), or August 1 (summer graduation).

After the student successfully completes all courses toward the certificate program, the certificate awarded will be posted to the MSU transcript within a few weeks. No document will be printed and/or mailed to the student. Questions about the form may be directed to the Office of the Registrar at 270-809-3778.

Second Master's Degree

Students desiring to pursue another master's degree at Murray State University shall have completed all requirements for a previ-

ous master's degree at Murray State University or another accredited university. In general, the same basic requirements for general admission, and other conditions previously stated in this *Academic Bulletin* relative to a master's degree are also applicable to a second master's degree with the following exceptions:

1. A maximum of nine semester hours of completed graduate work from any previous graduate degree or program may be applied toward an additional degree if the courses are appropriate for the degree and are approved by the department and if they fall within the eight-year time limit for completion of the master's degree.

2. If the new master's degree involves certification, all requirements for the certificate must be met prior to the completion of the degree.

3. Candidates for Specialist Degrees must check with their advisors concerning the program regulations on second degrees.

Candidates for an additional master's degree must file an application for admission to graduate school and identify their subsequent program prior to registration for additional coursework. The student must then contact the advisor assigned from the department offering the subsequent program and plan a complete program of studies. Individual programs have specific requirements which must be met before pursuing a subsequent master's degree. Any deficiencies in preparation for a subsequent master's degree must be resolved during the first semester of enrollment.

Dual Master's Degrees

Dual master's degrees at Murray State University enable students in specified programs to take a five-semester or six-semester sequence of courses leading to two graduate degrees. Students are required to comply with the specific policies of each program.

Application and Admission

Applicants must have a baccalaureate degree from an accredited institution of higher education and apply to and be accepted into each program. The normal criteria for admission to each program applies. Conditionally admitted students will have to adhere to the policies set in place by the program(s) that granted the conditional admission.

Academic Standing

To continue in the dual master's degree program, students must meet the academic standards in both programs. Students who are not performing satisfactorily in one of the programs may be dropped from that program. The student may continue in the other master's degree program as long as they continue to meet that program's academic standards. As applicable, the student may request any satisfactorily completed coursework from the dropped program be used toward the remaining program.

Course Progression

Students are required to work consistently toward both degrees. Students will be assigned one advisor from each program to support successful course progression and are expected to meet with each advisor at least once each semester to ensure both programs are being completed in a timely manner. Conferral of the two degrees must occur simultaneously.

Final Examination

Students must apply for graduation for each degree separately. Students must meet the graduation requirements of each program, including comprehensive examination and/or thesis. If appropriate and agreed upon by both programs, final examination requirements (comprehensive exam and/or thesis) may be integrated and fulfill requirements of both programs.

Graduate Literature and Research Courses

As a distinguishing characteristic of adding a depth of knowledge within each graduate program, and to allow graduate students seeking degrees to stay current within their field of study, each graduate program at Murray State University structures the content of their curricula to include 1) knowledge of the literature within the respective discipline, and 2) appropriate ongoing research and/or professional practice and training. The university, and each program, ensures these by denoting at least one course or process within each program with a (L) for literature, (R) for research, and (PT) for professional training. Each program may also use a variety of other methods in which students may demonstrate mastery of one or more of these; other methods may include: theses, capstone courses, comprehensive examinations, portfolios, research projects, methodology courses, and exit examinations.



Arthur J. Bauernfeind College of Business



Timothy S. Todd, Dean
109 Business Building
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DEPARTMENTS

Accounting	66	Management, Marketing and Business Administration	79
Computer Science and Information Systems	68	Organizational Communication	83
Economics and Finance	71		
Journalism and Mass Communications	74		

PROGRAMS

UNDERGRADUATE

Associate

Business Administration

Baccalaureate

- Accounting
- Advertising
- Business Administration
- Computer Information Systems
- Computer Science
- Economics
- Finance
- Graphic Communications Media
- Journalism
- Logistics and Supply Chain Management
- Management
- Marketing
- Organizational Communication
- Public Relations
- Telecommunications Systems Management
- Television Production

Minor

- | | |
|-----------------------------------|---------------------------------------|
| Accounting | International Economics |
| Advertising | Journalism |
| Business Administration | Management |
| Business Economics | Marketing |
| Computer Information Systems | Mass Communications |
| Computer Science | Photography |
| Data Analytics | Organizational Communication |
| Economics | Real Estate |
| Entrepreneurship | Sports Communication |
| Finance | Telecommunications Systems Management |
| Golf Course Management | |
| Graphic Communications Technology | |

GRADUATE

Master's

- Business Administration
- Economics
- Economic Development
- Information Systems
- Mass Communications
- Organizational Communication
- Telecommunications Systems Management

Certificate

- Organizational Dynamics
- Public Relations Practice

Arthur J. Bauernfeind College of Business

The fields included in business offer excellent employment opportunities. New research findings, technological breakthroughs, and changing economic conditions offer challenges that can be prepared for through the undergraduate and graduate programs of the Arthur J. Bauernfeind College of Business.

Murray State University began programs in business in 1935. The strong demand for men and women with such preparation has resulted in a steady expansion in course offerings, enrollment, technology, and faculty.

Today, the Bauernfeind College of Business is organized into six departments: Accounting; Computer Science and Information Systems; Economics and Finance; Journalism and Mass Communications; Management, Marketing and Business Administration; and Organizational Communication. Each department offers viable programs of study at both the undergraduate and graduate levels designed to educate leaders for many kinds of endeavors, both private and public.

The college also houses the West Kentucky Small Business Development Center, the Regional Business and Innovation Center (RBIC), the Center for Economic Education, TV-11, the Journal of Business and Management Landscapes, and the MSU News.

AACSB and ACEJMC Accreditation

All the undergraduate Bachelor of Arts in Business (B.A.B.) and Bachelor of Science in Business (B.S.B.) programs, the Master of Business Administration (M.B.A.), and the Master of Science in Information Systems (M.S.I.S.) are accredited by AACSB-International—The Association to Advance Collegiate Schools of Business.

The following minors are also accredited by AACSB: accounting, computer information systems, finance, business administration, entrepreneurship, golf course management, management, marketing, and real estate.

In addition, majors in advertising, journalism, public relations, and television production in the Department of Journalism and Mass Communications are accredited by the Accrediting Council on Education in Journalism and Mass Communications (ACEJMC).

Careers

Challenging and rewarding career opportunities exist today for university-educated men and women capable of assuming positions in administration and supporting professions.

A number of national corporations, governmental agencies, not-for-profit organizations, and regional organizations regularly visit the campus to interview qualified candidates.

Vision

The Bauernfeind College of Business aspires to be one of the best regional business schools in the nation.

Mission

The Arthur J. Bauernfeind College of Business (AJB-CoB) prepares students for careers in the dynamic environments of business, information technology, public and private organizations, and mass communications. The AJB-CoB strives for excellence by:

- Engaging students in the acquisition of fundamental knowledge; mastery of professional skills (including oral and written communication, problem solving and critical thinking); and the application of knowledge and skills to emerging issues, technologies, and professional practices in a student-centered learning environment.
- Providing students with quality undergraduate and master's degree programs embodied in relevant curricula and innovative learning environments.

- Encouraging students in intellectual and social development by providing a high degree of student and faculty interaction both inside and outside the classroom, cultivating leadership, and developing an appreciation for ethical issues and diversity in the global market place.
- Providing students with global perspectives in the classroom, while also encouraging both students and faculty to pursue opportunities for international travel and learning.
- Developing and encouraging academic outreach, collaborative relationships with alumni, business and industry, public schools, government agencies and non-profit organizations, as well as colleges and universities at home and abroad.
- Supporting a faculty commitment to quality teaching, service and continuous improvement that is enhanced by a 50% to 65% focus on Basic or Discovery Scholarship, with secondary emphasis on both Applied or Integration/Application Scholarship and Teaching and Learning Scholarship.

Undergraduate Programs

Students pursue their particular interests by selecting one of the area or major programs offered within the college. Area programs are offered in accounting, business administration, computer information systems, computer science, finance, graphic communications management, management, marketing, and telecommunications systems management. Major programs are offered in advertising, business administration, computer science, economics, journalism, organizational communication, public relations, and television production.

Several of the college's area and major programs provide excellent preparation for students considering a career in law. Pre-law students opting to major in economics are advised by faculty in the Department of Economics and Finance.

A student pursuing a major or area program within another college at Murray State may pursue a second area, a major, or a minor in the Bauernfeind College of Business.

Also, a two-year associate of arts degree program is offered in business administration.

Undergraduate University Studies Requirements

Students pursuing the college's area business programs and one of the major programs, business administration, must follow the Bachelor of Arts in Business (B.A.B.) or the Bachelor of Science in Business (B.S.B.) University Studies requirements. The college's other area and major programs—advertising, computer science, economics, journalism, organizational communication, public relations, telecommunications systems management, and television production—follow the university Bachelor of Arts or Bachelor of Science University Studies requirements.

Entrance Standards for Business Programs

A student pursuing an area business program or the major in business administration within the college must be admitted to business programs. The admission standards are as follows:

- 1) applicant must have a minimum overall GPA of 2.00.
- 2) applicant must have completed the following pre-admission courses with a combined GPA of 2.25:

ACC 200, ACC 201, BUS 215, CIS 243 or STA 135, CIV 201 or 202, COM 161, CSC 199, ECO 230, ECO 231, ENG 105, HUM 211, LST 240, MAT 220 or 250.

A minimum grade of C must be earned in CIS 243 (or STA 135) and ENG 105.

CIV 201 or 202 and HUM 211 are waived for students with transfer coursework and/or general education certification that would waive HUM and CIV in University Studies for Murray State's bachelor's degrees.

COM 161 is waived for students with transfer coursework and/or general education certification that would waive COM 161 in University Studies for Murray State's bachelor's degrees.

The course or courses used to meet the ENG 105 requirement for Murray State's University Studies will be used to meet the ENG 105 requirement for admission to business programs. When more than one course is used, the courses must average a grade of C to meet the minimum grade for this course requirement.

Honors sequence courses will meet the business admission standards as follows:

- ENG 150 (with a minimum grade of C) for ENG 105
- HON 165 for COM 161
- HON 201 or 202 for CIV 201 or 202
- HON 232 for ECO 230 and ECO 231
- HON 251 for HUM 211

Enrollment in business courses numbered 300 or above will be limited to: 1) business program students admitted to the college's accredited programs; 2) non-business students who have junior standing and are enrolled in specific programs or minors requiring business courses; and 3) other students or classifications of students with the specific permission of the department offering the course.

Business program students seeking admission to upper-division courses who have not completed all of the required pre-admission course work will be conditionally admitted to business programs and allowed to register for advisor-specified upper-division courses if they satisfy the minimum grade point average requirements and if they are concurrently enrolled in the courses necessary to complete the pre-admission requirements. Failure to meet all requirements for admission will result in denial of admission to the business programs; students denied admission will not be admitted to upper-division business classes.

Any student not admitted can appeal the decision to a collegiate review committee.

Business Core Requirements

All area business programs within the college plus the major in business administration require the business core requirements listed below. These requirements must be completed by any student who takes more than 25 percent (30 hours) of his/her course work in business. Business includes the following prefixes: ACC, BUS, CIS, FIN, LSC, MGT, MKT, RES, and LST 240. Courses with the following former Murray State business prefixes are considered business hours for purposes of this rule: BOA, BPA, BUA, CQM, GBU, OAD, and OSY. University orientation courses numbered 099 or 100T do not count in the 25 percent course work rule for business students.

100T	Transitions ¹	1
ACC 200	Principles of Financial Accounting ²	3
ACC 201	Principles of Managerial Accounting ²	3
BUS 215	Business Communication.....	3
BUS 355	Information Systems and Decision Making ^{3,4}	3
BUS 442	Business Ethics and Environments.....	3
CIS 243	Business Statistics I ⁵	2
CIS 343	Business Statistics II ⁶	2
ECO 310	Issues in the Global Economy.....	3
FIN 330	Principles of Finance.....	3
LSC 343	Fundamentals of Operations ⁷	3
LST 240	Legal Environment of Business.....	3
MGT 350	Fundamentals of Management.....	3
MGT 590	Strategic Management.....	3
MKT 360	Principles of Marketing.....	3
Total		41 hrs

¹Consult with academic advisor to select the appropriate transitions course.

²Students pursuing an area in accounting must have a grade of B or better.

³Students pursuing an area in accounting **must take** ACC 308 in lieu of BUS 355.

⁴Students pursuing an area in computer information systems **must take** CIS 307 in lieu of BUS 355.

⁵A grade of C or better is required in CIS 243. STA 135 with a grade of C or better may be used to meet this requirement.

⁶STA 235 may be used to meet this requirement.

⁷Students pursuing an area in logistics and supply chain management must have a grade of C or better.

Additional requirements for B.A.B. and B.S.B. students are specified in *Academic Degrees and Programs*.

Business Electives

Courses with the following prefixes may be selected as "business electives" for programs in the Bauernfeind College of Business and elsewhere in the university, except where noted otherwise: ACC, BUS, CIS, ECO, FIN, LSC, MGT, MKT, RES, and TSM. COM 340, COM 439, CSC 101, CSC 125, JMC 168, JMC 391, JMC 394, LST 240, LST 440, and POL 442 are also acceptable.

Courses required for admission to business programs or courses that are in the business core cannot be used to meet business elective requirements. Exceptions may be made for the Associate of Arts degree in Business Administration or minors with advisor approval. The former courses MGT 250 and MKT 260 do not apply toward business or economics major, minor or area requirements.

Courses with the following former Murray State prefixes also count toward business elective requirements: BOA, BPA, BUS, CQM, GBU, OAD, and OSY.

Because they were business electives at the time, POL 140, 250, and 252 will count as business electives if taken prior to fall 2005.

Courses with the COB prefix are business electives transferred to Murray State, are not a direct equivalent to any Murray State course, and do not count against the 25 percent business hours rule (see *Core Requirements*).

Double Areas, Majors, or Minors

Courses completed in fulfillment of the requirements for one area, major, or minor cannot also be applied to the requirements of another area, major, or minor. **Students pursuing a B.A.B. or B.S.B. degree may not have a double major/area or a minor in any business discipline accredited by AACSB-International except Real Estate. See AACSB and ACEJMC Accreditation at the beginning of this chapter.**

Graduate Programs

The Bauernfeind College of Business offers six graduate degree programs: the Master of Business Administration (M.B.A.), offered through the Arthur J. Bauernfeind Graduate Program in Business Administration; the Master of Science in Information Systems (M.S.I.S.); the Master of Science in Economics; the Master of Arts or Science in Mass Communications; the Master of Arts or Science in Organizational Communication; and a joint Master of Science in Telecommunications Systems Management is offered with the Jesse D. Jones College of Science, Engineering and Technology. In addition, two Masters of arts in Education with an emphasis in business education or economics are available through the College of Education and Human Services. The business programs prepare graduates for a variety of challenging and rewarding careers in industry, private enterprise, governmental agencies, and non-profit organizations.

The M.B.A. and M.S.I.S. programs are accredited by AACSB-International—The Association to Advance Collegiate Schools of Business.

Note: L=literature; R=research; PT=professional training. See page 58.

Arthur J. Bauernfeind Graduate Program in Business Administration

Director - Joy Roach Humphreys
email: jhumphreys4@murraystate.edu
270-809-4259

The graduate program leading to the Master of Business Administration (M.B.A.) degree for full-time students is offered during the day and evening at Murray. The same program is offered 100% online.

The M.B.A. program is offered jointly by the departments within the college. It is designed to qualify graduates for creative leadership positions in a complex and ever-changing business environment. Primary emphasis is placed on the analysis of business problems, the determination of business policies, and development of the skills and mature judgment necessary for competent management.

The broad integrated curriculum provides each student with an understanding of the major facets of domestic and international business operations including work in the theoretical and historical foundations of business, quantitative controls, information systems, research methodology, decision-making through the development of advanced functional skills, and the socio-political environment of business. Opportunity is provided for a moderate degree of specialization through the choice of graduate electives selected. The accounting concentration requires additional foundation courses and all graduate electives to be taken in accounting. There is no comprehensive examination or thesis requirement. However, the capstone course, MGT 656, can be taken only after completion of at least 18 hours of graduate course work.

Requirements for Admission

Applicants must meet Murray State University requirements (see *Graduate Admissions*). Additional requirements for unconditional and conditional admission are as follows.

Unconditional

An applicant must attain an acceptable score using the following formulas that combine the undergraduate grade point average (UGPA) and the score on **either** the Graduate Management Admission Test (GMAT) or the Graduate Record Examination (GRE).

All applicants, including those with GPAs of 3.0 and above, must take either the GMAT and achieve a minimum score of 400, or the GRE and achieve a minimum score of 286. Applicants with undergraduate GPAs of less than 3.0 on the 4.0 scale need GMAT scores that are higher than 400, or GRE scores higher than 286. The GMAT/GRE cannot be waived.

For unconditional admission to the program, an applicant must satisfy one of two formulas:

GMAT Users: $(200 \times \text{UGPA}) + \text{GMAT} \geq 1,000$

GRE Users: $\text{GRE} \geq 321 - (11.66 \times \text{GPA})$

(Combined quantitative and verbal sections only.)

An alternative formula is used if an applicant's grade point average on the last 60 semester hours (LGPA) of undergraduate work is 0.25 points or more above the applicant's overall UGPA: $200 \times (\text{LGPA} - 0.25) + \text{GMAT} > 1,000$.

An applicant whose native language is not English or who did not graduate from an English-speaking college or university must satisfy the above requirements, meet all admission requirements specified in the international student admission section of this *Bulletin*, and score a minimum of 20 in each of the four areas examined in the new TOEFL, ie. writing, reading, listening, and speaking.

Conditional

An applicant who has not taken the GMAT or GRE will be granted conditional admission to the M.B.A. program if the applicant's UGPA

is at least 2.75 (on a 4.00 scale), or if the applicant's LGPA is at least 3.00. This student must take the GMAT/GRE within two months of receiving the conditional admission letter. A student who is conditionally admitted may enroll in foundation courses (see below), but may not enroll in 600-level courses without a special waiver from the associate dean/MBA director. International students are not usually admitted conditionally, meaning they must take and pass the GMAT or GRE before coming to the United States.

Master of Business Administration

CIP 52.0101

The M.B.A. curriculum requirements are divided into two parts: (1) foundation courses and (2) graduate courses.

The foundation courses are undergraduate courses designed to form a base upon which the student can build in the graduate phase of the program. A student who has satisfactorily completed one or more equivalent courses will be given a waiver for previous work. A minimum grade of *C* is required to satisfy each foundation course.

Foundation Courses 15 hrs¹

ACC	490	Survey of Accounting ² [or ACC 200 and 201]
ECO	490	Survey of Economics ² [or ECO 230 and 231]
CIS	490	Survey of Calculus and Statistics ² [or CIS 343 and MAT 220]
FIN	330	Principles of Finance
MKT	490	Survey of Marketing and Management ² [or MGT 350 and MKT 360]

¹All foundation courses must be completed by the time a student finishes 15 hours of graduate course work.

²ACC 490, CIS 490, ECO 490, and MKT 490 cannot be taken as an undergraduate. These survey courses are for students who already have an undergraduate degree and are planning to pursue the MBA degree. Students have the option of taking the 490 classes or the individual courses that make up these 490 survey courses.

Total Course Requirements 30 hrs

ACC	604	Accounting for Decision Making
CIS	653	Management Science for Managerial Decision Making
ECO	625	Managerial Economics
FIN	602	Corporate Finance
MGT	651	Seminar in Organizational Behavior
MGT	656	Seminar in Strategic Management
MKT	667	Marketing Planning and Application
Electives (9 hrs)		

Note: All electives must be selected with the approval of the M.B.A. director. No foundation course may be used as an M.B.A. elective. Students with an undergraduate degree in accounting are encouraged to choose a 600-level ACC course in lieu of ACC 604.

Other Degree Requirements

In order to receive the degree, a candidate must earn a minimum grade point average of 3.00 on all graduate courses taken at Murray State University. Repeating a graduate course does not cancel a previous grade in the course. A candidate may not repeat a course in which a previous grade of *A* or *B* was earned for credit.

A minimum grade of *C* is required to receive credit for a graduate course.

No more than one *C* will be accepted in fulfillment of the seven M.B.A. core courses.

A candidate is awarded one "quality deficit point" for each grade of *C* received, two points for each *D*, and three points for each *E*. Upon receipt of four quality deficit points, a candidate is dropped from the program without opportunity for readmission except by special permission.

A maximum of nine semester hours of graduate credit taken at another institution may be transferred toward the fulfillment of core courses or electives, provided that the course was not used to complete another degree, that a grade of B or better was earned, and that a 3.00 grade point average is earned in Murray State graduate courses. Transfer courses must fall within the eight-year time limit allowed for completion of the master's degree.

Foundation courses may be completed at Murray State University or at any regionally accredited four-year institution or recognized foreign institution, before or after acceptance into the program. Only the 100- and 200-level foundation courses may be completed at a community or junior college.

During the fall and spring semesters, a candidate may take a maximum of 12 credit hours of graduate work or 15 credit hours if at least three hours are foundation work. The maximum load during each five week summer session is seven hours.

A student may fulfill a foundation course by passing a proficiency test. A proficiency test may be taken only once per course. There is a fee for taking the test. Call the associate dean's office (270-809-6970) to schedule each proficiency test.

A candidate who reapplies after a period of inactivity of 36 months will be subject to the degree requirements in effect at the time of reapplication.

A few applicants who have taken the GMAT or GRE and are denied admission may subsequently be admitted by a special admissions process on the basis of significant work experience or other extraordinary credentials.

**Master of Business Administration/
Accounting Concentration** CIP 52.0101

The M.B.A. accounting concentration curriculum requirements are divided into three parts: (1) foundation courses, (2) undergraduate accounting courses, and (3) graduate courses.

The undergraduate courses are designed to form a base upon which the student can build in the graduate phase of the program. A student who has satisfactorily completed one or more equivalent courses will be given a waiver for previous work. A minimum grade of C is required to satisfy each undergraduate course.

Foundation Courses	15 hrs¹
ACC 490 Survey of Accounting ² [or ACC 200 and 201]	
ECO 490 Survey of Economics ² [or ECO 230 and 231]	
CIS 490 Survey of Calculus and Statistics ² [or CIS 343 and MAT 220]	
FIN 330 Principles of Finance	
MKT 490 Survey of Marketing and Management ² [or MGT 350 and MKT 360]	

¹ All foundation courses must be completed by the time a student finishes 15 hours of graduate course work.

²ACC 490, CIS 490, ECO 490, and MKT 490 cannot be taken as an undergraduate. These survey courses are for students who already have an undergraduate degree and are planning to pursue the MBA degree. Students have the option of taking the 490 classes or the individual courses that make up these 490 survey courses.

Undergraduate Accounting Courses

ACC 300 Intermediate Accounting I
ACC 301 Intermediate Accounting II
ACC 302 Federal Income Tax
ACC 303 Cost Accounting
ACC 506 Principles of Auditing and Assurance Services

Total Course Requirements	30 hours
CIS 653 Management Science for Managerial Decision Making ^{PT}	
ECO 625 Managerial Economics	
FIN 602 Corporate Finance	

MGT 651 Seminar in Organizational Behavior
MGT 656 Seminar in Strategic Management ^L
MKT 667 Marketing Planning and Application ^R
ACC course to be selected from list of accounting electives below (3 hours)

Choose three electives from the following:

ACC 600 Advanced Accounting
ACC 601 Accounting for Governmental and Nonprofit Entities
ACC 602 Advanced Income Tax
ACC 603 Cost Management in the Global Economy
ACC 605 Corporate Governance and Accounting Ethics
ACC 606 Auditing Theory and Practice
ACC 608 Accounting Information Technologies
ACC 609 Issues in Corporate Financial Reporting
ACC 610 International Accounting
ACC 612 Tax Planning and Research
BUS 640 Legal Obligations of Business

Note: All electives must be selected with the approval of the M.B.A. director. No foundation course may be used as an M.B.A. elective.

**Master of Business Administration/
E-Business Concentration** CIP 52.0101

Required Undergraduate Courses

CIS 307 Decision Support Technologies
Approved programming language course (3 hrs)

Total Course Requirements..... **30 hours**

ACC 604 Accounting for Decision Making
CIS 653 Management Science for Managerial Decision Making ^{PT}
ECO 625 Managerial Economics
FIN 602 Corporate Finance
MGT 651 Seminar in Organizational Behavior
MGT 656 Seminar in Strategic Management ^L
MKT 667 Marketing Planning and Application ^R

E-Business Courses

CIS 615 Information Systems Security
<i>or</i>
CIS 646 Manager's Guide to Database
CIS 643 Advanced Business Analytics with SAS
<i>or</i>
TSM 617 Advanced Systems Planning
MKT 675 Marketing Applications in E-Business

**Master of Business Administration/
Finance Concentration** CIP 52.0101

Total Course Requirements..... **30 hours**

ACC 604 Accounting for Decision Making
CIS 653 Management Science for Managerial Decision Making ^{PT}
ECO 625 Managerial Economics
FIN 602 Corporate Finance
MGT 651 Seminar in Organizational Behavior
MGT 656 Seminar in Strategic Management ^L
MKT 667 Marketing Planning and Application ^R

Choose three electives from the following:

FIN 612 Capital Investment Analysis
FIN 620 Risk Management
FIN 621 Financial Models
FIN 622 Portfolio Management and Theory
FIN 632 Investment Management

- FIN 633 Analytical Methods in Finance
- FIN 634 Financial Markets and Institutions
- FIN 637 Commercial Banking
- FIN 650 Derivative Securities
- FIN 661 International Financial Management

**Master of Business Administration/
Global Communication Concentration** CIP 52.0101

Total Course Requirements 30 hours

- ACC 604 Accounting for Decision Making
- CIS 653 Management Science for Managerial Decision Making^{PT}
- ECO 625 Managerial Economics
- FIN 602 Corporate Finance
- MGT 651 Seminar in Organizational Behavior
- MGT 656 Seminar in Strategic Management^L
- MKT 667 Marketing Planning and Application^R

Choose three electives from the following:

- BUS 615 Communicating in the International Business Environment
- COM 622 Communication Technology in Organizations
- COM 631 Interpersonal Communication at Work
- COM 639 Seminar in Conflict Resolution
- COM 677 Organizational Learning and Dialogue
- COM 680 Advanced Organizational Communication
- COM 682 Seminar in Crisis Communication
- COM 685 Seminar in Organizational Communication
- COM 687 Leadership Communication
- JMC 600 Seminar in International Mass Communication
- JMC 601 Media, Culture, Gender, and Race
- JMC 620 Strategic Communication
- JMC 658 New Technologies

**Master of Business Administration/
Human Resource Management Concentration**

CIP 52.0101

Total Course Requirements 30 hours

- ACC 604 Accounting for Decision Making
- CIS 653 Management Science for Managerial Decision Making^{PT}
- ECO 625 Managerial Economics
- FIN 602 Corporate Finance
- MGT 651 Seminar in Organizational Behavior
- MGT 656 Seminar in Strategic Management^L
- MKT 667 Marketing Planning and Application^R

Choose three electives from the following:

- MGT 653 Seminar in Human Resource Staffing
- MGT 654 Seminar in Human Resource Management
- MGT 655 Seminar in Organizational Development
- MGT 657 Seminar in International Management
- MGT 658 Advanced Topics in Human Resources

**Master of Business Administration/
Marketing Concentration** CIP 52.0101

Total Course Requirements 30 hours

- ACC 604 Accounting for Decision Making
- CIS 653 Management Science for Managerial Decision Making^{PT}
- ECO 625 Managerial Economics
- FIN 602 Corporate Finance

- MGT 651 Seminar in Organizational Behavior
- MGT 656 Seminar in Strategic Management^L
- MKT 667 Marketing Planning and Application

Choose three electives from the following:

- BUS 684 Seminar in Geospatial Tools in Business
- JMC 602 Seminar in Advertising
- MKT 663 Advanced Consumer Behavior
- MKT 669 Seminar in Global Marketing
- MKT 675 Marketing Applications in E-Business
- MKT 685 Enterprise Business GIS

Telecommunications Systems Management

Telecommunications systems are networks of leading-edge technologies that allow organizations and individuals throughout business and industry to communicate instantaneously around the world. Telecommunications systems provide the architectural structure for such activities as electronic commerce, electronic banking, video teleconferencing, distance learning, telemedicine, data interchange, on-demand video, wireless technology, information security, and a host of other traditional and new uses for business and industry.

Students in the baccalaureate program will have the insight and ability to function in all areas of Telecommunications Systems Management (TSM) but will choose a program option that will support the aspect of management which interests them most - the physical system and its components, the software that drives the system, or the business structure and operations that depend on the system. In addition, they will be prepared to move on to the Master of Science in Telecommunications Systems Management if they so choose.

Telecommunications Systems Management is an interdisciplinary program drawing upon the strengths of the Bauernfeind College of Business and the Jesse D. Jones College of Science, Engineering and Technology. These programs which are jointly administered by the two colleges provide students a unique opportunity to develop both technical expertise and management expertise in this dynamic field.

AREA:

Telecommunications Systems Management

Bachelor of Science

CIP 11.0401

University Studies Requirements 41 hrs

(See *Academic Degrees and Programs.*)

University Studies selections must include:

•Scientific Inquiry, Methodologies, and Quantitative Skills

- MAT 140 College Algebra
- PHY 125 Brief Introductory Physics
- PHY 126 Brief Introductory Physics Laboratory
- STA 135 Introduction to Probability and Statistics

•Social and Self-Awareness and Responsible Citizenship

- ECO 231 Principles of Microeconomics

•University Studies Electives

- CSC 101 Introduction to Problem Solving Using Computers
- CSC 199 Introduction to Information Technology

Required Courses 58 hrs

- ACC 200 Principles of Financial Accounting
- CIS 307 Decision Support Technologies
- CIS 317 Principles of Information Systems Analysis and Design
- CSC 232 Programming in C#
- ENG 324 Technical Writing
- FIN 330 Principles of Finance
- IET 399 Professional Development Seminar I

IOE	350	Technology Management
MKT	360	Principles of Marketing
TSM	100T	Transitions
TSM	134	Introduction to Telecommunications Systems Management
TSM	232	Operating Systems
TSM	233	Network Services
TSM	241	Networking Fundamentals
TSM	301	Physical Network Theory
TSM	320	Introduction to Wireless Technology
TSM	343	Protocol Analysis
TSM	351	Principles of Information Security
TSM	411	Network Design, Operations and Management
TSM	443	Telephone Technology
TSM	488	Cooperative Education/Internship ¹

Selected Emphasis..... 21 hrs

Choose **one** of the methods of completion below:

- 1) Select 21 hours from any of the classes listed below or
- 2) Select two emphasis areas and complete at least 21 hours

Note: When selecting courses for an area of emphasis or as an elective, a maximum of nine hours may be selected from courses with a business prefix including: MGT or MKT. Adherence to course prerequisites is critical.

Wireless Communications Electronics

TSM	321	Wireless Communications
TSM	322	Wireless Communications II
TSM	323	Wireless Mobile Internet
TSM	421	Mobile Satellite Communications

Network Security

TSM	352	System Security
TSM	353	Network Security
TSM	440	Information Policy and Security Auditing
TSM	441	Advanced Information Security

System Administration

CSC	310	Database Administration
CSC	360	Scripting Languages
TSM	450	Telecommunications Policy and Management
TSM	517	Systems Planning

Approved Electives

CSC	370	Introduction to Artificial Intelligence
ECO	335	Economics and Public Policy of Telecommunications Industry
LSC	443	Fundamentals of Operations and Technology
MGT	358	Entrepreneurial Business Plan Development
MKT	475	Marketing Strategies in E-Commerce
TSM	360	Virtualized Enterprise Systems
TSM	444	Enterprise Networks

Total Curriculum Requirements 120 hrs

¹Maximum of three hours Internship or Cooperative Education counts toward a degree.

Telecommunications Systems Minor 22 hrs

TSM 134, 135, 232, 233, and 241. Nine hours of advisor approved electives. Six hours must be 300- or 400-level courses.

Graduate Program

Coordinator - Michael Bowman
270-809-6218

The master's program in telecommunications systems management provides students a core of fundamental courses and the concentration of choosing a specialization within the curriculum. Although students in the master's program will have the insight and ability to manage all aspects of telecommunications systems, the program concentration choice will support the aspect of management which interests them most, the physical systems and its components or the business structure and operations that depend on the system.

Requirements for Admission

Applicants must meet the Murray State University requirements (see *Graduate Admissions*).

Unconditional

For a TSM applicant to be unconditionally admitted to the program, an applicant must satisfy one of two formulas:

GMAT Users: (200 x UGPA) + GMAT \geq 1,000

GRE Users: GRE \geq 321 - (11.66 x GPA) - (Combined quantitative and verbal sections only.)

Note: The GRE formula uses the combined score from the quantitative and verbal sections only. Ask the Educational Testing Service (ETS) to send scores directly to Murray State University using the institution code: 1494.

In addition, candidates must take the TOEFL and score at least 550 on the paper-based exam (or 213 on the computerized version) if English is not their native language or they have not graduated from an accredited English speaking university.

Conditional

Applicants to the TSM graduate program may be admitted conditionally if their overall GPA is 2.75 or higher, or at least 3.0 for their last 60 hours of undergraduate study. Full admission to the program will be granted in one of only two ways, namely:

1) The applicant takes TSM 601, TSM 610, and one other core course (ACC 604, MGT 651, TSM 602, TSM 603, or TSM 630) as their first nine hours of the program and earns a GPA not less than 3.33 from the three core courses; or

2) the applicant takes the GMAT or GRE and meets the unconditional admission formula within their first semester in the program.

If neither of these two conditions is met, the student will be dropped from the program even if they have already taken graduate coursework.

International Admission

Applicants, from any country where English is a second language, will be required to demonstrate English language proficiency. This can be done by taking the Test of English as a Foreign Language (TOEFL) exam and score at least:

1) 550 pBT (paper-based test)

2) Minimum of 20 in each band iBT (internet-based test)

3) International English Language Testing System (IELTS) exam and score 6.0 on the academic test (with no band <5.5) to be fully admitted into the program.

**Master of Science
Telecommunications Systems Management** CIP 11.0401

Total Course Requirements **30 hours**

- ACC 604 Accounting for Decision Making
- TSM 601 Telecommunications Principles
- TSM 602 Telecommunications Systems
- TSM 603 Telecommunications Project Management
- TSM 607 Advanced Telecommunications Project Management
- TSM 610 Telecommunication Networks Management
- TSM 630 Telecommunications Legal Environment: Law, Policy and Regulations
- TSM 680 Telecommunications Solution Development Electives (6 hrs)

Only one elective can be an ACC, BUS, CIS, FIN MGT, or MKT prefix. Prefixes with no restrictions include: ECO, IET, and TSM. Other prefixes may be used with director's approval. Check course descriptions for prerequisites. Not all 600-level courses are offered online.

Department of Accounting

351 Business Building
270-809-4193
msu.acc@murraystate.edu

Chair: Leigh Johnson. **Faculty:** Grossman, Harris, Johnson, O'Shaughnessy, Rudolph, Smith.

Mission Statement

The Department of Accounting is committed to providing an excellent accounting education that enables graduates to compete effectively in an accounting or related business environment. Our goal is to provide high quality accounting instruction that encourages both accounting students and non-accounting majors to appreciate, understand, and use accounting information.

To achieve our goal, the department 1) offers responsive and innovative high quality accounting programs that foster student learning, bridge the gap between academia and business, and produce outstanding accounting graduates at both the undergraduate and graduate levels, 2) provides high quality accounting instruction that is contemporary, innovative, and responsive to student needs, and that instills the accounting knowledge, skills and competencies needed for successful careers, and 3) identifies, accumulates, and disseminates relevant accounting knowledge with a professional faculty through superior teaching, appropriate intellectual contributions, professional interaction, and university and community service.

The student specializing in accounting at Murray State is provided with a broad educational background during four years of study at the university. The first two years include University Studies courses which are oriented toward providing the student with a broad general education. The junior and senior years consist of technical and specialized courses in the area of accounting, complemented by supporting courses in management, statistics, computing technology, marketing, economics, law, and finance. These upper-division courses provide the student with a strong business background and an in-depth study of the field of accounting. The Department of Accounting offers an area program in accounting, with options available in information systems, finance, and financial planning. A minor in accounting is also available.

Students completing an area in accounting at Murray State meet the educational requirements to sit for the Certified Management Accountant (CMA), Certified Financial Manager (CFM), and Certified Internal Auditor (CIA) examinations.

Graduate courses offered in the Department of Accounting support the previously described M.B.A. and the M.B.A./Accounting and M.B.A./E-Business concentrations.

Most states require students to obtain 150 college credit hours and a baccalaureate degree to sit for the Certified Public Accountant (CPA) examination. While the state of Kentucky now allows students with a baccalaureate degree and 120 college credit hours to take the exam, 150 college credit hours must still be earned before a license to practice as a CPA will be granted. The M.B.A. and M.B.A./Accounting concentration enable students to meet this requirement and provide additional coursework that facilitates successful completion of the CPA licensure exam as well as other accounting certification examinations.

Accounting professionals are among the principal information specialists in the global economy. They work in public accounting, private industry, and government. An understanding of information systems and technology qualifies accountants to play critical roles as top-level decision makers, financial planners, and consultants, especially in today's e-business environments.

AREA:

Accounting

Bachelor of Arts in Business/Bachelor of Science in Business CIP 52.0301

Note: The courses, listed under *Entrance Standards for Business Programs at the beginning of this chapter, are required for this area if not taken in University Studies or the Business Core.*

University Studies Requirements **38-49 hrs**
(See *Academic Degrees and Programs.*)

Business Core Requirements¹ **41 hrs**
(See Core Requirements at beginning of this chapter.)

Required Courses **26 hrs**

- ACC 202 Accounting Applications Laboratory²
- ACC 300 Intermediate Accounting I
- ACC 301 Intermediate Accounting II
- ACC 302 Federal Income Tax
- ACC 303 Cost Accounting
- ACC 500 Advanced Accounting
- ACC 506 Principles of Auditing and Assurance Services
- ACC 507 Professional Issues
- and two of the following:*
- ACC 501 Accounting for Governmental and Nonprofit Entities
- ACC 502 Advanced Income Tax
- ACC 503 Cost Management in the Global Economy
- BUS 540 Legal Obligations of Business

Upper-Level Business Electives (B.S.B. only) **3 hrs**

Note: ACC 304, 489, 490, and BUS 355 will not count as business electives. Students must have a cumulative grade point average of 2.50 or higher prior to enrolling in their first 300-level or above accounting course. Also, students must have a cumulative grade point average of 2.00 or higher in all 300-level and above accounting courses to meet graduation requirements.

Unrestricted Electives **4-12 hrs**

Total Curriculum Requirements **120 hrs³**

¹ACC 308 must be taken instead of BUS 355. A grade of B or higher is required in both ACC 200 and 201.

²Requires a grade of B or better.

³Students completing both an undergraduate and a graduate degree in accounting may take only one international experience course for credit toward graduation.

AREA:

Accounting/Finance Track

Bachelor of Arts in Business/Bachelor of Science in Business CIP 52.0301

Note: The courses, listed under *Entrance Standards for Business Programs* at the beginning of this chapter, are required for this area if not taken in University Studies or the Business Core.

University Studies Requirements 38-49 hrs
(See *Academic Degrees and Programs*.)

Business Core Requirements¹ 41 hrs
(See Core Requirements at beginning of this chapter.)

Required Courses 29 hrs

- ACC 202 Accounting Applications Laboratory²
- ACC 300 Intermediate Accounting I
- ACC 301 Intermediate Accounting II
- ACC 302 Federal Income Tax
- ACC 303 Cost Accounting
- ACC 500 Advanced Accounting
- ACC 506 Principles of Auditing and Assurance Services
- ACC 507 Professional Issues
- FIN 332 Financial Management

and two of the following:

- ACC 501 Accounting for Governmental and Nonprofit Entities
- ACC 502 Advanced Income Tax
- ACC 503 Cost Management in the Global Economy
- BUS 540 Legal Obligations of Business

Required Limited Electives..... 9 hrs

Note: FIN electives must be 300 or above excluding FIN 488, 489, 505, and 595. Students must have a cumulative grade point average of 2.50 or higher prior to enrolling in their first 300-level or above accounting course. Also, students must have a cumulative grade point average of 2.00 or higher in all 300-level and above accounting courses to meet graduation requirements.

Unrestricted Electives..... 0-3 hrs

Total Curriculum Requirements 120-128 hrs³

¹ACC 308 must be taken instead of BUS 355. A grade of B or higher is required in both ACC 200 and 201.

²Requires a grade of B or better.

³Students completing both an undergraduate and a graduate degree in accounting may take only one international experience course for credit toward graduation.

AREA:

Accounting/Financial Planning Track

Bachelor of Arts in Business/Bachelor of Science in Business CIP 52.0301

Note: The courses, listed under *Entrance Standards for Business Programs* at the beginning of this chapter, are required for this area if not taken in University Studies or the Business Core.

University Studies Requirements 38-49 hrs
(See *Academic Degrees and Programs*. Accounting students must also take ENG 224.)

Business Core Requirements¹ 41 hrs
(See Core Requirements at beginning of this chapter.)

Required Courses 38 hrs

- ACC 202 Accounting Applications Laboratory²
- ACC 300 Intermediate Accounting I
- ACC 301 Intermediate Accounting II
- ACC 302 Federal Income Tax
- ACC 303 Cost Accounting

- ACC 500 Advanced Accounting
- ACC 506 Principles of Auditing and Assurance Services
- ACC 507 Professional Issues
- FIN 331 Principles of Insurance
- FIN 333 Principles of Investment
- FIN 336 Employee Benefits and Retirements
- FIN 338 Estate Planning

and two of the following:

- ACC 501 Accounting for Governmental and Nonprofit Entities
- ACC 502 Advanced Income Tax
- ACC 503 Cost Management in the Global Economy
- BUS 540 Legal Obligations of Business

Note: Students must have a cumulative grade point average of 2.50 or higher prior to enrolling in their first 300-level or above accounting course. Also, students must have a cumulative grade point average of 2.00 or higher in all 300-level and above accounting courses to meet graduation requirements.

Unrestricted Electives..... 0-3 hrs

Total Curriculum Requirements 120-128 hrs³

¹ACC 308 must be taken instead of BUS 355. A grade of B or higher is required in both ACC 200 and 201.

²Requires a grade of B or better.

³Students completing both an undergraduate and a graduate degree in accounting may take only one international experience course for credit toward graduation.

AREA:

Accounting/Information Systems Track

Bachelor of Arts in Business/Bachelor of Science in Business CIP 52.0301

Note: The courses, listed under *Entrance Standards for Business Programs* at the beginning of this chapter, are required for this area if not taken in University Studies or the Business Core.

University Studies Requirements 38-49 hrs
(See *Academic Degrees and Programs*.)

Business Core Requirements¹ 41 hrs
(See Core Requirements at beginning of this chapter.)

Required Courses 35 hrs

- ACC 202 Accounting Applications Laboratory²
- ACC 300 Intermediate Accounting I
- ACC 301 Intermediate Accounting II
- ACC 302 Federal Income Tax
- ACC 303 Cost Accounting
- ACC 500 Advanced Accounting
- ACC 506 Principles of Auditing and Assurance Services
- ACC 507 Professional Issues
- CIS 317 Principles of Information Systems Analysis and Design
- CSC 101 Introduction to Problem Solving Using Computers
- CSC 232 Introduction to Programming in C# I

and two of the following:

- ACC 501 Accounting for Governmental and Nonprofit Entities
- ACC 502 Advanced Income Tax
- ACC 503 Cost Management in the Global Economy
- BUS 540 Legal Obligations of Business

Required Limited Electives..... 3 hrs

Choose one of the following:

- CIS 543 Data Analysis and Modeling
- CSC 125 Internet and Web Page Design
- CSC 260 Application Program Development-COBOL I
- CSC 332 Advanced Programming in C#
- FIN 421 Financial Models
- GSC 521 Geographic Information Systems
- MKT 475 Marketing Strategies for E-Commerce

Note: Students must have a cumulative grade point average of 2.50 or higher prior to enrolling in their first 300-level or above accounting course. Also, students must have a cumulative grade point average of 2.00 or higher in all 300-level and above accounting courses to meet graduation requirements.

Unrestricted Electives..... 0-3 hrs

Total Curriculum Requirements 120-128 hrs³

¹ACC 308 must be taken instead of BUS 355. A grade of B or higher is required in both ACC 200 and 201.

²Requires a grade of B or better.

³Students completing both an undergraduate and a graduate degree in accounting may take only one international experience course for credit toward graduation.

Accounting Minor22 hrs

ACC 200, 201, 202, 300 and nine hours of upper-level accounting courses, and a three-hour upper level business elective. Six hours must be upper-level courses. Students must have a cumulative grade point average of 2.50 or higher prior to enrolling in their first 300-level or above accounting course. Also, a grade of B or higher is required in ACC 200, 201, and 202. **Note:** ACC 304, 489, and 490 will not count toward this minor. Accounting courses cannot be used toward this minor and also in another business program. Students pursuing more than one degree option in business must substitute other business or accounting courses (approved by Accounting Department chair) for ACC 200 and 201 or any other common courses. Students must have a cumulative grade point average of 2.00 or higher in all 300-level and above accounting courses to meet graduation requirements.

Department of Computer Science and Information Systems

652 Business Building
270-809-2094
msu.csis@murraystate.edu

Chair: Victor Raj. **Faculty:** Antony, Beck, Bowman, Jointer, Kuzey, Pilgrim, Raj, Singh, Smith, Sutrick, Tennyson.

According to the Bureau of Labor and Statistics “computer systems design and related services industry in the professional and business services sector is among the top 10 industries with largest wage and salary, and employment growth through 2018.” (www.bls.gov/news.release/ecopro.toc.htm).

The faculty is drawn from both academia and industry and is well-equipped to prepare students for careers that could span several decades. They are also nationally recognized for their research in a wide variety of areas from learning styles and knowledge management to robotics.

The department provides access to modern well-equipped computer laboratories with an extensive collection of state-of-the-art software to provide a rich practical experience with the latest in computer hardware and software. The learning environment and curricula are structured to give the student the theoretical background and practical experience necessary to successfully pursue a variety of professional and technical careers in the dynamic and rapidly changing computing fields.

Students may choose from two baccalaureate degree programs: computer science or computer information systems and a Masters in Information Systems (M.S.I.S.). For those seeking just a taste of this discipline, we also offer minors in computer information systems, computer science, and data analytics.

Those pursuing the area in computer information systems are well prepared for a variety of careers in business and industry. As this program provides a strong foundation in business with an equally

strong immersion in the technology that drives modern businesses, typical career paths include management of people, assets and technologies. They are also equipped with a skill set that makes them effective communicators between the technology in all its complexity and the user who needs the technology to operate efficiently. Students earn a Bachelor of Science or Bachelor of Arts in Business (B.S.B. or B.A.B.). This program is amenable to a 2+2 format where the first two years are completed at a local community college. Please contact the department for specifics.

Students pursuing a major (or area) in computer science may choose to specialize in “*threads of emphasis*”. In the beginning of their third year, students are encouraged to pick one of four *threads* – graphics and visual computing, net-centric computing, embedded system programming, or applications programming – and develop their expertise in the form of project enhancements as they learn new concepts in various classes. By their senior year they have a substantial software product worthy of two years’ focused effort. This gives our students an opportunity to put into practice the theoretical constructs developed in the classroom. For those electing to go with a major, we require them to broaden their horizons by selecting a minor program of study, such as math, business, art, or telecommunications. The area has the same required courses as the major. The remaining hours are courses chosen from multiple disciplines with the approval of his/her advisor.

AREA:

Computer Information Systems

Bachelor of Arts in Business/Bachelor of Science in Business CIP 11.0103

Note: The courses, listed under *Entrance Standards for Business Programs at the beginning of this chapter, are required for this area if not taken in University Studies or the Business Core.*

University Studies Requirements..... 38-49 hrs

(See *Academic Degrees and Programs.*)

Business Core Requirements¹ 41 hrs

(See Core Requirements at beginning of this chapter.)

Core Courses 25 hrs

- CIS 317 Principles of Information Systems Analysis and Design
- CIS 399 Topics in Information Systems
- CIS 407 Advanced Database Management Systems
- CIS 420 Senior Capstone Project
- CSC 101 Introduction to Problem Solving Using Computers
- CSC 125 Internet and Web Page Design
- TSM 133 Telecommunications Technology and Methods

One of the following:

- CSC 145 Introduction to Programming
- CSC 232 Introduction to Programming in C#

One of the following:

- CIS 325 E-Business Programming
- CSC 332 Advanced Programming in C#
- CSC 345 Data Structures

Restricted Electives² 9 hrs

Choose from the following:

- CIS 325 E-Business Programming
- CIS 417 Software Development Technologies
- CIS 425 Building E-Business with Web Design
- CIS 488 Cooperative Education/Internship
- CIS 509 Data Warehousing and Business Intelligence
- CIS 525 Overview of E-Business Technologies
- CIS 543 Data Analysis and Modeling
- CIS 548 Enterprise Resource Planning
- CSC 235 Programming in C++

- CSC 310 Database Administration
 - CSC 332 Advanced Programming in C#
 - CSC 345 Data Structures
 - CSC 360 Scripting Languages
 - LSC 461 Principles of Purchasing and Supply Management
 - TSM 351 Principles of Information Security
 - TSM 440 Information Assurance Policy and Management
 - TSM 517 Systems Planning
- Not more than one course from the following:*
- FIN 332 Financial Management
 - FIN 333 Principles of Investment
 - FIN 421 Financial Models
 - FIN 520 Risk Management
 - LSC 452 Process Management
 - LSC 470 Introduction to Quantitative Decision Making
 - LSC 480 Supply Chain Management Strategy
 - MGT 490 Entrepreneurial Consulting
 - MGT 550 Human Resource Management
 - MGT 551 Organizational Behavior
 - MGT 558 Advanced Topics in Human Resources
 - MKT 475 Marketing Strategies for E-Commerce
 - MKT 485 Business GIS in Marketing
 - TSM 232 Operating Systems
 - TSM 241 Networking Fundamentals

Unrestricted Electives..... 0-7 hrs

Total Curriculum Requirements 120-124 hrs

¹CIS 307 should be taken in lieu of BUS 355.

²A maximum of one cooperative education/internship course is allowed. A minimum of three hours of restricted electives must be upper-level.

AREA:

Computer Science

Bachelor of Arts/Bachelor of Science CIP 11.0701

University Studies Requirements..... 38-44 hrs

(See *Academic Degrees and Programs*. See required courses below before selecting mathematics and science University Studies electives.)

Core Courses 46 hrs

- CSC 100T Transitions
- CSC 101 Introduction to Problem Solving Using Computers
- CSC 145 Introduction to Programming I
- CSC 235 Programming in C++
- CSC 300 Discrete Structures
- CSC 325 Advanced Object-Oriented Programming
- CSC 345 Data Structures
- CSC 405 Computer Architecture
- CIS 407 Advanced Database Management Systems
- CSC 410 Parallel and Distributed Computing

Must be taken with one course from: CSC 411, CSC 412, CSC 413, CSC 414

- CSC 415 Programming Languages
- CSC 425 Mobile and Web Programming
- CSC 430 Software Construction
- CSC 445 Computer Algorithms

Must be taken with one course from: CSC 446, CSC 447, CSC 448, CSC 449

- CIS 420 Senior Capstone Project
- or*

- CSC 530 Senior Software Project

Must be taken with one course from: CSC 531, CSC 532, CSC 533, CSC 534

- CSC 540 Social, Ethical and Professional Issues in the Information Age

Co-Requirements for Area¹ 0-9 hrs

- MAT 250 Calculus and Analytic Geometry I
 - STA 135 Introduction to Probability and Statistics
- or*
- CIS 243 and 343 Business Statistics I & II
- or*
- STA 540 Mathematical Statistics I

Restricted Electives 15 hrs

Select from CIS/CSC/TSM courses at the 300-level or above.

Unrestricted Electives 0-21 hrs

Total Curriculum Requirements 120 hrs

¹Required for area if not taken as University Studies elective.

MAJOR:

Computer Science

Bachelor of Arts/Bachelor of Science Degree CIP 11.0701

University Studies Requirements..... 38-44 hrs

(See *Academic Degrees and Programs*. See required courses before selecting mathematics and science University Studies electives.)

Core Courses 46 hrs

- CSC 100T Transitions
- CSC 101 Introduction to Problem Solving Using Computers
- CSC 145 Introduction to Programming I
- CSC 235 Programming in C++
- CSC 300 Discrete Structures
- CSC 325 Advanced Object-Oriented Programming
- CSC 345 Data Structures
- CSC 405 Computer Architecture
- CIS 407 Advanced Database Management Systems
- CSC 410 Parallel and Distributed Computing

Must be taken with one course from: CSC 411, CSC 412, CSC 413, CSC 414

- CSC 415 Programming Languages
- CSC 425 Mobile and Web Programming
- CSC 430 Software Construction
- CSC 445 Computer Algorithms

Must be taken with one course from: CSC 446, CSC 447, CSC 448, CSC 449

- CIS 420 Senior Capstone Project
- or*

- CSC 530 Senior Software Project

Must be taken with one course from: CSC 531, CSC 532, CSC 533, CSC 534

- CSC 540 Social, Ethical and Professional Issues in the Information Age

Co-Requirements for Major¹ 0-9 hrs

- MAT 250 Calculus and Analytic Geometry I
 - STA 135 Introduction to Probability and Statistics
- or*
- CIS 243 and 343 Business Statistics I & II
- or*
- STA 540 Mathematical Statistics I

Required Minor 21-24 hrs

Unrestricted Electives..... 0-15 hrs

Total Curriculum Requirements 120 hrs

¹Required for major if not taken as University Studies Elective.

Computer Information Systems Minor..... 22 hrs

CIS 307, 317; CSC 101, 125, 199, 232, and one of the following: CIS 407, 525, 543, 548, CSC 310, 332, or TSM 517. Six hours must be upper-level courses.

Computer Science Minor.....21 hrs

CSC 101, 145, 300, 325, 345, 445; one course chosen from CSC 405, 410, 415, 425, and 530. Six hours must be upper-level courses.

Data Analytics Minor.....22 hrs

CIS 243, 343, 407, 443, 509, 543; CSC 101 and 145. STA 135 may be substituted for CIS 243 and CIS 343. Six hours must be upper-level courses.

Graduate Program

Director - Solomon Antony
santony@murraystate.edu

Master of Science in Information Systems CIP 11.0103

The Master of Science in Information Systems (M.S.I.S.) program prepares individuals for management careers in the vast and growing field of information systems. This field includes such diverse areas as software development, information management, data analysis, information security, information systems architecture, system planning, data warehousing, and business intelligence to name a few.

The curriculum consists of seven core courses and three elective courses. This structure prepares the student for both depth and breadth in the information systems field. A sound foundation in business and information systems is expected prior to beginning the program. (See [Foundation Courses and Skills](#) requirements below.)

Upon successful completion, graduates can move into careers such as information systems managers, business analysts, software architects, college-level instructors, information systems auditors, project managers, consultants etc. based on individual strengths, skills and inclination.

Requirements for Admission

Students with an undergraduate degree may apply for the program. Applicants must meet the Murray State University requirements (see *Graduate Admissions*). Completed application packets from domestic students must be received by December 1st for spring admission, and by June 1st for fall admission. Applications from international students must be received by October 16th for spring admission, and April 30th for fall admission. A complete application packet includes 1) official undergraduate transcript; 2) official and valid GRE or GMAT score report (MSU Institution Code = 1494); and 3) a current resume. Additionally, international students whose native language is not English must submit evidence of English proficiency; we accept TOEFL or IELTS scores as evidence.

Unconditional

An applicant may be granted unconditional admission in the program if he/she 1) has achieved a combined score of 288 or higher in the verbal and quantitative sections of the GRE's Revised General Test (or 980 or better in the verbal and quantitative sections of the old GRE or 490 or better in GMAT), 2) has a cumulative GPA of 3.00 or better in his/her undergraduate program, and 3) has no more than three failing grades in the undergraduate transcript. International

student must also have met the University's English proficiency requirements for being fully admitted without conditions in Graduate Admissions.

Conditional

Domestic applicants (or international students who are already in the United States), who have not taken the GRE (or GMAT) may be granted conditional admission provided 1) the applicant has a cumulative GPA of 3.00 or higher in his/her undergraduate program and 2) no more than three failing grades in the undergraduate transcript. To convert to fully-admitted status, the student must submit an official GRE (or GMAT) score report before the end of their first semester in the graduate program. The test requirements are the same as in regular admission requirements.

For both regular admission and conditional admission, International students must also have met the University's English proficiency requirements.

Foundation Courses and Skills

Upon review of the student's academic qualifications and work experience, the program director will decide on foundation courses the student must take. If the student is lacking in business knowledge, he/she will be required to complete one or two foundation courses. If the student is lacking in information systems knowledge, he/she will be required to complete up to three foundation courses. The applicant will be informed of the required foundation courses on the admission letter and during the time of advising.

- ACC 490 Survey of Accounting¹
- CIS 317 Principles of Information Systems Analysis and Design
- CIS 343 Business Statistics II²
- CIS 407 Advanced Database Management Systems
- CSC 232 Introduction to Programming in C#³

(The student may need to complete foundation prerequisite courses also.)

NON-THESIS REQUIREMENTS ONLY

Total Course Requirements 30 hours

- ACC 604 Accounting for Decision Making
- CIS 601 Telecommunications Principles
- CIS 603 Telecommunications Project Management
- CIS 609 Data Warehouses and Business Intelligence
- CIS 650 Software Methodologies^{4, R}
- CIS 645 Decision Support and Expert Systems
- CIS 688 Graduate Internship in Information Systems
- or*
- CIS 695 Comprehensive Project in Computer Information Systems

Approved electives (9 hrs)

Electives may be chosen from graduate level courses in CIS, TSM or other business disciplines. All electives must be approved by the program director.

¹Or ACC 200 and ACC 201.

²Or STA 135.

³Or equivalent programming knowledge in another object-oriented language.

Other Degree Requirements

In order to receive the degree, a candidate must earn a minimum grade point average of 3.00 on all program-related graduate courses taken at Murray State University. Repeating a graduate course does not cancel a previous grade in the course.

A minimum grade of C is required to receive credit for a graduate course. No more than one C will be accepted in fulfillment of the seven core courses. For additional information, please contact the program's graduate coordinator.

Department of Economics and Finance

307 Business Building
270-809-4188
msu.ecofin@murraystate.edu

Chair: David Eaton. **Faculty:** Acharya, Badasyan, Brasfield, Broker, Dunn, Durr, Eaton, Guse, Hassan, Lacewell, McCoy, Milkman, Reed, Silva, Xu.

Students in the Department of Economics and Finance have a wide choice of curricula offered by highly qualified faculty members, most of whom hold the doctorate degree. The department offers a major in economics for those students who wish to pursue a traditional liberal arts education containing a mixture of business and non-business classes outside the Bauernfeind College of Business. This option may be especially attractive for pre-law students. The flexibility of the economics major allows students to tailor the program to their career goals or for further graduate study. It is also one of the approved majors for teaching the social sciences. In such cases the required minor and non-economics electives should be carefully selected in consultation with a departmental advisor. The department offers minors in economics, business economics, and international economics. The department also supports a minor in secondary social studies for those students seeking secondary certification in social studies (grades 8-12). This minor combined with the economics major, increases the probability for success on the PRAXIS examination. In addition to supporting the M.B.A. program and other graduate programs, the Department of Economics and Finance offers the Master of Science in Economics.

The department offers an area in finance that prepares a student to operate in a variety of career paths, including banking, corporate finance, investments, securities analysis, and financial services. Students successfully completing requirements for the area in finance are prepared to successfully transition into a business environment or to continue on to graduate studies in finance or other areas of business. In addition to the area in finance, the department offers an area with a financial planning option. The financial planning option is an area in which many career opportunities exist, is approved by the Certified Financial Planning Board of Standards, and provides students with the background necessary to be allowed to take the test for CFP certification. The department also offers a minor in finance for non-business students. Each area of specialization provides preparation for a variety of employment opportunities or serves as a basis for graduate study. Electives are available to prepare qualified students for positions calling for skills in financial analysis in both the private and public sectors of the economy.

The **State Farm Financial Services Resource Center**, on the first floor of the Arthur J. Bauernfeind College of Business, focuses on career development and education for students interested in banking, financial planning, financial analysis and economic education. Students gain hands-on experience working with commercial-grade financial planning software and have live-feeds and historic information on bonds, equities, commodities and currencies used by financial professionals around the world. The suite features a state-of-the-art LCD video wall comprised of four 46-inch monitors. The center allows professors to take students beyond the theory and applications in textbooks into a more practical learning environment.

MAJOR: Economics

Bachelor of Arts/Bachelor of Science

CIP 45.0601

Note: This program is recommended for pre-law. The total number of credit hours earned in business courses (ACC, BUS, CIS, FIN, MGT, MKT, RES, LST 240 and 540) cannot exceed 25 percent of total curriculum requirements.

University Studies Requirements 38-47 hrs
(See *Academic Degrees and Programs*.)

University Studies selections must include:

•**Scientific Inquiry, Methodologies, and Quantitative Skills**

MAT 220 Business Calculus

or

MAT 250 Calculus and Analytic Geometry I

•**Social and Self-Awareness and Responsible Citizenship**

ECO 230 Principles of Macroeconomics

•**University Studies Electives**

CSC 199 Introduction to Information Technology

ECO 231 Principles of Microeconomics

Required Courses 26 hrs

ACC 200 Principles of Financial Accounting¹

ECO 100T Transitions

ECO 305 Money and Banking

ECO 330 Intermediate Macroeconomics

ECO 331 Intermediate Microeconomics

ECO 460 International Trade and Finance

ECO 498 Research Methods in Economics

ECO 499 Senior Seminar in Economics

STA 135 Introduction to Probability and Statistics

or

CIS 243 Business Statistics I

and

CIS 343 Business Statistics II

Required Limited Electives 9 hrs

300-level or higher (except ECO 310), ECO electives approved by advisor.

Required Minor 21 hrs

Note: Economics majors may select a minor from any business or non-business discipline, excluding any economics minor. If any course is required in the major and minor, a substitute course must be approved by an advisor to gain the total degree program hours.

Unrestricted Electives 17-26 hrs

Total Curriculum Requirements 120 hrs

¹Required for BS only.

MAJOR:**Economics/Social Studies Certification (Grades 8-12) Track**

Bachelor of Arts/Bachelor of Science

CIP 45.0601

Note: The total number of credit hours earned in business courses (ACC, BUS, CIS, FIN, MGT, MKT, RES, LST 240 and 540) cannot exceed 25 percent of total curriculum requirements.

University Studies Requirements 38-47 hrs
(See *Academic Degrees and Programs*.)

University Studies selections must include:

•**Scientific Inquiry, Methodologies, and Quantitative Skills**

MAT 220 Business Calculus

or

MAT 250 Calculus and Analytic Geometry I

•**Social and Self-Awareness and Responsible Citizenship**

ECO 230 Principles of Macroeconomics

•**University Studies Electives**

CSC 199 Introduction to Information Technology¹

ECO 231 Principles of Microeconomics

Note: Certification requires a grade of B or better in one English composition course and a C or better in a University Studies math course, public speaking, and EDU 103 or equivalent course. Additional requirements for admission to teacher education and student teaching must be met. See advisor and/or Office of Teacher Education Services for details.

Required Courses 26 hrs

ACC 200 Principles of Financial Accounting²

ECO 100T Transitions

ECO 305 Money and Banking

ECO 330 Intermediate Macroeconomics

ECO 331 Intermediate Microeconomics

ECO 460 International Trade and Finance

ECO 498 Research Methods in Economics

ECO 499 Senior Seminar in Economics

STA 135 Introduction to Probability and Statistics

or

CIS 243 Business Statistics I

and

CIS 343 Business Statistics II

Required Limited Electives 9 hrs

300-level or higher (except ECO 310), ECO electives approved by advisor.

Required Courses for Certification 39 hrs

EDP 260 Psychology of Human Development²

EDU 103 Issues and Practices of American Education

EDU 303 Strategies of Teaching

EDU 403 Structures and Foundations of Education

EDU 405 Evaluation and Measurement in Education³

REA 427 Teaching Content Area Literacy in the
Secondary School

SEC 420 Practicum in Secondary Schools³

SEC 421 Student Teaching in the Secondary School

SEC 422 Extended Practicum⁴

SED 300 Educating Students with Disabilities

Required Minor 21-24 hrs

Choose either geography, history, political science, or social science minor. Social science minor is strongly recommended.

Note: If any course is required in the major and minor, a substitute course must be approved by an advisor to gain the total degree program hours.

Total Curriculum Requirements 133-143 hrs

¹With a grade of C or better.

²May be used as a University Studies elective for B.S.

³Must be taken together and two semesters before student teaching.

⁴Must be taken one semester before student teaching.

Economics Minor 21 hrs

ECO 230, 231, 305, 330, 331; and six hours of business electives (may include ECO and FIN) approved by advisor. Six hours must be upper-level courses.

Business Economics Minor 22 hrs

ACC 200, CIS 243, 343; ECO 230, 231, 305, 330, 331. Six hours must be upper-level courses.

International Economics Minor 21 hrs

ECO 230, 231, 315, 410, 460; and six hours of closely related upper-level electives, with a significant international dimension, as approved by advisor. Six hours must be upper-level courses.

Social Science Minor 24 hrs

Open only to majors in economics, geography, history, or political science who seek secondary certification in social studies. ECO 231, GSC 110, HIS 221, 222, POL 140, SOC 133; and six hours of upper level courses (300 or above) from the social science disciplines with approval of advisor. Courses required for a major may not be counted toward the minor; substitutions must be from a social science discipline other than the major and be approved by the advisor; and requirements for certification for teaching secondary school social studies, grades 8 through 12 through the College of Education and Human Services must also be met.

Graduate Programs

Graduate Coordinator - Martin Milkman
mmilkman@murraystate.edu

The department offers the Master of Science in Economics with two unique concentrations. The first has a traditional economics curriculum under which the student, subject to the judgment of the graduate coordinator, has a relatively wide choice of electives. The second concentration allows the student to take a concentration of courses in finance. Both concentrations are designed to prepare a student for further study at the doctoral level, or to qualify a student for a variety of career positions in business, government, and private agencies, or to prepare students for teaching at the community and junior college level.

Requirements for Admission

Applicants must meet the Murray State University requirements (see *Graduate Admissions*) and have a minimum total score on the Internet-based TOEFL of 76. Additional information about unconditional and conditional admission is following.

Unconditional

Admission into the M.S. in economics program is open to persons with (1) an acceptable undergraduate grade point average (normally 2.75 on a 4.00 scale), and (2) an acceptable score on the Graduate Management Admission Test (GMAT) or on the Graduate Record Examination (GRE) (normally at least 50th percentile on the quantitative portion and 10th percentile on the verbal section), and (3) an undergraduate minor in economics or its equivalent.

The applicant's overall record, including undergraduate training, experience, and GMAT or GRE score, will be evaluated by the department graduate coordinator to determine the prospective student's suitability for graduate work in economics.

Conditional

Admission into the M.S. in economics program may be granted to an individual not qualifying for unconditional admission if the individual demonstrates the potential to succeed. A conditional student may be admitted to full standing after completion of one semester (nine hours) of satisfactory work including prerequisites, with the recommendation of the M.S. graduate coordinator.

**Master of Science
Economics**

CIP 45.0601

NON-THESIS REQUIREMENTS

Total Course Requirements 30 hours

- ECO 630 Macroeconomic Theory
- ECO 631 Microeconomic Theory
- ECO 680 Quantitative Methods of Economics and Business
- ECO 685 Econometrics^{L, R}
- or*
- ECO 690 Forecasting for Business and Government^{L, R}
- ECO elective, 600-level (9 hrs)
- Approved electives, 600-level¹ (9 hrs)

Other Degree Requirements

Minimum grade of B in both ECO 630 and ECO 631.

THESIS REQUIREMENTS

Total Course Requirements 30 hours

Same as above with the following substitutions:

- ECO 698-699 Thesis
- ECO elective, 600-leveldecrease to 3 hrs

Other Degree Requirements

Oral exam over the thesis.

Minimum grade of B in both ECO 630 and ECO 631.

¹No more than one elective (3 hrs) may be taken in any one of the following disciplines: accounting, computer and information systems, management, or marketing.

**Master of Science
Economics/Finance Concentration**

CIP 45.0601

NON-THESIS REQUIREMENTS

Total Course Requirements 30 hours

- ECO 630 Macroeconomic Theory
- ECO 631 Microeconomic Theory
- ECO 680 Quantitative Methods of Economics and Business
- ECO 685 Econometrics^{L, R}
- or*
- ECO 690 Forecasting for Business and Government^{L, R}
- ECO electives, 600-level (6 hrs)
- Approved FIN electives, 600-level (12 hrs)

Other Degree Requirements

Minimum grade of B in both ECO 630 and ECO 631.

THESIS REQUIREMENTS

Total Course Requirements 30 hours

Same as above with the following substitution:

- ECO 698-699 Thesis
- Delete ECO electives, 600-level (6 hrs)

Other Degree Requirements

Oral exam over the thesis.

Minimum grade of B in both ECO 630 and ECO 631.

**Master of Arts in Education
Secondary Teacher Leader/Economics Concentration**

CIP 13.1205

The Department of Economics and Finance provides instruction in support of the M.A.Ed. in Secondary Teacher Leader with a concentration in economics. Prospective students should contact the graduate coordinator in the academic subject department and the College of Education and Human Services for details on advising and graduate program design.

**Master of Science
Economic Development**

CIP 45.0604

The M.S. in Economic Development will prepare students to work in the field of local and regional economic development. The curriculum is designed to give students both classroom and practical training in the methods of economic development in the United States. Students who graduate from this program should have the equivalent of two years of experience working in an economic development agency. In addition students should have the ability to lead a small economic development agency. It is our desire that students from this program pursue certification with the IEDC and become certified economic development professionals.

Requirements for Admission

The program will be a cohort based program running from August to August. Students will be required to have a Bachelor's degree from an accredited college or University with a minimum GPA of 2.75 for their undergraduate work. Applicants with a 2.75 GPA also need a 450 on the GMAT or a 289 on the GRE. Applicants with an undergraduate GPA of at least 3.0 must score 400 on the GMAT or 286 on the GRE. It is recommended that students have basic courses in accounting, principles of economics and principles of finance prior to enrolling in the program.

NON-THESIS REQUIREMENTS

Total Course Requirements 21 hours

- ECO 610 Introduction to Economic Development
- ECO 611 Economic Development Methods
- ECO 615 Directed Study in Economic Development
- ECO 617 Capstone in Economic Development
- ECO 618 Internship in Economic Development
- ECO 655 Cost Benefit Analysis
- FIN 610 Economic Development Finance
- Approved electives, 600-level (9 hrs)

Other Degree Requirements

Minimum overall grade point average of 3.00.

AREA:

Finance

Bachelor of Arts in Business/Bachelor of Science in Business CIP 52.0801

Note: The courses, listed under Entrance Standards for Business Programs at the beginning of this chapter, are required for this area if not taken in University Studies or the Business Core.

University Studies Requirements 38-49 hrs
(See *Academic Degrees and Programs.*)

Business Core Requirements 41 hrs
(See Core Requirements at beginning of this chapter.)

Required Courses 15 hrs
 ECO 305 Money and Banking
 FIN 332 Financial Management
 FIN 333 Principles of Investment
 FIN 334 Banking and Financial Institutions
 FIN 480 Senior Seminar in Finance

Required Limited Electives..... 12 hrs
Twelve hours of 300-level or higher FIN electives approved by advisor.

Business Electives (B.S.B. only) 3 hrs

Unrestricted Electives..... 0-11 hrs

Total Curriculum Requirements 120 hrs

AREA:

Finance/Commercial Banking Track

Bachelor of Arts in Business/Bachelor of Science in Business CIP 52.0801

Note: The courses, listed under Entrance Standards for Business Programs at the beginning of this chapter, are required for this area if not taken in University Studies or the Business Core.

University Studies Requirements 38-49 hrs
 (See *Academic Degrees and Programs.*)

Business Core Requirements 41 hrs
 (See Core Requirements at beginning of this chapter.)

Required Courses 15 hrs
 ECO 305 Money and Banking
 FIN 332 Financial Management
 FIN 333 Principles of Investment
 FIN 334 Banking and Financial Institutions
 FIN 480 Senior Seminar in Finance

Required Specialty Courses..... 12 hrs
 FIN 344 Principles of Lending and Financial Statements
 FIN 350 Introduction to Counter Threat Financing Methodologies
 FIN 354 Bank Compliance Issues
 FIN 537 Commercial Bank Management

Required Limited Electives..... 3 hrs
Three hours of 300-level or higher FIN electives approved by advisor.

Unrestricted Electives..... 0-11 hrs

Total Curriculum Requirements 120 hrs

AREA:

Finance/Financial Planning Track

Bachelor of Arts in Business/Bachelor of Science in Business CIP 52.0801

Note: The courses, listed under Entrance Standards for Business Programs at the beginning of this chapter, are required for this area if not taken in University Studies or the Business Core.

University Studies Requirements 38-49 hrs
 (See *Academic Degrees and Programs.*)

Business Core Requirements 41 hrs
 (See Core Requirements at beginning of this chapter.)

Required Courses 15 hrs
 ECO 305 Money and Banking
 FIN 332 Financial Management
 FIN 333 Principles of Investment
 FIN 334 Banking and Financial Institutions
 FIN 480 Senior Seminar in Finance

Required Specialty Courses..... 12 hrs
 ACC 302 Federal Income Tax
 FIN 331 Principles of Insurance
 FIN 336 Employee Benefits and Retirement
 FIN 338 Estate Planning

Required Limited Electives..... 3 hrs
Three hours of 300-level or higher FIN electives approved by advisor.

Unrestricted Electives..... 0-11 hrs

Total Curriculum Requirements 120 hrs

Finance Minor21 hrs
 ACC 200, 201; FIN 330, 332, 333; three hours of FIN or ECO electives; three hours of business electives (may include FIN or ECO). Six hours must be upper-level courses.

Department of Journalism and Mass Communications

114 Wilson Hall
 270-809-2387
 msu.jmc@murraystate.edu

Interim Chair: Debbie Owens. **Faculty:** Ezumah, Hinton, Magee, Norsworthy, Owens, Qualls, Shemberger, Thomas, Valentine, Vance, Welsh, White, Wright.

The Department of Journalism and Mass Communications, established July 1975, offers five majors leading to a bachelor's degree: advertising, graphic communications media, journalism, public relations, and television production. The department offers five minor programs: advertising, graphic communications technology, journalism, mass communications, and photography. Additionally, a Master of Arts or a Master of Science degree is offered in mass communications.

The mission of the Department of Journalism and Mass Communications is to prepare our graduates to be successful professionals at the beginning of and throughout all phases of their chosen careers in mass communications.

We expect our graduates to achieve the following learning objectives as outcomes of their education in our majors and programs:

- Understand and apply the principles and laws of freedom of speech and press as stated in the 1st Amendment to the United States Constitution and understand the meaning of freedom of expression around the world, including the right to dissent, to monitor and criticize power, and to assemble and petition for redress of grievances;
- Demonstrate an understanding of the history and role of professionals and institutions in shaping communications;
- Demonstrate an understanding of gender, race, ethnicity, sexual orientation and, as appropriate, other forms of diversity in domestic society in relation to mass communications;
- Demonstrate an understanding of the diversity of peoples and cultures and of the significance and impact of mass communications in a global society;

- Understand concepts and apply theories in the use and presentation of images and information;
- Demonstrate an understanding of professional ethical principles and work ethically in pursuit of truth, accuracy, fairness and diversity;
- Think critically, creatively and independently;
- Conduct research and evaluate information by methods appropriate to the communications professions in which they work;
- Write correctly and clearly in forms and styles appropriate for the communications professions, audiences and purposes they serve;
- Critically evaluate their own work and that of others for accuracy and fairness, clarity, appropriate style and grammatical correctness;
- Apply basic numerical and statistical concepts;
- Apply current tools and technologies appropriate for the communications professions in which they work, and to understand the digital world.

Murray State University's Department of Journalism and Mass Communications is one of only 118 programs accredited by the Accrediting Council on Education in Journalism and Mass Communications (ACEJMC). The undergraduate programs in advertising, journalism, public relations, and television production have been accredited since 1987 and were reaccredited May 2016 for a six-year period.

ACEJMC has established the following curriculum requirements: (1) a student must earn at least 72 hours of credit (of the 120 required for graduation) outside the department; (2) a student must complete all University Studies requirements; (3) a student may count no more than six semester hours of practicums, internships or cooperative education toward the major; (4) a student must complete a minor.

Students must pass ENG 105 or 150 with a grade of B or better and have basic keyboarding skills to be eligible for the department's basic courses, JMC 194, JMC 270, JMC 391, and JMC 394.

For more information contact the department at (270) 809-2387 or write to Chair, Department of Journalism and Mass Communications, Murray State University, 114 Wilson Hall, Murray, KY 42071-3311, email msu.jmc@murraystate.edu.

For information about the graduate program contact the graduate coordinator at (270) 809-5308 or write to Graduate Coordinator, Department of Journalism and Mass Communications, 114 Wilson Hall, Murray, KY 42071-3311, email msu.jmc@murraystate.edu.

Historic Wilson Hall, the second-oldest building on the campus, houses the main classrooms and offices for Journalism and Mass Communications, as well as *The Murray State News*, a national award-winning student newspaper and its companion website *The-News.org*. The department also publishes an annual alumni newsletter. Television production facilities are located on the 8th floor of the Price Doyle Fine Arts Center, and include MSU-TV 11 student cable access channel. The department is affiliated with such organizations as the Association for Education in Journalism and Mass Communication (AEJMC), the Association of Schools of Journalism and Mass Communication, Kentucky Intercollegiate Press Association, College Media Advisers, American Advertising Federation, and the Public Relations Society of America. Broadcast affiliations include the Broadcast Education Association and the Kentucky Broadcasters Association. There are active student chapters of the American Advertising Federation, the Public Relations Student Society of America, and Kappa Tau Alpha, honorary journalism fraternity.

Scholarships and Awards

The department offers scholarships, internships, graduate assistantships, and special awards in journalism and mass communications. For additional information, contact the Department of Journalism and Mass Communications, msu.jmc@murraystate.edu.

MAJOR: Advertising

Bachelor of Science/Bachelor of Arts Degree

CIP 09.0903

ACCREDITED BY: Accrediting Council on Education in Journalism and Mass Communications (ACEJMC)

University Studies Requirements 38-44 hrs
(See *Academic Degrees and Programs*.)

Required Courses 29 hrs

JMC 100T	Transitions
JMC 168	Contemporary Mass Media
JMC 270	Basic Audio/Video Production
JMC 330	Mass Media Effects
JMC 394	Introduction to Advertising
JMC 417	Advertising Copywriting and Layout
JMC 426	Advertising Media Sales
JMC 439	Advertising Media Planning
JMC 456	Advertising Campaigns
JMC 499	Senior Seminar
JMC 590	Mass Communication Law

Required Limited Electives..... 6 hrs

Choose from the following:

JMC 194	News Writing
JMC 322	Mass Media Study Abroad
JMC 336	Script Writing
JMC 384	Sports Media
JMC 385	Directed Individual Study
JMC 391	Public Relations Principles
JMC 400	International Mass Communications
JMC 440	Research Methods for Public Relations
JMC 586	Special Topics
JMC 596	Internship
MKT 360	Principles of Marketing
MKT 463	Consumer Behavior
Upper level MKT elective or MGT 350	

Co-Requirements for Majors..... 6 hrs¹

CSC 125	Internet and Web Page Design
<i>or</i>	
CSC 199	Introduction to Information Technology
GCM 153	Electronic Imaging

Required Minor 21-24 hrs

Unrestricted Electives..... 11-20 hrs

Total Curriculum Requirements 120 hrs

¹Or approved equivalent.

MAJOR:
Journalism

Bachelor of Science/Bachelor of Arts Degree CIP 09.0401

ACCREDITED BY: Accrediting Council on Education in Journalism and Mass Communications (ACEJMC)

University Studies Requirements 38-44 hrs
(See *Academic Degrees and Programs.*)

Core Courses 32 hrs

- JMC 100T Transitions
- JMC 168 Contemporary Mass Media
- JMC 194 Newswriting
- JMC 270 Basic Audio/Video Production
- JMC 304 Advanced Newswriting
- JMC 305 Copyediting
- JMC 330 Mass Media Effects
- JMC 397 Reporting for Print Media
- JMC 398 Reporting for Broadcast and Online Media
- JMC 499 Senior Seminar
- JMC 590 Mass Communication Law
- JMC 597 Advanced Reporting

Required Limited Electives..... 3 hrs

Choose from the following:

- GCM 250 Fundamentals of Photography and Photojournalism
- JMC 322 Mass Media Study Abroad
- JMC 336 Script Writing
- JMC 384 Sports Media
- JMC 385 Directed Individual Study
- JMC 396 Publication Design
- JMC 400 International Mass Communication
- JMC 445 Community Journalism
- JMC 466 Advanced Electronic New Reporting and Production
- JMC 492 Feature Writing
- JMC 586 Special Topics
- JMC 593 Opinion Writing
- JMC 596 Internship

Co-Requirements for Majors..... 6 hrs¹

- CSC 125 Internet and Web Page Design
- or*
- CSC 199 Introduction to Information Technology
- GCM 153 Electronic Imaging

Required Minor 21-24 hrs

Unrestricted Electives 11-20 hrs

Total Curriculum Requirements 120 hrs

¹Or approved equivalent.

MAJOR:
Public Relations

Bachelor of Science/Bachelor of Arts Degree CIP 09.0902

ACCREDITED BY: Accrediting Council on Education in Journalism and Mass Communications (ACEJMC)

University Studies Requirements 38-44 hrs
(See *Academic Degrees and Programs.*)

Required Courses 32 hrs

- JMC 100T Transitions
- JMC 168 Contemporary Mass Media
- JMC 194 Newswriting
- JMC 270 Basic Audio/Video Production
- JMC 330 Mass Media Effects
- JMC 391 Public Relations Principles
- JMC 412 Writing for Public Relations
- JMC 440 Research Methods for Public Relations
- JMC 444 Public Relations Strategies: Tools and Trends
- JMC 491 Advanced Public Relations
- JMC 499 Senior Seminar
- JMC 590 Mass Communication Law

Required Limited Electives..... 3 hrs

Choose from the following:

- BUS 140 Foundations of Business
- GCM 250 Fundamentals of Photography and Photojournalism
- JMC 305 Copyediting
- JMC 322 Mass Media Study Abroad
- JMC 336 Script Writing
- JMC 384 Sports Media
- JMC 385 Directed Individual Study
- JMC 394 Introduction to Advertising
- JMC 396 Publication Design
- JMC 397 Reporting for Print Media
- JMC 398 Reporting for Broadcast and Online Media
- JMC 400 International Mass Communications
- JMC 492 Feature Writing
- JMC 586 Special Topics
- JMC 596 Internship
- MGT 350 Fundamentals of Management
- MKT 360 Principles of Marketing

Co-Requirements for Majors..... 6 hrs¹

- CSC 125 Internet and Web Page Design
- or*
- CSC 199 Introduction to Information Technology
- GCM 153 Electronic Imaging

Required Minor 21-24 hrs

Unrestricted Electives 11-20 hrs

Total Curriculum Requirements 120 hrs

¹Or approved equivalent.

MAJOR:

Television Production

Bachelor of Science/Bachelor of Arts Degree CIP 09.0701

ACCREDITED BY: Accrediting Council on Education in Journalism and Mass Communications (ACEJMC)

University Studies Requirements 38-44 hrs
(See *Academic Degrees and Programs.*)

Required Courses 32 hrs

- JMC 100T Transitions
- JMC 168 Contemporary Mass Media
- JMC 270 Basic Audio/Video Production
- JMC 330 Mass Media Effects
- JMC 336 Script Writing
- JMC 358 Television Studio Production
- JMC 369 Audio/Video Post Production
- JMC 448 Television Production Operations
- JMC 451 Television Field Production
- JMC 455 Television Program Development
- JMC 499 Senior Seminar
- JMC 590 Mass Communication Law

Required Limited Elective 3 hrs

Choose from the following:

- JMC 322 Mass Media Study Abroad
- JMC 384 Sports Media
- JMC 385 Directed Individual Study
- JMC 400 International Mass Communications
- JMC 391 Public Relations Principles
- JMC 394 Introduction to Advertising
- JMC 398 Reporting for Broadcast and Online Media
- JMC 426 Advertising Media Sales
- JMC 440 Research Methods for Public Relations
- JMC 586 Special Topics
- JMC 596 Internship

Co-Requirements for Majors..... 6 hrs¹

- CSC 125 Internet and Web Page Design
- or*
- CSC 199 Introduction to Information Technology
- GCM 153 Electronic Imaging

Required Minor 21-24 hrs

Unrestricted Electives..... 11-20 hrs

Total Curriculum Requirements 120 hrs

¹Or approved equivalent.

Advertising Minor..... 24 hrs

JMC 394, 417, 426, 439, 456; MKT 360, 463, upper-level MKT course or MGT 350. Six hours must be upper-level courses.

Journalism Minor 24 hrs

JMC 194, 270, 304, 305, 397, 398, 590, and 597 and corequisites CSC 125 and GCM 153. Advertising, Public Relations, and Television Production majors may substitute GCM 250 for JMC 270 and any upper-level JMC course for JMC 590. Public Relations majors may substitute JMC 336 for JMC 194.

Mass Communications Minor 24 hrs

JMC 168, 194, 330, 590 and 12 hours of approved JMC electives. Six hours must be upper-level courses. Students cannot minor in mass communications if they have a major in the department. They can, however, minor in advertising.

Graduate Program

Interim Graduate Coordinator - Bellarmine Ezumah
270-809-3171

The objectives of the Master of Arts and the Master of Science in Mass Communications are: 1) to prepare graduate students for positions in mass communications and research; 2) to provide a foundation for study at the doctoral level; and 3) to prepare graduate students for teaching mass communications at the college level.

Requirements for Admission

Applicants must meet the Murray State University requirements (see *Graduate Admissions*). Additional requirements follow.

Unconditional

Unconditional admission is granted to applicants who have a bachelor's degree from an ACEJMC-accredited, or similarly rigorous, program in any mass communications field and whose undergraduate GPA is 2.75 or higher. International students must also submit minimum TOEFL scores of 213 on the computer-based test, with at least 21 on each of the three verbal areas, or 20 in each of the four areas of the Internet-based test, or 550 on the paper-based test. Students must submit IELTS scores of a minimum of 5.5 or higher in each of the four bands and the total band.

Conditional

Conditional admission may be granted to applicants who have a bachelor's degree from an accredited college or university in fields other than mass communications or whose undergraduate GPA is between 2.50 and 2.74. The graduate coordinator may require up to nine hours of additional prerequisite courses, including JMC 168, for any student admitted conditionally. Conditional students are admitted to full standing after completion of nine hours of graduate course with a 3.0 GPA or better and no single grade below a B.

International students entering the JMC program from the Murray State University English as Second Language program (ESL) must complete Level 6, AND students must submit TOEFL scores of at least 497 paper-based or at of at 213 computer-based test, including at least 21 on each of the three verbal areas, or 18 in each of the four areas of the Internet-based test in addition to the above requirements. Students entering the mass communications program from the Academic English for Non-Native Speakers (AEP) must submit a TOEFL score of at least 523.

**Master of Arts or Master of Science
Mass Communications**

CIP 09.0101

NON-THESIS REQUIREMENTS ONLY

Total Course Requirements 31 hours

- JMC 600 Seminar in International Mass Communications
- or*
- JMC 615 American Media History
- and*
- JMC 630 Theories of Mass Communications
- JMC 610 Introduction to Graduate Studies
- JMC 648 Mass Media Industries^{PT}
- JMC 660 Methods of Communications Research^R
- JMC 670 Philosophical and Ethical Concepts of the Mass Media^L
- JMC 690 Comprehensive Project

Four courses chosen from the following:

- JMC 600 Seminar in International Mass Communications
- JMC 601 Media, Culture, Gender and Race
- JMC 602 Seminar in Advertising
- JMC 603 Seminar in Public Relations
- JMC 615 American Media History

- JMC 616 Professional Internship in Mass Communications
- JMC 620 Strategic Communications
- JMC 622 JMC Study Abroad
- JMC 658 New Technologies
- JMC 677 Directed Individual Study
- JMC 685 Specialized Mass Communications
- JMC 686 Special Topics

Elective (600-level, approved by graduate coordinator)

Other Degree Requirements

- The semester before enrolling in JMC 690, the student must meet with the graduate coordinator, present a proposal for the project, and gain approval of the proposal.
- For the Master of Arts degree only, the candidate must demonstrate competency in an approved foreign language.

**Master of Arts or Master of Science
Mass Communications/Public Relations Concentration**

CIP 09.0101

NON-THESIS REQUIREMENTS ONLY

Total Course Requirements 31 hours

- JMC 601 Media, Culture, Gender and Race
- JMC 602 Seminar in Advertising
- JMC 603 Seminar in Public Relations
- JMC 610 Introduction to Graduate Studies
- JMC 620 Strategic Communications
- JMC 630 Theories of Mass Communications
- JMC 658 New Technologies
- JMC 660 Methods of Communications Research^R
- JMC 670 Philosophical and Ethical Concepts of the Mass Media^L
- JMC 690 Comprehensive Project

One course chosen from the following:

- COM 682 Crisis Communication
- JMC 616 Professional Internship in Mass Communications
- MKT 667 Marketing Planning and Application
- NLS 675 Social Entrepreneurship

Other Degree Requirements

- JMC 391 is required for students without an undergraduate degree in Public Relations or closely-related discipline. JMC 391 may not be used for graduate credit; may be taken concurrently with JMC 610.
- The semester before enrolling in JMC 690, the student must meet with the graduate coordinator, present a proposal for the project, and gain approval of the proposal.
- For the Master of Arts degree only, the candidate must demonstrate competency in an approved foreign language.

CERTIFICATE:

Public Relations Practice CIP 09.0101

Total Course Requirements 18 hours

- JMC 601 Media, Culture, Gender and Race
- JMC 602 Seminar in Advertising
- JMC 603 Seminar in Public Relations
- JMC 620 Strategic Communications
- JMC 658 New Technologies
- One course chosen from the following:*
- COM 682 Crisis Communication
- JMC 616 Professional Internship in Mass Communications

- MKT 667 Marketing Planning and Application
- NLS 675 Social Entrepreneurship

Graphic Communications Media

This program is designed to prepare individuals for employment at the supervisory and management levels in the printing and graphic communications industries.

Graduates of this program will be qualified to function as entry level managers, production planners, quality control specialists, production control expeditors, estimators, sales representatives, or customer service representatives.

We expect our Graphic Communications media students to learn how to:

1. Write clearly and accurately
2. Use media technology appropriate to the task
3. Understand data and statistics
4. Think creatively
5. Exhibit professional career-related behavior

MAJOR:

Graphic Communications Media

Bachelor of Science Degree

CIP 10.0301

University Studies Requirements 38-44 hrs

(See *Academic Degrees and Programs.*)

University Studies selections must include:

•**Scientific Inquiry, Methodologies, and Quantitative Skills**

STA 135 Introduction to Probability and Statistics

•**Social and Self-Awareness and Responsible Citizenship**

ECO 140 Contemporary Economics

or

ECO 230 Principles of Macroeconomics

or

ECO 231 Principles of Microeconomics

•**University Studies Electives**

CSC 125 Internet and Web Page Design

or

CSC 199 Introduction to Information Technology

Required Courses 35 hrs

- JMC 100T Transitions
- GCM 151 Introduction to Graphic Communications
- GCM 153 Electronic Imaging
- GCM 250 Fundamentals of Photography and Photojournalism
- GCM 252 Digital Image Conversion
- GCM 351 Graphic Communication Processes
- GCM 354 Principles of Estimating
- GCM 365 Customer Service in Print Media
- GCM 441 Desktop Multimedia
- GCM 442 Digital Interactive Technology
- GCM 454 Color Management and Quality Control
- GCM 558 Trends in Graphic Communications
- JMC 499 Senior Seminar

Required Limited Elective 3 hrs

Choose from the following:

- ACC 200 Principles of Financial Accounting
- ART 353 Web Design
- JMC 394 Introduction to Advertising
- JMC 596 Internship
- MGT 350 Fundamentals of Management
- MKT 360 Principles of Marketing

Co-Requirements for Majors..... 6 hrs
 ART 111 Two-Dimensional Design
 ENG 324 Technical Writing

Required Minor 21-24 hrs

Unrestricted Electives..... 13-19 hrs

Total Curriculum Requirements 120 hrs

Graphic Communications Technology Minor 24 hrs
 GCM 151, 153 and 18 hours selected from the following courses:
 GCM 250, 252, 351, 365, 441, 442, or 454. Six hours must be upper-level courses. Graphic Communications Media majors may not choose this minor.

Photography Minor 21 hrs
 GCM 153, 250 and 15 hours selected from the following courses:
 ART 350, 382; GCM 350, 357, 358, 359, 360, 440, 454; JMC 270. GCM majors may substitute an elective from this list for GCM 153 and GCM 250. Six hours must be upper-level courses.

Department of Management, Marketing and Business Administration

451 Business Building
 270-809-6196
 msu.mgmtmkt@murraystate.edu

Interim Chair: R. Heath Keller. **Faculty:** Andonova, Betts, Dublin, Holmes, Humphreys, Huang, Johnston, Keller, Lefebvre, Linnhoff, Miles, Muuka, North, Ray, Rose, Seaton, Sheets, Smith, Super.

The Department of Management, Marketing and Business Administration offers many curriculum alternatives for students. Students completing an area in management, marketing, or business administration meet the strongest requirements for each of these fields. Students may also focus on a major in business administration and then choose a minor outside the Bauernfeind College of Business to broaden their expertise in another field of interest. Additionally, a student may pursue a minor in business administration, entrepreneurship, golf course management, management, marketing, or real estate.

Within the management area, two tracks are offered which permit students to direct their studies toward specific management fields: entrepreneurship or human resources. These programs prepare students for both beginning work experiences and for graduate study in business. Today's manager must combine sophisticated decision-making ability with the ability to lead and direct others. The curriculum in management is designed to provide professional training and to develop the competency of students for careers in the management of the business and economic affairs of modern organizations.

Logistics and supply chain management area students will be educated in core business disciplines; utilization of problem-solving and decision-making skills in business, ethics, and information technology; and the multicultural dimensions of the modern business environment. Students will also develop competencies in transportation and logistics, organizational behavior, supply chain management, and data analysis to prepare them for employment within the many transportation and logistics firms within the region and the state.

Marketing graduates are involved in the development of creative solutions to marketing problems that arise in the link between production of goods and services and their final use. The marketing degree prepares students for careers in a wide range of fields including retailing, sales management, advertising, and two of the fastest growing and most exciting fields – international marketing and e-business.

Within the business administration area, the business administration program prepares students for a variety of career opportunities. It provides students with a broad overall understanding of the different functional disciplines of business and prepares them for positions of responsibility in business organizations. A major in business administration is offered for those students wishing to minor in an area outside of business.

The Real Estate Program provides the credits needed to meet the educational requirements for a Kentucky real estate salesperson or broker license. A minor in real estate can be earned by taking offered real estate courses and approved electives.

Business Administration

Associate of Arts Degree

CIP 52.0101

University Studies Requirements 38-43 hrs
 (See *Academic Degrees and Programs.*)

University Studies selections must include:

•**Scientific Inquiry, Methodologies, and Quantitative Skills**

MAT 220 Business Calculus

or

MAT 250 Calculus and Analytic Geometry I

One University Studies science course with lab

One University Studies science or mathematics course

•**Social and Self-Awareness and Responsible Citizenship**

ECO 230 Principles of Macroeconomics

One Ethics, Social Responsibility and Civic Engagement course

•**World's Historical, Literary, and Philosophical Traditions**

CIV 201 World Civilizations I

or

CIV 202 World Civilizations II

HUM 211 The Western Humanities Tradition

•**University Studies Electives**

CSC 199 Introduction to Information Technology

ECO 231 Principles of Microeconomics

Required Courses 15 hrs

ACC 200 Principles of Financial Accounting

ACC 201 Principles of Managerial Accounting

FTR 100T Transitions

BUS 215 Business Communication

CIS 243 Business Statistics I

LST 240 Legal Environment of Business

Business Electives¹..... 3 hrs

Unrestricted Electives..... 0-4 hrs

Total Curriculum Requirements 60-61 hrs

¹Elective choices must be approved by advisor.

AREA:

Business Administration

Bachelor of Arts in Business/Bachelor of Science in Business CIP 52.0101

Note: The courses, listed under Entrance Standards for Business Programs at the beginning of this chapter, are required for this area if not taken in University Studies or the Business Core.

University Studies Requirements 38-49 hrs
(See *Academic Degrees and Programs.*)

Business Core Requirements..... 41 hrs
(See Core Requirements at beginning of this chapter.)

Required Courses 3 hrs

Select from the following international business courses:

- BUS 396 International Business Seminar
- BUS 515 Communicating in an International Business Environment
- COM 340 Intercultural Communication
- ECO 315 Comparative Economic Systems
- ECO 410 Economic Development
- ECO 460 International Trade and Finance
- FIN 461 International Financial Management
- MGT 557 International Management
- MKT 568 Global Marketing Management

Business Electives¹ 21-27 hrs

B.S.B. only: 27 hours of business electives, not to exceed nine hours in any one prefix, with at least 18 hours at the 300-level or above.

B.A.B. only: 21 hours of business electives, not to exceed nine hours in any one prefix, with at least 12 hours at the 300-level or above.

Unrestricted Electives 6-11 hrs

Total Curriculum Requirements 120 hrs

¹A maximum of three hours of cooperative education credit counts toward the degree.

AREA:

Business Administration/International Business Track

Bachelor of Arts in Business/Bachelor of Science in Business CIP 52.0101

Note: The courses, listed under Entrance Standards for Business Programs at the beginning of this chapter, are required for this area if not taken in University Studies or the Business Core.

University Studies Requirements 38-49 hrs
(See *Academic Degrees and Programs.*)

Business Core Requirements..... 41 hrs
(See Core Requirements at beginning of this chapter.)

Business Electives¹ 21-27 hrs

B.S.B. only: 27 hours of business electives, not to exceed nine hours in any one prefix, with at least 15 hours at the 300-level or above.

B.A.B. only: 21 hours of business electives, not to exceed nine hours in any one prefix, with at least 15 hours at the 300-level or above.

Twelve of the business elective hours must be chosen from the following:

- BUS 396 International Business Seminar
- BUS 515 Communicating in an International Business Environment
- ECO 311 European Economic History
- ECO 315 Comparative Economic Systems
- ECO 320 Women in the Global Economy

- ECO 325 Economics of Corruption in Transition and Developing Countries
- ECO 410 Economic Development
- ECO 460 International Trade and Finance
- LSC 475 International Transportation and Logistics
- MGT 557 International Management
- MKT 568 Global Marketing Management

Required International Electives 9 hrs

Nine hours of electives, with at least three hours at the 300-level or above. Select from among AGR 533, ANT 311, ARC 325, COM 340, CRJ 575, ENG 250, ENG 303-308, ENG 315, GSC 330, HIS 331, HIS 352, HIS 401-415, HIS 478, HIS 479, HIS 481, JMC 400, POL 450-459, SOC 250, SOC 440, SOC 465, SPA 311, SWK 346, SWK 442, or any courses which satisfy the University Studies Global Awareness requirement.

Unrestricted Electives 0-5 hrs

Total Curriculum Requirements 120 hrs

¹A maximum of three hours of cooperative education credit counts toward the degree.

MAJOR:

Business Administration

Bachelor of Arts in Business/Bachelor of Science in Business CIP 52.0101

Note: The courses, listed under Entrance Standards for Business Programs at the beginning of this chapter, are required for this major if not taken in University Studies or the Business Core.

University Studies Requirements 38-49 hrs
(See *Academic Degrees and Programs.*)

Business Core Requirements..... 41 hrs
(See Core Requirements at beginning of this chapter.)

Required Courses 3 hrs

Select one from the following international business courses:

- BUS 396 International Business Seminar
- BUS 515 Communicating in an International Business Environment
- COM 340 Intercultural Communication
- ECO 315 Comparative Economic Systems
- ECO 410 Economic Development
- ECO 460 International Trade and Finance
- FIN 461 International Financial Management
- MGT 557 International Management
- MKT 568 Global Marketing Management

Business Electives¹ 6 hrs

Required Minor¹ 21 hrs

Unrestricted Electives 0-11 hrs

Total Curriculum Requirements 120 hrs

¹A maximum of three hours of cooperative education credit counts toward the degree.

AREA:

Management

Bachelor of Arts in Business/Bachelor of Science in Business CIP 52.0201

Note: The courses, listed under Entrance Standards for Business Programs at the beginning of this chapter, are required for this area if not taken in University Studies or the Business Core.

University Studies Requirements 38-49 hrs
(See *Academic Degrees and Programs.*)

Business Core Requirements..... 41 hrs
(See Core Requirements at beginning of this chapter.)

Required Courses 21 hrs
LSC 452 Process Management
MGT 550 Human Resources Management
MGT 551 Organizational Behavior
MGT 557 International Management
MGT electives (9 hrs)

Business Electives¹ (B.A.B.) 3 hrs
Business Electives¹ (B.S.B.) 9 hrs

Unrestricted Electives 6-11 hrs

Total Curriculum Requirements 120 hrs
¹A maximum of three hours of cooperative education credit counts toward the degree.

AREA:

Management/Entrepreneurship Track

Bachelor of Arts in Business/Bachelor of Science in Business CIP 52.0201

Note: The courses, listed under Entrance Standards for Business Programs at the beginning of this chapter, are required for this area if not taken in University Studies or the Business Core.

University Studies Requirements 38-49 hrs
(See *Academic Degrees and Programs.*)

Business Core Requirements..... 41 hrs
(See Core Requirements at beginning of this chapter.)

Required Courses 12 hrs
LSC 452 Process Management
MGT 550 Human Resources Management
MGT 551 Organizational Behavior
MGT 557 International Management

Entrepreneurship Track 12 hrs
Choose from the following:

ECO 521 Seminar in Economic Thought: Rand's Objectivism
MGT 358 Entrepreneurial Business Plan Development
MGT 420 Entrepreneurial Strategic Growth
MGT 440 Entrepreneurial Innovation and Creativity
MGT 445 New Product Development
MGT 488 Cooperative Education/Internship
MGT 490 Entrepreneurial Consulting
MGT 595 Special Problems
MKT 390 Entrepreneurial Marketing

Note: A maximum of three hours of cooperative education credit counts toward the degree.

Business Electives (B.A.B.) 0 hrs
Business Electives (B.S.B.) 6 hrs

Unrestricted Electives..... 6-11 hrs

Total Curriculum Requirements 120 hrs

AREA:

Management/Human Resources Track

Bachelor of Arts in Business/Bachelor of Science in Business CIP 52.0201

Note: The courses, listed under Entrance Standards for Business Programs at the beginning of this chapter, are required for this area if not taken in University Studies or the Business Core.

University Studies Requirements 38-49 hrs
(See *Academic Degrees and Programs.*)

Business Core Requirements..... 41 hrs
(See Core Requirements at beginning of this chapter.)

Required Courses 12 hrs
MGT 550 Human Resources Management
MGT 551 Organizational Behavior
MGT 557 International Management
MGT 558 Advanced Topics in Human Resource Management

Human Resource Track 12 hrs

MGT 553 Human Resource Selection
MGT 559 Compensation Management
And two courses from the following:
MGT 488 Cooperative Education/Internship
MGT 555 Training and Development
MGT 572 Organization Development
MGT 575 Labor-Management Relations
MGT 577 Labor Law and Public Policy
OSH 192 Introduction to Occupational Safety and Health
OSH 550 Safety and Health Program Management and Training
Note: A maximum of three hours of cooperative education credit counts toward the degree.

Business Electives (B.A.B.) 0 hrs
Business Electives (B.S.B.) 6 hrs

Unrestricted Electives..... 6-11 hrs

Total Curriculum Requirements 120 hrs

AREA:

Marketing

Bachelor of Arts in Business/Bachelor of Science in Business CIP 52.1401

Note: The courses, listed under Entrance Standards for Business Programs at the beginning of this chapter, are required for this area if not taken in University Studies or the Business Core.

University Studies Requirements 38-49 hrs
(See *Academic Degrees and Programs.*)

Business Core Requirements..... 41 hrs
(See Core Requirements at beginning of this chapter.)

Required Courses 21 hrs
MKT 460 Integrated Marketing Communications
MKT 463 Consumer Behavior
MKT 565 Marketing Research
MKT 568 Global Marketing Management
Nine hours of MKT electives chosen from the following:
(Six hours must be 300-level or higher.)
MKT 285 Emerging Technologies in Marketing

- MKT 361 Selling and Sales Management
- MKT 369 Retailing Management
- MKT 390 Entrepreneurial Marketing
- MKT 462 Sales Management
- MKT 475 Marketing Strategies for E-Commerce
- MKT 488 Cooperative Education/Internship
- MKT 489 Cooperative Education/Internship
- MKT 564 Marketing Channels
- MKT 578 Social Media and Marketing
- MKT 585 Location Analytics in Marketing
- MKT 595 Special Problems

Note: A maximum of three hours of cooperative education credit counts toward the degree.

Business Electives (B.A.B.) 3 hrs
Business Electives (B.S.B.)..... 9 hrs

Unrestricted Electives..... 6-11 hrs

Total Curriculum Requirements 120 hrs

¹MKT 360 must be taken as a prerequisite by all business program students.

AREA:

Marketing/Entrepreneurship Track

Bachelor of Arts in Business/Bachelor of Science in Business CIP 52.1401

Note: The courses, listed under Entrance Standards for Business Programs at the beginning of this chapter, are required for this area if not taken in University Studies or the Business Core.

University Studies Requirements 38-49 hrs
 (See *Academic Degrees and Programs*.)

Business Core Requirements..... 41 hrs
 (See Core Requirements at beginning of this chapter.)

Required Courses 21 hrs

- MKT 460 Integrated Marketing Communications
- MKT 463 Consumer Behavior
- MKT 565 Marketing Research
- MKT 568 Global Marketing Management
- Nine hours of MKT electives chosen from the following:
 (Six hours must be 300-level or higher.)
- MKT 285 Emerging Technologies in Marketing
- MKT 361 Selling and Sales Management
- MKT 369 Retailing Management
- MKT 390 Entrepreneurial Marketing
- MKT 396 International Marketing Seminar
- MKT 462 Sales Management
- MKT 469 Retail Merchandising
- MKT 475 Marketing Strategies for E-Commerce
- MKT 488 Cooperative Education/Internship
- MKT 489 Cooperative Education/Internship
- MKT 578 Social Media and Marketing
- MKT 579 Social Media Consulting
- MKT 585 Location Analytics in Marketing
- MKT 595 Special Problems

Note: A maximum of three hours of cooperative education credit counts toward the degree.

Entrepreneurship Track 12 hrs

Choose from the following:

- ECO 521 Seminar in Economic Thought: Rand's Objectivism
- MGT 358 Entrepreneurial Business Plan Development

- MGT 420 Entrepreneurial Strategic Growth
- MGT 440 Entrepreneurial Innovation and Creativity
- MGT 445 New Product Development
- MGT 490 Entrepreneurial Consulting
- MKT 390 Entrepreneurial Marketing
- MKT 488 Cooperative Education/Internship
- MKT 595 Special Problems

Business Electives (B.A.B.) 0 hrs
Business Electives (B.S.B.)..... 6 hrs

Unrestricted Electives..... 6-11 hrs

Total Curriculum Requirements 120 hrs

¹MKT 360 must be taken as a prerequisite by all business program students.

Logistics and Supply Chain Management

The Logistics and Supply Chain Management program prepares individuals to manage and coordinate all logistical functions in an enterprise, ranging from acquisitions to receiving and handling, through internal allocation of resources to operations units, to the handling and delivery of output. It includes instruction in acquisitions and purchasing, inventory control, storage and handling, just-in-time manufacturing, logistics planning, shipping and delivery management, transportation, quality control, resource estimation and allocation, and budgeting.

AREA:

Logistics and Supply Chain Management

Bachelor of Arts in Business/Bachelor of Science in Business CIP 52.0203

Note: The courses, listed under Entrance Standards for Business Programs at the beginning of this chapter, are required for this area if not taken in University Studies or the Business Core.

University Studies Requirements 38-49 hrs
 (See *Academic Degrees and Programs*.)

Business Core Requirements..... 41 hrs
 (See Core Requirements at beginning of this chapter.)

Required Courses 21 hrs

Note: Students must maintain a cumulative GPA of 2.50 or higher in the following courses.

- LSC 452 Process Management
- LSC 461 Purchasing and Supply Management
- LSC 470 Logistics Management
- LSC 475 International Transportation and Logistics
- LSC 480 Supply Chain Management Strategy
- MGT 550 Human Resource Management
- MGT 551 Organizational Behavior

Required Limited Electives¹ (B.A.B.) 3 hrs

Required Limited Electives¹ (B.S.B.)..... 6 hrs

Choose electives from the following:

- CIS 543 Data Analysis and Modeling
- CIS 548 Enterprise Resource Planning
- IET 587 Quality Control
- IET 591 Materials Management
- MGT 445 New Product Development
- MGT 557 International Management
- MGT 575 Labor Management Relations
- MKT 485 Business GIS in Marketing
- MKT 564 Marketing Channels

- Business Electives¹ (B.S.B. only) 3 hrs**
- Unrestricted Electives 6-11 hrs**
- Total Curriculum Requirements 120 hrs**

¹A maximum of three hours of cooperative education credit counts toward the degree.

Business Administration Minor 24 hrs
ACC 200, 201; CSC 199; ECO 230, 231; FIN 330; MGT 350; and MKT 360. Six hours must be upper-level courses.

Entrepreneurship Minor 21 hrs
ACC 200; MGT 350, 358, 420; MKT 360; and six hours chosen from the following: ECO 521; MGT 440, 445, 488, 490; MKT 369 or 475. Six hours must be upper-level courses.

Golf Course Management 21 hrs
ACC 200; AGR 160, 345, 460 (two semesters); MGT 350; and three hours of electives selected from either AGR 462 or MGT 370. Six hours must be upper-level courses.

Management Minor 21 hrs
ACC 200, 201; MGT 350; and 12 hours of approved management electives, at least three hours of which must be upper-level. Six of 21 hours must be upper-level courses.

Marketing Minor 21 hrs
ACC 200, ECO 231, MKT 360; and 12 hours of approved marketing electives, at least three hours of which must be upper-level. Six of 21 hours must be upper-level courses.

Real Estate Minor 21 hrs
RES 132, 242, six hours of real estate electives and nine hours of approved business electives, at least six hours of which must be upper-level. Six of 21 hours must be upper-level courses.

Department of Organizational Communication

312 Wilson Hall
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rbokeno@murraystate.edu

Chair: R. Michael Bokeno. **Faculty:** Bokeno, Coel, Cox, Faulkner, Gesler, Miller, Parish, Smith, Tillson, Worley.

The Department of Organizational Communication offers programs leading to either the Bachelor of Arts or the Bachelor of Science degree. The major offered is organizational communication. The department also offers minors in organizational communication and sports communication.

Organizational communication is the study of strategic communication processes and skills that create successful organizations. Because *organizing* people to work together depends upon effective *communicating*, the organizational communication major provides professional development for a wide variety of careers.

Students learn methods for assessing communication problems, designing communication processes, and improving communication quality in organizations. Students develop skills in managerial communication, teamwork, leadership, interpersonal communication, conflict resolution, public speaking, training, decision-making and other communication-based competencies. Because all employers seek employees who can build relationships, promote ideas, guide

teams, facilitate collaboration, and provide leadership, graduates are highly marketable and successful.

The department also provides exciting opportunities for real world experience with our internship program. Students will work with an internship advisor to be placed in a work setting while gaining college credit. Here, students will be able to immediately apply communication theories and competencies in their workplace, reflect on their findings, and discuss those with their faculty internship advisor.

The major is compatible with all fields of study allowing students to select a minor that best fits their personal interests and goals (e.g., marketing, management, advertising, psychology, Spanish, math, biology, English, or non-profit leadership studies).

The total number of credit hours earned in business courses (ACC, BUS, CIS, FIN, MGT, MKT, RES, LST 240, LST 440) cannot exceed 25 percent of total curriculum requirements.

The Department of Organizational Communication requires that a 2.50 grade point average (GPA) must be maintained in any or all COM majors or minors in order to receive a degree from Murray State University. A student failing to maintain a 2.50 will not be permitted to take new courses in the department until the GPA reaches or exceeds 2.50.

The department offers a limited number of assistantships/scholarships.

Major: Organizational Communication

Bachelor of Arts/Bachelor of Science

CIP 09.0901

University Studies Requirements 38-44 hrs
(See *Academic Degrees and Programs*.)

Required Courses 31 hrs

- COM 100T Transitions
- COM 201 Communication Foundations and Theory
- COM 331 Interpersonal Communication
- COM 340 Intercultural Communication
- COM 353 Team Communication and Leadership
- COM 361 Career Presentations¹
- or*
- COM 461 Persuasive Communication¹
- COM 380 Organizational Communication
- COM 384 Communication Skills for Professionals
- COM 390 Communication Research
- COM 580 Advanced Organizational Communication
- COM 595 Senior Seminar in Organizational Communication

Required Electives² 9 hrs

Choose from the following:

- COM 215 Introduction to Sports Communication
- COM 260 Communication Ethics
- COM 315 Coaching as Communication
- COM 345 Diversity, Communication, and the Workplace
- COM 361 Career Presentations¹
- COM 367 Communication and Critical Thought
- COM 386 Corporate Communication
- COM 401 Contemporary Issues in Communication
- COM 422 Communication and Technology
- COM 439 Conflict and Communication
- COM 461 Persuasive Communication¹
- COM 488 Cooperative Education/Internship
- COM 489 Cooperative Education/Internship
- COM 510 Internship
- COM 530 Seminar in Interpersonal Communication
- COM 553 Advanced Team Communication and Leadership
- COM 577 Organizational Learning and Dialogue

Required Minor 21 hrs
Unrestricted Electives 15-21 hrs

Total Curriculum Requirements 120 hrs
¹Majors must take either COM 361 or COM 461 as a required course. The remaining course can also be taken as a required elective towards the major.
²A maximum of three hours may be chosen with advisor approval from courses not on the list.

Organizational Communication Minor 24 hrs
 COM 201, 331, 380, 384, 390, 595 and six hours of restricted electives from the following: COM 215, 260, 340, 345, 353, 361, 367, 386, 422, 439, 461, 580. (Three hours may be other courses if approved by minor advisor.) Six hours must be upper-level courses.

Sports Communication Minor 21 hrs
 COM 215, 315, 386, 439 and nine hours of restricted electives from the following: COM 353, 401, 510; HIS 330; JMC 384; MGT 370; MKT 285; PSY 222; SOC 436. Six hours must be upper-level courses.

Graduate Programs

Graduate Coordinator - Frances Smith
 fsmith@murraystate.edu

The Department of Organizational Communication offers the degrees of Master of Arts or Master of Science in Organizational Communication. Graduate study in organizational communication prepares students for effective membership, humane management, and prudent leadership in organizations. Coursework focuses on various organizational, interpersonal, and small group communication processes vital to personal and organizational success. Students acquire advanced communication knowledge and skills in such areas as conflict resolution, managerial communication, leadership, customer relations, team communication, organizational change, healthcare communication, persuasion, intercultural communication, training, and organizational learning.

The program, which is theoretically and experientially oriented, provides students with course offerings allowing in-depth study and opportunity to pursue individual interests. Coursework is designed for both focused study and maximum flexibility to meet the unique career goals of each student. The program prepares individuals (1) to enter areas of business, industry, government, and nonprofit administration, where knowledge of and competence in communication are essential; (2) to enter other vocations where communication is of prime importance (e.g. the ministry, law, public service); (3) to continue study of communication at the doctoral level; and (4) to teach organizational communication at the college level.

Murray and Regional Campus Options

The graduate degree is delivered in multiple formats. At the Murray campus, the graduate program can be completed through a combination of night, online, and independent study courses. Our online program is growing. These options provide greater flexibility for working adults to pursue the degree part-time or full-time based on their schedules. Second, a 16-month, cohort program is offered on a rotating basis at our regional campuses depending on demand. The combination of weekend and online instruction maximizes learning while minimizing the number of class meetings. Each course in the accelerated format is five weeks long. Students take two or three courses each semester during the 16-month timeframe. Once completed, the 16-month program moves to the next regional campus.

Requirements for Admission

Applicants must meet the Murray State University requirements (see *Graduate Admissions*). Additional departmental requirements are as follows.

Unconditional

An overall GPA of 3.0 in the last two years of undergraduate work with at least a minor in communication, business, or related field.

Conditional

An undergraduate GPA of at least 2.50.

Conditional students may be required to complete certain undergraduate courses before beginning the program. After beginning the program, conditional students will undergo a review after their first nine hours and are admitted to full standing after completion of *B* or better work and approval of the graduate program coordinator.

International students entering the organizational communication program from the Murray State University English as a Second Language (ESL) program must have completed Level 6 and must score at least 18 in each test area on the TOEFL Internet-based test, a 500 on the TOEFL paper-based test or 178 on the computer-based test. International students who have not completed the ESL program must score at least 18 in each test area on the TOEFL Internet-based test, a 550 on the TOEFL paper-based test or 213 on the computer-based test.

Master of Arts

Organizational Communication CIP 09.0901

THESIS REQUIREMENTS ONLY

Total Course Requirements 33 hours

- COM 622 Communication Technology in Organizations
or
 - COM 631 Interpersonal Communication at Work
or
 - COM 639 Seminar in Conflict Resolution
 - COM 672 Communication in Instructional Environments¹
 - COM 680 Advanced Organizational Communication^{PT,2}
 - COM 689 Foundations of Organizational Communication¹
 - COM 690 Research Methods in Organizational Communication^R
 - COM 693 Readings in Communication Research
 - COM 698-699 Thesis
- Approved COM elective, 600-level (3 hrs)
 Approved electives, 600-level (6 hrs)

Other Degree Requirements

- Oral defense of the thesis.
- Comprehensive examination designed to facilitate integrative learning.

Master of Science

Organizational Communication CIP 09.0901

NON-THESIS REQUIREMENTS ONLY

Total Course Requirements 30 hours

- COM 622 Communication Technology in Organizations
or
- COM 631 Interpersonal Communication at Work
or
- COM 639 Seminar in Conflict Resolution
- COM 672 Communication in Instructional Environments¹
- COM 680 Advanced Organizational Communication^{PT,2}

COM 689 Foundations of Organizational Communication¹
 COM 690 Research Methods in Organizational Communication^R
 Approved COM electives, 600-level (6 hrs)
 Approved electives, 600-level (9 hrs)

Other Degree Requirements

Comprehensive examination designed to facilitate integrative learning.

¹Required of teaching assistants only.

²If COM 580 or 585 was not taken for undergraduate degree.

CERTIFICATE:

Organizational Dynamics

CIP 09.0999

The Certificate in Organizational Dynamics is designed to enhance a person's ability to lead and be effective in organizational settings. Emphasis is placed on recognizing and responding to internal and external issues to the organization that impact productivity, reputation, and success.

Requirements for Admission

Students who hold an undergraduate degree, graduate degree, or are currently enrolled in a graduate degree program may apply for the Certificate in Organizational Dynamics program.

Applicants must comply with the Murray State University requirements (see *Graduate Admissions*). Additional requirements for unconditional admission are as follows:

- for unconditional admission, an undergraduate GPA of 3.0 or higher in the last two years of undergraduate work with a minor in communication, business, or related field;
- for conditional admission, an undergraduate GPA of at least 2.50 is required.

Total Course Requirements 12 hours

COM 639 Seminar in Conflict Resolution
 COM 685 Seminar in Organizational Communication
six hours of approved electives from the following:
 COM 631 Interpersonal Communication at Work
 COM 653 Advanced Team Communication and Leadership
 COM 673 Organizational Training and Development
 COM 677 Organizational Learning and Dialogue
 JMC 602 Seminar in Advertising
 JMC 603 Seminar in Public Relations
 MGT 651 Seminar in Organizational Behavior



College of Education and Human Services



David C. Whaley, Dean
3101 Alexander Hall
(270) 809-3818

DEPARTMENTS

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PROGRAMS

UNDERGRADUATE

Associate

Career and Technical Education

Baccalaureate

- Career and Technical Education
- Communication Disorders
- Criminal Justice
- Elementary School Education
- Health and Physical Education
- Interdisciplinary Early Childhood Education
- Learning and Behavior Disorders
- Middle School Education
- Nonprofit Leadership Studies
- Secondary School Certification
- Social Work

Minor

- Adventure Leadership
- Athletic Coaching
- Community Recreation
- Criminal Justice
- Family and Consumer Studies
- General Special Education
- Gerontology
- Health and Physical Education
- Juvenile Justice
- Nonprofit Leadership Studies
- Social Science
- Social Welfare

Certificate

- Faith-Based Social Work
- Gerontology
- Substance-Related and Addictive Disorders

GRADUATE

Master's

- Career and Technical Education
- Elementary Teacher Leader
- Education Administration
- Human Development and Leadership
- Interdisciplinary Early Childhood Education
- Library Media
- Middle School Teacher Leader
- Nonprofit Leadership Studies
- Postsecondary Education Administration
- Reading and Writing
- School Counseling
- Secondary Teacher Leader
- Special Education
- Speech-Language Pathology

Specialist

- Counseling
- Education Administration
- Teacher Education and Professional Development

Doctorate

- P-20 and Community Leadership

Certificate

- College Advising
- Human Development and Leadership
- Interdisciplinary Brain Injury Studies
- Nonprofit Leadership Studies

College of Education and Human Services

The mission of the Murray State University College of Education and Human Services is the preparation of leaders for successful careers that positively impact communities as advocates and practitioners, through student-centered, authentic and engaging academic programs.

The College is comprised of four departments which offer associate, baccalaureate, masters, post-masters, specialist in education, certifications, and doctorate degrees for teachers and other school personnel.

Adolescent, Career and Special Education. This department offers certification preparation programs for middle and secondary school teachers in a variety of disciplines. Areas are offered in business and marketing education, family and consumer sciences education, health and physical education, industrial education, engineering/technology education, learning and behavior disorders (elementary school and middle school), and middle school education. A non-certification degree in health and physical education is also available.

A student may complete a Master of Arts in Education in middle school education, secondary education, and special education. A Master of Science in Career and Technical Education is also offered.

Community Leadership and Human Services. This department offers a Bachelor of Social Work (B.S.W.), and baccalaureate degrees in nonprofit leadership studies and criminal justice. Students in the degree programs gain hands-on experience by working in a variety of settings in regional and state agencies.

Early Childhood and Elementary Education. This department offers baccalaureate degrees in interdisciplinary early childhood education (birth through kindergarten) and in elementary education (kindergarten through fifth grade). Master of Arts in Education degrees are offered in elementary education teacher leadership, reading and writing (leading to a literacy specialist endorsement P-12), interdisciplinary early childhood education teacher leadership, and interdisciplinary early childhood education certification programs. This department's student-centered, field-based practices and department faculty's experiential and academic expertise prepare future teachers to become highly-qualified, effective educators.

Educational Studies, Leadership and Counseling. This department houses the Ed.D. in P-20 and Community Leadership and the Master of Arts in Postsecondary Education. Other post-baccalaureate programs are offered in school administration and leadership, school counseling, and school psychology, designed to prepare students to work in pre-school through high school educational environments. The human development and leadership degree prepares students from human services fields to work in administrative positions and take leadership roles in a variety of settings. A clinical mental health counseling concentration for non-school settings is also available with the Ed.S. in Counseling.

The **Center for Communication Disorders** offers a baccalaureate degree in Communication Disorders and a Master of Science in Speech-Language Pathology. In addition to exemplary academic programs, the center is home to the Murray State University Speech and Hearing Clinic, which offers comprehensive evaluations and therapy for a variety of communication disorders. The Speech and Hearing Clinic serves individuals across the lifespan.

Graduate certificates. The College of Education and Human Services offers numerous programs toward Kentucky teacher certification at the post-baccalaureate, post-master's levels. In addition to degree and rank certification programs, the College of Education and Human Services also offers 12-15 hour endorsement programs in gifted education, environmental education, and instructional

computer technology. All offerings are described under the appropriate departments. Community Leadership and Human Services offers a graduate certificate in nonprofit leadership studies as well.

The College of Education and Human Services is a member of the American Association of Colleges for Teacher Education and Teacher Education Council of State Colleges and Universities. All professional education programs are accredited by the Council for the Accreditation of Educator Preparation and the Kentucky Education Professional Standards Board. Counseling programs are approved by the Council for the Accreditation of Counseling and Related Programs.

Additional Services

Special centers within the college focus resources in areas important to community service, educational reform, and the health and wellness of individuals, communities and school districts.

The **Center for Assessment and Counseling's** mission is two-fold—to provide high quality, low cost psychoeducational assessment, counseling, and consultation services to schools, adults, children and their parents in the community, and to provide school psychology, special education, and counseling graduate students a venue to practice with close supervision, the skills acquired through their graduate preparation.

The **Center for Gifted Studies** serves as a resource to support excellence in gifted education. Special professional development programs for teachers and enrichment opportunities for gifted students are available during the academic year and the summer. The William O. Price Gifted Resource Collection contains books and other educational materials that are available for loan.

The **Center for Environmental Education** serves pre-service and in-service teachers and other interested persons in the Murray State University service region. Materials and consulting services are available through the center.

The **Teacher Quality Institute** coordinates instructional and direct service activities to support pre-service teacher preparation, teacher recruitment and in-service teacher professional development.

Teacher Education Services

The Office of Teacher Education Services, located in 2101 Alexander Hall, is responsible for the coordination of all admission to teacher education processes, for teacher certification and rank change applications, and for a variety of data processing functions, and certification recommendations.

The office provides students enrolled in teacher education programs with a wide variety of clinical and field experiences/placements, including opportunities to observe and participate in regular public school classrooms.

Teacher Education and Student Teaching Admission Requirements

Students shall not enroll in any educator preparation courses restricted to admitted candidates (16 KAR 5:020).

In order to be admitted to Teacher Education students must:

- 1) Attend an admission to teacher education orientation and complete the following:
 - (a) Beginning September 1, 2014, Core Academic Skills for Educators (CASE) with established minimum scores for Math (150) Reading (156), and Writing (162).
 - (b) Have completed a minimum of 24 credit hours with a minimum 2.75 GPA to include the following:
 - (1) ENG 104 or ENG 105 with grade of B or higher
 - (2) MAT 117 (or higher level math) with a grade of B or better
 - (3) COM 161 or HON 165 with a grade of B or better
 - (4) EDU 103 with a grade of B or better
- 2) An interview with major academic advisor or chair (or advisor may opt to write a letter of recommendation in lieu of an interview).

3) Complete review of the Professional Code of Ethics for Kentucky School Personnel and a Declaration of Eligibility for Certification signed by the candidate affirming a commitment to upholding the code and acknowledging awareness of information required for state certification. If answers on the Declaration of Eligibility change during the time of participation in the teacher education program, the Director of Teacher Education Services must be notified immediately.

4) Have supplied TES with any other required information.

When all the above requirements have been met, the formal application can be submitted, accompanied by all required documentation. This includes official score report for the CASE requirement and a transcript showing all college work to date. Admission will only be granted following a successful review by the Admission to Teacher Education Committee. Students who have not been admitted to Teacher Education will not be eligible to enroll in specific upper level courses that specify admission to teacher education as a prerequisite.

Student Teaching

In order to be admitted to student teaching, students must:

- 1) Have been granted admission to the Teacher Education program.
- 2) Have attended an admission orientation two semesters prior to the term in which student teaching is anticipated.
- 3) Have minimum 2.75 GPA in major/area(s), professional education, and overall.
- 4) Have student teaching placement interview the semester prior to student teaching.
- 5) Have demonstrated teaching ability in field and clinical situations.
- 6) Have completed 200 hours of field experiences and required components.
- 7) Have senior, irregular, or graduate status and have completed all major/specialty areas and professional education courses (except student teaching.)
- 8) Have a current physical medical examination and TB risk assessment on file in Teacher Education Services.
- 9) Obtain a criminal records check.
- 10) Have supplied Teacher Education Services with any other required information.
- 11) Submit student teaching application.

After one (1) unsuccessful undergraduate student teaching placement (undergraduate placement) or graduate student teaching practicum placement (graduate placement) due to unsatisfactory performance, a plan for improvement may be deemed necessary (improvement plan) by the College of Education and Human Services. If an improvement plan is deemed necessary, a written plan will be prepared and reviewed with the student. No student may reapply for student teaching until the improvement plan has been successfully completed. Once the improvement plan has been successfully completed by the student, the student may reapply for admission to student teaching and, if admitted, a new placement will be selected. Successful completion of any plan of improvement does not guarantee readmission to student teaching.

Any student who has an unsuccessful undergraduate placement or graduate placement due to unsatisfactory performance may be refused readmittance to student teaching if it is determined that the student's performance/conduct during the placement was so egregious, unprofessional, or otherwise grossly incompetent as to render consideration of an improvement plan and/or a second placement inadvisable. A student who re-applies and is denied admission to student teaching on such grounds will be informed in writing by the Admission to Teacher Education Committee. The grounds stated here are not the exclusive reasons for denying readmission.

A student denied readmission to student teaching as per paragraphs 1 or 2 above may pursue an appeal as per the College of Education and Human Services Grievance Procedure.

Any student who has had two (2) unsuccessful undergraduate placements or graduate placements shall not be readmitted to student teaching. An unsuccessful placement includes, but is not limited to, termination of placement due to unsatisfactory performance or performance otherwise deemed to be unsatisfactory. An unsuccessful placement may exist regardless of any grade (e.g. I, W, or E) assigned.

General Requirements for Certification in the Commonwealth of Kentucky

Any person who wishes initial certification in the Commonwealth of Kentucky must have:

- completed a teacher education program (including student teaching);
- earned a passing score on all required Praxis II Specialty Exam(s) and the Principles of Learning and Teaching exam; and
- applied for a statement of eligibility.

Students seeking certification or to add additional certification to current Kentucky teaching certificates should:

- complete and have signed a CA-1 form;
- request transcript to be sent to EPSB;
- pay fee to EPSB;
- mail completed/signed CA-1 form and transcript request form to MSU Teacher Education Services, 2101 Alexander Hall, Murray, KY 42071.

Records and information on all the above standards and requirements are maintained in the Teacher Education Services Office, 2101 Alexander Hall, 270-809-2054.

NOTE: Requirements for teacher certification are established by the Kentucky Education Professional Standards Board (EPSB). Murray State University publishes these requirements as a service to students, but certification requirements outlined in this *Bulletin* may not reflect latest board policy. For up-to-date information, students should check with the chairs of the professional departments, the EPSB website at www.kyepsb.net, by calling EPSB at 888-598-7667, or by consulting *Kentucky Administrative Regulations* (available in the Legal Resources Library and the Kentucky Department of Education website www.kde.state.ky.us).

Initial Teaching Certification for Graduate Students

Graduate students who currently hold no teaching certificate may become eligible for certification if they enroll in an initial certification program, meet the criteria for admission to teacher education and student teaching, and fulfill the requirements for certification.

Master's Degree Programs

These requirements are in addition to the general requirements for all graduate students listed in *Graduate Admissions*.

Requirements for Admission

All students applying for admission to a master's degree program offered by the College of Education and Human Services must have completed a baccalaureate degree from a regionally accredited college or university. To see if the master's program requires a score on the general test (V + Q + A) of the Graduate Record Exam (GRE), please consult the departmental sections of this bulletin.

Unconditional

To qualify for unconditional admission, an applicant must have an appropriate undergraduate major and an overall undergraduate GPA of 3.0. In addition, some programs in the college require a Kentucky letter of eligibility for the beginning teacher internship program or a Kentucky provisional certificate or comparable docu-

mentation from another state department of education. Contact departmental chair for information. International students must meet TOEFL score requirements, listed in *Graduate Admissions*, as well as other requirements.

Conditional

Conditional admission may be granted to students who have an overall undergraduate GPA of at least 2.5 but less than 3.0 or who meet all unconditional admission requirements except coursework to meet requirements for appropriate major or certification.

Students without appropriate certification may be admitted upon departmental review by signing a waiver acknowledging non-certification.

Students who do not meet specified admissions criteria may be reviewed by the appropriate departmental graduate committee. Following a full review of all student records, that committee will

A. recommend conditional admission (permissible only when the student meets university graduate admission requirements), carefully specifying conditions; or

B. recommend remediation and reschedule the student for departmental graduate committee admission review once remediation is complete; or

C. deny admission.

Students admitted conditionally who successfully complete nine hours of graduate work will be reassigned to unconditional status. A student admitted conditionally who has a GPA of less than 3.0 will be dropped from the graduate program. A graduate student dropped for academic reasons may reapply after remaining out of the graduate program for one semester.

Additional Requirements

Per university regulations, students must complete all requirements for the degree within eight calendar years from beginning of first course.

Students may transfer up to 12 semester hours of credit from a regionally accredited institution, providing such credit is acceptable to the student's major department and approved by the student's advisor in advance. The grade in each transfer course must be *B* or better.

Some graduate programs in education have prerequisites that include teacher certification.

All candidates for the Master of Arts in Education degree should consult with appropriate program faculty for specific program course requirements.

Requirements for all master's programs include

- a grade average of *B* with no course accepted with a grade lower than *C*; and
- completion of all requirements for the degree within eight calendar years from beginning of first course (per university regulations).

Candidates may be required to pass a comprehensive examination developed and administered by the appropriate academic department and/or receive a *pass* on a professional portfolio or capstone project.

Upon admission to the program, an advisor will be assigned to guide the student's work. During the first semester of study, the student must submit a program of study that has been planned with the assigned advisor. The program of study must be approved by the student's advisor and the collegiate coordinator of graduate programs and filed in Teacher Education Services during the first semester of study.

Requirements for all post-master level programs include

- a grade average of *B* with no course accepted with a grade lower than *C*;
- a minimum of 15 hours earned at Murray State University; and

- completion of all requirements for the certification program with eight calendar years from beginning of first course or experience used in the program.

Admission of Non-Certified Applicants - MAEd in Elementary, Middle, or Secondary Teacher Leader

International applicants with teaching experience and others without a teaching certificate may be admitted to the Elementary Teacher Leader, Middle School Teacher Leader or Secondary Teacher Leader master's degree programs. These applicants must submit a resume and a letter of application identifying a program of choice and stating the reasons for interest in the program. NOTE: If admitted, the candidate's advisor will evaluate the candidate's academic and experiential record and professional interests to ensure appropriate course placements. **Completion of a Teacher Leader master's degree on this type of admission will not lead to initial teacher certification or an endorsement.**

Specialist in Education Degrees

The primary purpose of the specialist in education degree is to provide a plan of advanced study with greater depth of concentration than is possible at the master's level. Each candidate's plan of study is tailored to meet individual and career needs.

Programs leading to the specialist in education degree are offered in school counseling, mental health counseling, school administration, elementary education, middle school education, and secondary education.

Admission to graduate study. An individual seeking a specialist degree who is not already a graduate student at Murray State University must apply to Graduate Admissions for admission to graduate study. An individual who has completed requirements for a master's degree at Murray State University must apply for readmission before the individual can be accepted for the specialist in education degree program. In addition, official records of (1) all graduate work, (2) all undergraduate work, and (3) Graduate Record Examination scores, if applicable, must be sent to Graduate Admissions.

Requirements for Admission

In addition to Murray State University requirements (see *Graduate Admissions*), depending on the program, an applicant may need

- a master's degree or acceptable alternative from a regionally accredited college or university;
- basic graduate courses in the areas of educational research, educational foundations, and curriculum if applicable;
- one year of successful experience in a certified position in an educational setting;
- evidence of satisfactory scholarship;
- selected an appropriate concentration;
- a satisfactory score on the aptitude section of the Graduate Record Examination, if required by the program;
- approval by the graduate faculty in the concentration; and
- a valid teaching certificate (where required).

Other Degree Requirements

In addition to other Murray State University requirements (see *Academic Degree and Programs*), additional requirements for most post master's degree programs include a grade average of *B* with no course accepted with a grade lower than *C* and completion of all requirements for the degree within eight calendar years from beginning of first course (per university regulations).

Committee. The student's committee will be appointed by the collegiate coordinator of graduate programs during the first semester of work on the specialist in education degree. Until the committee is appointed, the chair of the department or a designated representative will act as the student's program advisor. This committee,

in consultation with the student, will develop a plan of study and will guide the student's specialty study.

Specialty study. Specialty study (3-6 hours of credit) must embody results of a study directly related to the candidate's area of concentration. The form and style requirements of the specialty are described in *Guidelines for the Preparation of Master's Thesis or Specialty Paper* available from the Office of Graduate Education.

The specialty study topic must be approved by the student's committee after which the student may enroll for ADM/CNS/EDU 798.

Doctor of Education Degree

Refer to the Department of Educational Studies, Leadership and Counseling for doctorate degree information, admission requirements, and program listings.

Note: L=literature; R=research; PT=professional training. See page 58.

Department of Adolescent, Career and Special Education

3200D Alexander Hall
270-809-2538

Chair: Barbara Washington. **Faculty:** Campoy, Clemson, DeBella, Duncan, Epperson, Gomez, Mahoney, Musselman, Parr, Umstead, Washington.

The Department of Adolescent, Career and Special Education offers certification preparation programs for middle and secondary school teachers in a variety of disciplines. Areas are offered in business and marketing education, family and consumer sciences education, health and physical education, industrial education, engineering/technology education, learning and behavior disorders (elementary school and middle school), and middle school education. The department provides minor programs in athletic coaching, family and consumer studies, general special education, health and physical education, and social science. Bachelor of Arts, Bachelor of Science, and Associate of Science undergraduate degrees are offered. A non-certification degree in health and physical education is also available.

A student may complete a Master of Arts in Education in career and technical education, middle school education, secondary education, and special education. Several endorsement specializations are offered to those seeking the M.A.Ed. in Secondary Education Teacher Leader and may be found in this section or listed later in this chapter. In addition to the master's programs, The specialist degree is offered at the middle school and secondary school levels.

The department's faculty have all gained recognition for their quality teaching, research, and service to the public schools. Most full-time faculty hold doctoral degrees and have extensive teaching experience. Several of the intercollegiate athletic coaches teach departmental courses related to the sports they coach.

Upon completion of the certification, major and/or area programs students are eligible for Kentucky teacher internship and certification. Programs support national standards within the various disciplines and are accredited by the Council for the Accreditation of Educator Preparation and the Kentucky Educational Professional Standards Board.

All programs are housed in Alexander Hall. As needed, other university facilities are used. The health and physical education program makes use of the Carr Health Building and athletic fields. The career and technical education program makes use of various technology classrooms outside of Alexander Hall. Meaningful field experiences are a part of each of the certification programs.

Adolescent Education

AREA:

Health and Physical Education/P-12 Certification Track

Bachelor of Arts/Bachelor of Science

CIP 13.1307

ACCREDITED BY: Council for the Accreditation of Educator Preparation (CAEP); Kentucky Education Professional Standards Board

University Studies Requirements 38-42 hrs
(See *Academic Degrees and Programs*.)

University Studies selections must include:

•**Scientific Inquiry, Methodologies, and Quantitative Skills**

BIO 101 Biological Concepts

•**Social and Self-Awareness and Responsible Citizenship**

EDU 103 Issues and Practices of American Education

•**University Studies Electives**

EDP 260 Psychology of Human Development

Note: Certification also requires a grade of *B* or better in one English composition course and a grade of *B* or better in a University Studies math course, public speaking, and EDU 103 or equivalent course. Additional requirements for admission to teacher education and student teaching must be met. See advisor or Office of Teacher Education Services for details.

Required Courses 47 hrs

HPE 175 Foundations of Health and Physical Education

HPE 360 Teaching Strategies in Sex Education

HPE 370 Teaching Substance Abuse Education

HPE 450 Teaching Strategies in Health Education

NTN 230 Nutrition

PHE 200 Health Implications for HPE Professionals

PHE 205 Lifetime Activities

PHE 206 Team Sports

PHE 306 Dance and Gymnastics

PHE 330 Movement Concepts and Skill Themes

PHE 375 Movement Analysis for Physical Educators

PHE 400 Teaching Physical Education in Elementary Schools

PHE 405 Physiology of Exercise and Fitness

PHE 459 Teaching Adolescent Physical Education

REA 427 Teaching Content Area Literacy in the
Secondary School¹

SOC 436 Sociology of Sport

Required for Teacher Certification 36 hrs

CSC 199 Introduction to Information Technology²

EDU 100T Transitions

EDU 303 Strategies of Teaching

EDU 403 Structures and Foundations of Education

EDU 405 Evaluation and Measurement in Education³

ELE 421 Student Teaching Elementary P-5, IECE

SEC 420 Practicum in Secondary Schools³

SEC 421 Student Teaching in the Secondary School

SEC 422 Extended Practicum⁴

SED 300 Educating Students with Disabilities

Total Curriculum Requirements 121-125 hrs

¹Must be taken concurrently with SEC 420.

²With a grade of *C* or better.

³EDU 405 and SEC 420 must be taken two semesters before student teaching.

⁴Must be taken one semester before student teaching.

AREA:**Health and Physical Education/Non-Certification Track**

Bachelor of Arts/Bachelor of Science

CIP 13.1307

University Studies Requirements 38-43 hrs
(See *Academic Degrees and Programs*.)

University Studies selections must include:

•Scientific Inquiry, Methodologies, and Quantitative Skills

BIO 101 Biological Concepts

•Social and Self-Awareness and Responsible Citizenship

EDU 103 Issues and Practices of American Education

•University Studies Electives

EDP 260 Psychology of Human Development

Required Courses 46 hrs

EXS 385 Sport and Exercise Psychology
 HPE 175 Foundations of Health and Physical Education¹
 HPE 360 Teaching Strategies in Sex Education
 HPE 370 Teaching Substance Abuse Education
 HPE 450 Teaching Strategies in Health Education
 NTN 230 Nutrition
 PHE 200 Health Implications for HPE Professionals
 PHE 205 Lifetime Activities
 PHE 206 Team Sports
 PHE 306 Dance and Gymnastics
 PHE 330 Movement Concepts and Skill Themes
 PHE 375 Movement Analysis for Physical Educators
 PHE 400 Teaching Physical Education in Elementary Schools
 PHE 405 Physiology of Exercise and Fitness
 PHE 459 Teaching Adolescent Physical Education
 SOC 436 Sociology of Sport

Non-Certification Track 34 hrs

EDU 100T Transitions
 EDU 330 Teaching Strategies for Non-Certification Majors
 EDU 490 Internship I
 EDU 491 Internship II
 GUI 100 Self-Development and Career Exploration
 HPE 409 Evaluation and Assessment in Health and Physical Education
 NLS 290 Introduction to the Role of Service and the Nonprofit Sector²
 PHE 304 Adapted Physical Education
 PHE 310 Fundamentals of Athletic Coaching
 PHE 475 Policy and Professional Practice in Athletic Settings

Choose one of the following:

SOC 231 Social Problems
 SOC 331 The Family
 SOC 332 Socialization of Youth

Restricted Electives 4 hrs

Choose two of the following:

PHE 285 Football and Basketball Officiating
 PHE 312 Coaching Football I
 PHE 314 Coaching Basketball I
 PHE 316 Coaching Baseball I
 PHE 318 Coaching Track and Field I
 PHE 319 Coaching Soccer

Total Curriculum Requirements 122-127 hrs

¹With a grade of C or better.²May be counted as a University Studies requirement under the Social and Self-Awareness and Responsible Citizenship category.

Health and Physical Education Minor 21 hrs
 HPE 175; PHE 205, 206, 310, 375, 405 and three hours of HPE, PHE or other pre-approved 300-400 level electives. Cannot take courses that require admission to Teacher Education.

AREA:**Middle School Education/5-9 Certification Track**

Bachelor of Science/Bachelor of Arts

CIP 13.1203

ACCREDITED BY: Council for the Accreditation of Educator Preparation (CAEP); Kentucky Education Professional Standards Board

Note: Students are advised requirements may change after publication of this bulletin. Students should check with an advisor in this department.

-ONE ACADEMIC TRACK-

University Studies Requirements 38-44 hrs
(See *Academic Degrees and Programs*.)

University Studies selections must include:

•University Studies ElectivesCSC 199 Introduction to Information Technology¹

EDP 260 Psychology of Human Development

Note: Certification requires a grade of B or better in one English composition course and a B or better in a University Studies math course and public speaking. Additional requirements for admission to teacher education and student teaching must be met. See advisor and/or Office of Teacher Education Services for details.

Required Courses for Certification 39 hrs

EDU 100T Transitions
 EDU 103 Issues and Practices of American Education
 EDU 403 Structures and Foundations of Education
 MID 307 Middle School Language Arts
 MID 342 Middle Level Teaching Strategies
 MID 395 Advanced Strategies of Teaching in the Middle Grades²
 MID 421 Middle School Student Teaching
 MID 422 Extended Practicum³
 REA 407 Middle School Reading
 SED 300 Educating Students with Disabilities

Students must select and complete 30 hours in one academic specialization field from the following:^{4,5}

English and Communication⁵

ENG 221 Introduction to English Studies
 ENG 228 Standard English Usage
 ENG 310 Introduction to English Linguistics
 ENG 425 Teaching Literature, Writing and Grammar in Middle Schools

and

One of the following:

ENG 204 Advanced Expository Writing
 ENG 214 Introduction to Creative Writing
 ENG 224 Writing in the Profession

Three courses as listed below:

One of the following:

ENG 303 British Literature to 1760
 ENG 304 British Literature, 1760 to the Present

One of the following:

ENG 307 World Literature to 1830
 ENG 308 World Literature 1830 to the Present

One of the following:

ENG 311 American Literature to 1890
 ENG 312 American Literature, 1890 to the Present

and

Two approved 300-400 level English electives

Mathematics⁵

- MAT 115 Mathematics for Middle and Elementary Teachers I
- MAT 117 Mathematical Concepts
- MAT 140 College Algebra
- MAT 145 Trigonometry
- MAT 215 Mathematics for Middle and Elementary Teachers II
- MAT 250 Calculus and Analytical Geometry I
- MAT 305 Intermediate Geometry
- MAT 399 Sets, Logic and Functions
- STA 135 Introduction to Probability and Statistics

Science⁴

- AST 115/116 Introductory Astronomy/Laboratory
- BIO 101 Biological Concepts
- BIO 216 Biological Inquiry and Analysis
- CHE 105 Introductory Chemistry
- GSC 101 The Earth and the Environment
- GSC 125 Weather and Climate
- PHY 125/126 Brief Introductory Physics/Laboratory
and

One approved science elective

Social Studies⁵

- CIV 201 World Civilizations I
- CIV 202 World Civilizations II
- ECO 230 Principles of Macroeconomics
- ECO 231 Principles of Microeconomics
- GSC 110 World Geography
- HIS 221 American Experience to 1865
- HIS 222 American Experience since 1865
- POL 140 American National Government
- SOC 133 Introduction to Sociology

and three hours from the following:

- HIS 301 Ancient History to the Fall of Rome
- HIS 302 Medieval Europe
- HIS 305 Irish Diaspora
- HIS 306 Europe in Renaissance and Reformation
- HIS 309 Survey of World Religions
- HIS 316 Women and Gender in World History
- HIS 340 Modern East Asia
- HIS 350 History of Latin America
- HIS 354 Ancient Near East
- HIS 355 Islamic Middle East
- HIS 356 Modern Middle East
- HIS 359 Early India
- HIS 360 Modern India
- HIS 362 Ancient Egypt
- HIS 363 Ancient Greece
- HIS 364 Ancient Rome
- HIS 370 History of Africa

and three hours from the following:

- HIS 407 Modern Imperialism and Colonialism
- HIS 415 Women in History
- HIS 421 U.S. Social and Cultural History to 1865
- HIS 422 U.S. Social and Cultural History Since 1865
- HIS 430 Colonial America to 1763
- HIS 446 History of Kentucky
- HIS 449 Islam in the Modern World
- HIS 450 Modern Africa
- HIS 451 Slavery and Africa
- HIS 459 Genocide in World History

Restricted Content Electives 1-20 hrs
Must have prior approval of advisor and may include or enhance academic track.

Total Curriculum Requirements 120-123 hrs

- ¹With a grade of C or better.
- ²Must be taken two semesters before student teaching.
- ³Must be taken one semester before student teaching.
- ⁴Substitutions can only be made with prior approval by advisor in the department concerned.
- ⁵Academic specialization coursework may include University Studies requirements.

AREA:

Middle School Education/5-9 Certification Track

Bachelor of Science/Bachelor of Arts

CIP 13.1203

ACCREDITED BY: Council for the Accreditation of Educator Preparation (CAEP); Kentucky Education Professional Standards Board

Note: *Students are advised requirements may change after publication of this bulletin. Students should check with an advisor in this department.*

-TWO ACADEMIC TRACKS-

University Studies Requirements 38-44 hrs
(See Academic Degrees and Programs.)

University Studies selections must include:

•University Studies Electives

- CSC 199 Introduction to Information Technology¹
- EDP 260 Psychology of Human Development

Note: Certification requires a grade of B or better in one English composition course and a B or better in a University Studies math course and public speaking. Additional requirements for admission to teacher education and student teaching must be met. See advisor and/or Office of Teacher Education Services for details.

Required Courses for Certification 39 hrs

- EDU 100T Transitions
- EDU 103 Issues and Practices of American Education
- EDU 403 Structures and Foundations of Education
- MID 307 Middle School Language Arts
- MID 342 Middle Level Teaching Strategies
- MID 395 Advanced Strategies of Teaching in the Middle Grades²
- MID 421 Middle School Student Teaching
- MID 422 Extended Practicum³
- REA 407 Middle School Reading
- SED 300 Educating Students with Disabilities

Students must select and complete 24 hours in two academic specialization fields from the following:^{4,5}

English and Communication

- ENG 221 Introduction to English Studies
- ENG 228 Standard English Usage
- ENG 310 Introduction to English Linguistics
- ENG 425 Teaching Literature, Writing and Grammar in Middle Schools

and

One of the following:

- ENG 204 Advanced Expository Writing
- ENG 214 Introduction to Creative Writing
- ENG 224 Writing in the Professions

Three courses as listed below:

One of the following:

- ENG 303 British Literature to 1760
- ENG 304 British Literature, 1760 to the Present

One of the following:

- ENG 305 Survey of World Literature, 1700-1945
 ENG 306 Contemporary Literature
 ENG 307 World Literature to 1830
 ENG 308 World Literature, 1830 to the Present
 ENG 320 Survey in African-American Literature

One of the following:

- ENG 311 American Literature to 1890
 ENG 312 American Literature, 1890 to the Present

Mathematics⁵

- MAT 115 Mathematics for Middle and Elementary Teachers I
 MAT 215 Mathematics for Middle and Elementary Teachers II
 MAT 250 Calculus and Analytical Geometry I
 MAT 305 Intermediate Geometry
 MAT 399 Sets, Logic and Functions
 STA 135 Introduction to Probability and Statistics

Choose between the following:

- MAT 140 College Algebra
and
 MAT 145 Trigonometry
or
 MAT 150 Algebra and Trigonometry

Science⁴

- AST 115/116 Introductory Astronomy/Laboratory
 BIO 101 Biological Concepts
 BIO 216 Biological Inquiry and Analysis
 CHE 105 Introductory Chemistry
 GSC 199 Earth Science
 PHY 125/126 Brief Introductory Physics/Laboratory

Social Studies⁵

- CIV 201 World Civilizations I
 CIV 202 World Civilizations II
 ECO 140 Contemporary Economics
 GSC 110 World Geography
 HIS 221 American Experience to 1865
 HIS 222 American Experience since 1865
 POL 140 American National Government
and three hours from the following:
 HIS 301 Ancient History to the Fall of Rome
 HIS 302 Medieval Europe
 HIS 305 Irish Diaspora
 HIS 306 Europe in Renaissance and Reformation
 HIS 309 Survey of World Religions
 HIS 316 Women and Gender in World History
 HIS 340 Modern East Asia
 HIS 350 History of Latin America
 HIS 354 Ancient Near East
 HIS 355 Islamic Middle East
 HIS 356 Modern Middle East
 HIS 359 Early India
 HIS 360 Modern India
 HIS 362 Ancient Egypt
 HIS 363 Ancient Greece
 HIS 364 Ancient Rome
 HIS 370 History of Africa

and three hours from the following:

- HIS 407 Modern Imperialism and Colonialism
 HIS 415 Women in History
 HIS 421 U.S. Social and Cultural History to 1865
 HIS 422 U.S. Social and Cultural History Since 1865
 HIS 430 Colonial America to 1763
 HIS 446 History of Kentucky

- HIS 449 Islam in the Modern World
 HIS 450 Modern Africa
 HIS 451 Slavery and Africa
 HIS 459 Genocide in World History

Total Curriculum Requirements 125 hrs

¹With a grade of C or better.

²Must be taken two semesters before student teaching.

³Must be taken one semester before student teaching.

⁴Academic track coursework may include University Studies requirements.

⁵Substitutions can only be made with prior approval by advisor in the department concerned.

CERTIFICATION:

Secondary School Teacher (8-12)

ACCREDITED BY: Council for the Accreditation of Educator Preparation (CAEP); Kentucky Education Professional Standards Board

University Studies Requirements 38-44 hrs

(See *Academic Degrees and Programs*.)

University Studies selections must include:

•University Studies Approved Elective:

CSC 199 Introduction to Information Technology¹

Note: Certification requires a grade of B or better in one English composition course and a B or better in a University Studies math course, public speaking, and EDU 103 or equivalent course. Additional requirements for admission to teacher education and student teaching must be met. See advisor and/or Office of Teacher Education Services for details.

Required Courses for Certification 39 hrs

- EDP 260 Psychology of Human Development²
 EDU 103 Issues and Practices of American Education²
 EDU 303 Strategies of Teaching³
 EDU 403 Structures and Foundations of Education
 EDU 405 Evaluation and Measurement in Education⁴
 REA 427 Teaching Content Area Literacy in the
 Secondary School⁵
 SEC 420 Practicum in Secondary Schools⁴
 SEC 421 Student Teaching in the Secondary School
 SEC 422 Extended Practicum⁶
 SED 300 Educating Students with Disabilities

Area/Major/Minor/Unrestricted Electives

See individual programs for specific requirements.

Total Curriculum Requirements 120 hrs

See individual programs for specific requirements. A minimum of 120 hours is required.

¹With a grade of C or better.

²These courses may be used for University Studies Requirements.

³Students in some teaching fields may be required to take a methods course in that discipline instead of EDU 303. Check with advisor or consult with department chair for specific information.

⁴EDU 405 and SEC 420 must be taken two semesters before student teaching.

⁵Must be taken concurrently with SEC 420; some programs may address content area literacy within content method courses.

⁶Must be taken one semester before student teaching.

Note: The Kentucky Education Professional Standards Board has restrictions on the combinations of majors one may select for certification to teach in high school. Students should check with their education advisors to ensure their selections are certifiable by the state. Teachers may no longer use a minor to get additional certifications.

Athletic Coaching Minor 22 hrs
 EXS 385 or PSY 222 or SOC 436; PHE 310, 375 and 405; and 10 hours from the following: PHE 285, 289, 312, 314, 316, 318, 319, 414, 416. Six hours must be upper-level courses.

Social Science Minor (recommended) 24 hrs
Open only to majors in economics, geography, history, or political science who seek secondary certification in social studies. ECO 231, GSC 110, HIS 221, 222, POL 140, SOC 133; and six hours of upper level courses (300 or above) from the social science disciplines with approval of advisor. Courses required for a major may not be counted toward the minor; substitutions must be from a social science discipline other than the major and be approved by the advisor; and requirements for certification for teaching secondary school social studies, grades 8 through 12 through the College of Education and Human Services must also be met.

Middle and Secondary Graduate Programs

Master of Arts in Education Middle School Teacher Leader CIP 13.1203

ACCREDITED BY: Council for the Accreditation of Educator Preparation (CAEP).

Total Course Requirements 30 hours
 EDU 600 Introduction to Teacher Leadership
 EDU 631 Classroom Management and Student Motivation
 EDU 633 Curriculum Development
 EDU 637 Instruction for Diverse Learners
 EDU 639 Research to Improve Student Learning^R
 EDU 640 Exit Seminar in Teacher Leadership¹

Other Course Requirements
 EDP 675 Advanced Educational Psychology
 Advisor approved courses supporting the teaching field or an educational endorsement specialization. (12 hrs)

Other Degree Requirements
 Students must complete EDU 600 before enrolling in EDU 639.

ALTERNATIVE CERTIFICATION¹

Total Course Requirements 30 hours
 EDU 600 Introduction to Teacher Leadership
 EDU 631 Classroom Management and Student Motivation
 EDU 633 Curriculum Development
 EDU 637 Instruction for Diverse Learners
 EDU 639 Research to Improve Student Learning^R
 EDU 640 Exit Seminar in Teacher Leadership¹

Other Course Requirements
 ADM 627 School Law and Finance for Teachers
 EDP 675 Advanced Educational Psychology
 EDU 626 Integration of Educational Technology
 EDU 650 Workshop in Education
 SED 606 Procedures for Classroom Management and Discipline

Other Degree Requirements
 Students must complete EDU 600 before enrolling in EDU 639.
¹Requires dean and chair approval.

Master of Arts in Education Secondary Teacher Leader CIP 13.1205

ACCREDITED BY: Council for the Accreditation of Educator Preparation (CAEP).

Total Course Requirements 30 hours
 EDU 600 Introduction to Teacher Leadership
 EDU 631 Classroom Management and Student Motivation
 EDU 633 Curriculum Development
 EDU 637 Instruction for Diverse Learners
 EDU 639 Research to Improve Student Learning^R
 EDU 640 Exit Seminar in Teacher Leadership¹

Other Course Requirements
 EDU 621 Advanced Methods of Teaching
 Advisor approved courses supporting the teaching field or an educational endorsement. (12 hrs)

Other Degree Requirements
 Students must complete EDU 600 before enrolling in EDU 639.

ALTERNATIVE CERTIFICATION¹

Total Course Requirements 30 hours
 EDU 600 Introduction to Teacher Leadership
 EDU 631 Classroom Management and Student Motivation
 EDU 633 Curriculum Development
 EDU 637 Instruction for Diverse Learners
 EDU 639 Research to Improve Student Learning^R
 EDU 640 Exit Seminar in Teacher Leadership¹

Other Course Requirements
 ADM 627 School Law and Finance for Teachers
 EDU 621 Advanced Methods of Teaching
 EDU 626 Integration of Educational Technology
 EDU 650 Workshop in Education
 SED 606 Procedures for Classroom Management and Discipline

Other Degree Requirements
 Students must complete EDU 600 before enrolling in EDU 639.
¹Requires dean and chair approval.

Secondary Education Academic Concentrations

The following academic concentrations for the M.A.Ed. in Secondary Teacher Leader are offered in collaboration with the academic concentration host department. Admission for all M.A.Ed. programs is determined by the College of Education and Human Services in conjunction with the concentration program director.

Biology	French, German, or Spanish
Chemistry	History
Economics	Mathematics
English	Studio Art

Specialist in Education Teacher Education and Professional Development

CIP 13.1206

Total Course Requirements 30 hours

EDP	675	Advanced Educational Psychology
EDU	622	Philosophy of Education
EDU	798	Specialty Study ^{L, R}
ELE	647	Curriculum in the Elementary School
		<i>or</i>
MID	640	Middle School Curriculum
		<i>or</i>
SEC	641	Building the Curriculum of the Secondary School

Courses approved in advance by the student's specialist committee (15 hrs)

Other Degree Requirements

Defense of specialty study. See MSU/COE requirements.

Career Education

Career and Technical Education

Associate of Science Degree CIP 13.1320

University Studies Requirements 19-21 hrs

(See *Academic Degrees and Programs*.)

•Social and Self-Awareness and Responsible Citizenship

EDP 260 Psychology of Human Development

Required Courses 15 hrs

CTE	270	Basic Structures and Foundations of CTE
CTE	272	Organizing and Managing School Learning Facilities
CTE	274	Basic Assessment and Curricula for Career and Technical Education
CTE	312	Teaching Content Area Literacy in Career and Technical Education
CTE	371	Methods of Instruction in Career and Technical Education

Required Electives 27 hrs

CTE	201	Introduction to Career and Technical Education for Initial Certification
CTE	381	Career and Technical Experiences

Other Degree Requirement

Current First Aid and Safety Certification required for graduation.

Total Curriculum Requirements 61-63 hrs

AREA:

**Career and Technical Education/
Business and Marketing Education/5-12 Certification Track**
Bachelor of Arts/Bachelor of Science CIP 13.1399

ACCREDITED BY: Council for the Accreditation of Educator Preparation (CAEP); Kentucky Education Professional Standards Board

University Studies Requirements 40-50 hrs

(See *Academic Degrees and Programs*.)

University Studies selections must include:

•Global Awareness, Cultural Diversity, and the World's Artistic Traditions

ANT 140 Cultural Anthropology

•Scientific Inquiry, Methodologies, and Quantitative Skills

MAT 140 College Algebra

STA 135 Introduction to Probability and Statistics

•Social and Self-Awareness and Responsible Citizenship

EDP 260 Psychology of Human Development

•University Studies Approved Electives

ECO 230 Principles of Macroeconomics

ECO 231 Principles of Microeconomics

Note: Certification requires a grade of *B* or better in one English composition course and a *B* or better in a University Studies math course, public speaking, and EDU 103 or the CTE equivalent course, CTE 200. Additional requirements for admission to teacher education and student teaching must be met. See advisor and/or Office of Teacher Education Services for details.

Professional Education Courses 50 hrs

EDU	303	Strategies of Teaching
CSC	199	Introduction to Information Technology ¹
CTE	200	Introduction to Career and Technical Education
CTE	501	Structures and Foundations of CTE
CTE	502	Assessment and Curricula in Career and Technical Education
CTE	503	Planning and Implementing Instruction in CTE
EDU	100T	Transitions
EDU	405	Evaluation and Measurement in Education ²
MID	270	Teaching and Learning in the Middle Grades
REA	427	Teaching Content Area Literacy in the Secondary School ³
SEC	420	Practicum in Secondary Schools ²
SEC	421	Student Teaching in the Secondary School
SEC	422	Extended Practicum ⁴
SED	300	Educating Students with Disabilities

Support Courses 33 hrs

ACC	200	Principles of Financial Accounting
ACC	201	Principles of Managerial Accounting
BUS	140	Foundations of Business
BUS	215	Business Communications
CSC	125	Internet and Web Page Design
FIN	330	Principles of Finance
LST	240	Legal Environment of Business
MGT	350	Fundamentals of Management
MKT	285	Emerging Technologies in Marketing
MKT	360	Principles of Marketing
MKT	463	Consumer Behavior

Other Degree Requirement

Current First Aid and Safety Certification required for student teaching.

Total Curriculum Requirements 123 hrs

¹With a grade of *C* or better.²EDU 405 and SEC 420 must be taken two semesters before student teaching.³Must be taken concurrently with SEC 420.⁴Must be taken one semester before student teaching.

AREA:

**Career and Technical Education/
Engineering and Technology Education/5-12 Certification Track**
Bachelor of Science CIP 13.1399

ACCREDITED BY: Council for the Accreditation of Educator Preparation (CAEP); Kentucky Education Professional Standards Board

University Studies Requirements 40-42 hrs
(See *Academic Degrees and Programs*.)

University Studies selections must include:

•Scientific Inquiry, Methodologies, and Quantitative Skills

MAT 150 Algebra and Trigonometry

PHY 130 General Physics I

PHY 131 General Physics I Laboratory

•Social and Self-Awareness and Responsible Citizenship

EDP 260 Psychology of Human Development

Note: Certification requires a grade of *B* or better in one English composition course and a *B* or better in a University Studies math course, public speaking, and EDU 103 or the CTE equivalent course, CTE 200. Additional requirements for admission to teacher education and student teaching must be met. See advisor and/or Office of Teacher Education Services for details.

Professional Education Courses 50 hrs

CSC 199 Introduction to Information Technology¹

CTE 200 Introduction to Career and Technical Education

CTE 501 Structures and Foundations of CTE

CTE 502 Assessment and Curricula in Career and Technical Education

CTE 503 Planning and Implementing Instruction in CTE

EDU 100T Transitions

EDU 405 Evaluation and Measurement in Education²

MID 270 Teaching and Learning in the Middle Grades

REA 427 Teaching Content Area Literacy in the Secondary School³

SEC 420 Practicum in Secondary Schools²

SEC 421 Student Teaching in the Secondary School

SEC 422 Extended Practicum⁴

SED 300 Educating Students with Disabilities

TTE 554 Teaching in the Modular and Systems Environment

Support Courses 37 hrs

EMT 110 Electrical Systems I

EMT 261 Introduction to Fluid Power Systems

EMT 262 Introduction to Fluid Power Systems Laboratory

ITD 101 Introduction to Design and Graphic Communications

ITD 104 Computer Aided Design

ITD 130 Manufacturing Processes and Materials

ITD 301 Architectural Design I

ITD 330 Machine Tool Processes

ITD 350 Construction Systems

TSM 133 Telecommunications Technology and Methods

TSM 241 Networking Fundamentals

Other Degree Requirement

Current First Aid and Safety Certification required for student teaching.

Total Curriculum Requirements 127-129 hrs

¹With a grade of *C* or better.

²EDU 405 and SEC 420 must be taken two semesters before student teaching.

³Must be taken concurrently with SEC 420.

⁴Must be taken one semester before student teaching.

AREA:

**Career and Technical Education/
Family and Consumer Sciences Education/ 5-12 Certification Track**
Bachelor of Science CIP 13.1399

ACCREDITED BY: Council for the Accreditation of Educator Preparation (CAEP); Kentucky Education Professional Standards Board

University Studies Requirements 39 hrs
(See *Academic Degrees and Programs*.)

University Studies selections must include:

•Global Awareness, Cultural Diversity and the World's Artistic Traditions

GDS 201 Introduction to Gender and Diversity

•Scientific Inquiry, Methodologies, and Quantitative Skills

BIO 101 Biological Concepts

CHE 101 Consumer Chemistry

MAT 117 Mathematical Concepts

•Social and Self-Awareness and Responsible Citizenship

EDP 260 Psychology of Human Development

•University Studies Approved Electives

CSC 199 Introduction to Information Technology¹

Note: Certification requires a grade of *B* or better in one English composition course and a *B* or better in a University Studies math course, public speaking, and EDU 103 or the CTE equivalent course, CTE 200. Additional requirements for admission to teacher education and student teaching must be met. See advisor and/or Office of Teacher Education Services for details.

Professional Education Courses 47 hrs

CTE 200 Introduction to Career and Technical Education

CTE 501 Structures and Foundations of CTE

CTE 502 Assessment and Curricula in Career and Technical Education

CTE 503 Planning and Implementing Instruction in CTE

EDU 100T Transitions

EDU 405 Evaluation and Measurement in Education²

FCS 359 Methods of Teaching Family and Consumer Sciences

MID 270 Teaching and Learning in the Middle Grades

REA 427 Teaching Content Area Literacy in the Secondary School³

SEC 420 Practicum in Secondary Schools²

SEC 421 Student Teaching in the Secondary School

SEC 422 Extended Practicum⁴

SED 300 Education of Students with Disabilities

Support Courses 39 hrs

FCS 111 Family and Its Environment

FCS 241 Family Economics

FCS 250 Early Childhood Development

FCS 330 Housing and the Family

FCS 342 Consumer Decision Making

FCS 413 Marriage and Family Relationships

FCS 442 Family Resource Management

FCS 469 Curriculum in Family and Consumer Sciences

GSC 305 Introduction to Cartography

HEA 201 Introduction to Public and Community Health

NTN 230 Nutrition

NTN 231 Principles of Food Science and Preparation

SWK 371 Biopsychosocial Aspects of Aging

Other Degree Requirement

Current 1) adult first aid and safety and 2) food safety certifications are required for student teaching.

Total Curriculum Requirements 125 hrs¹With a grade of C or better.²EDU 405 and SEC 420 must be taken two semesters before student teaching.³Must be taken concurrently with SEC 420.⁴Must be taken one semester before student teaching.**Family and Consumer Studies Minor 21 hrs**

A student must complete 21 hours in family and consumer studies in consultation with a faculty advisor in the area of interest. Six hours must be upper-level courses.

AREA:
**Career and Technical Education/
Industrial Education/5-12 Certification Track**

Bachelor of Science

CIP 13.1399

ACCREDITED BY: Council for the Accreditation of Educator Preparation (CAEP); Kentucky Education Professional Standards Board

University Studies Requirements 38-43 hrs(See *Academic Degrees and Programs.*)

University Studies selections must include:

•Social and Self-Awareness and Responsible Citizenship

EDP 260 Psychology of Human Development

Note: Certification requires a grade of B or better in one English composition course and a C or better in a University Studies math course, public speaking, and EDU 103 or the CTE equivalent course, CTE 200. Additional requirements for admission to teacher education and student teaching must be met. See advisor and/or Office of Teacher Education Services for details.

Professional Education Courses 33 hrsCSC 199 Introduction to Information Technology¹

CTE 201 Introduction to Career and Technical Education for Initial Certification

CTE 501 Structures and Foundations of CTE

CTE 502 Assessment and Curricula in Career and Technical Education

CTE 503 Planning and Implementing Instruction in CTE

EDU 100T Transitions

SEC 421 Student Teaching in the Secondary School²

SED 300 Educating Students with Disabilities

Limited Technical Electives 36 hrs*Approved by advisor.***Support Courses 15 hrs**

CTE 312 Teaching Content Area Literacy in Career and Technical Education

*and 12 hours approved by advisor***Other Degree Requirement**

Current First Aid and Safety Certification required for student teaching.

Total Curriculum Requirements 122-127 hrs¹With a grade of C or better.

²Teacher certification allows substitution of CTE 463 and 10 hours advisor-approved teacher education support courses for in-service teachers with four years teaching experience who are seeking certification in-service.

Note: Teacher certification allows substitution of CTE 463 and 10 hours advisor approved teacher education support courses for in-service teachers with four years teaching experience who are seeking certification in-service.

Master of Science**Career and Technical Education**

CIP 13.1309

ACCREDITED BY: Council for the Accreditation of Educator Preparation (CAEP).

This Master of Science in Career and Technical Leadership Education is appropriate for teachers concentrating in agriculture, business and marketing, family and consumer sciences, technology education, and industrial education.

TRACK A

This degree may be used to achieve Rank II classification for certified teachers in the career and technical education disciplines.

Total Course Requirements 30 hours**Core Requirements**

EDU 631 Classroom Management and Student Motivation

CTE 665 Program Planning and Evaluation

CTE 667 Emerging Trends in Instructional Technology

CTE 672 Managing Career and Technical Learning Facilities

CTE 676 Organization and Administration of Career and Technical Education

Other Course Requirements

EDU 600 Introduction to Teacher Leadership

EDU 633 Curriculum Development

EDU 639 Research to Improve Student Learning

EDU 640 Exit Seminar in Teacher Leadership

CTE 671 Philosophy of Career and Technical Education

Other Degree Requirements

Successful completion of capstone project is required. Students must complete EDU 600 before enrolling in EDU 639.

TRACK B

This degree may be used to become eligible for initial certification in career and technical education (grades 5-12) when combined with an appropriate technical bachelor's degree and/or other needed technical courses.

Admission Requirements for Initial Certification

To become eligible for initial certification in career and technical education (grades 5-12), students must

- hold an appropriate technical bachelor's degree and/or other needed technical courses;
- be employed by a school district in the area where certification is required;
- attend mandatory state training for certification;
- maintain a minimum graduate GPA of 3.0 as detailed in the *MSU Bulletin*; and
- have successful completion of program portfolio .

Total Course Requirements 31 hours**Core Requirements**

EDU 631 Classroom Management and Student Motivation

CTE 665 Program Planning and Evaluation

CTE 667 Emerging Trends in Instructional Technology

CTE 672 Managing Career and Technical Learning Facilities

CTE 676 Organization and Administration of Career and Technical Education

Other Requirements

CTE 601 Introduction to Career and Technical Education for Initial Certification

CTE 678	Review of Professional Literature in Career and Technical Education
CTE 680	Exit Seminar in Career and Technical Education
EDP 675	Advanced Educational Psychology
REA 612	Foundations of Literacy
SED 605	Characteristics and Needs of Child/Youth with Mild Disabilities

Other Degree Requirements

Current First Aid and Safety certification required at graduation. Successful completion of program portfolio is required.

Additional Requirements

Contact Teacher Education Services for details on admission to student teaching.

Note: Teacher certification requires a bachelors degree with major or area in approved technical discipline; additional prerequisite courses may be required; students must successfully complete all required assessments as identified in 704 KAR 20:305; additional requirements for admission to teacher education and student teaching must be met. See advisor for details. To become certified students must successfully complete the internship program identified in 704 KAR 10:690.

Special Education

AREA:

Learning and Behavior Disorders/Elementary Track

Bachelor of Science/Bachelor of Arts CIP 13.1001

ACCREDITED BY: Council for the Accreditation of Educator Preparation (CAEP); Kentucky Education Professional Standards Board

Note: Students must be admitted to Teacher Education by the time they complete nine semester hours of professional education.

University Studies Requirements 38-43 hrs
(See *Academic Degrees and Programs.*)

University Studies selections must include:

•**Social and Self-Awareness and Responsible Citizenship**

PSY 180 General Psychology

•**University Studies Electives**

CSC 199 Introduction to Information Technology¹

EDP 260 Psychology of Human Development

Note: Certification requires a grade of *B* or better in one English composition course and a *B* or better in a University Studies math course, public speaking, and EDU 103 or EDU 104. Additional requirements for admission to teacher education and student teaching must be met. See advisor and/or Office of Teacher Education Services for details.

Required Courses 58 hrs

ART 343	Art Materials and Techniques for the Classroom Teacher
CDI 205	Introduction to Communication Disorders
ELE 304	Teaching Elementary Mathematics
ELE 305	Children’s Literature for Early and Developing Readers
ELE 307	Teaching Elementary Language Arts
ELE 390	Introduction to Kindergarten
ELE 401	Teaching Elementary Social Studies
ELE 402	Teaching Elementary Science
MAT 115	Mathematics for Middle and Elementary Teachers I
MAT 215	Mathematics for Middle and Elementary Teachers II
MID 270	Teaching and Learning in the Middle Grades
REA 306	Literacy Development in the Elementary School
REA 427	Teaching Content Area Literacy in the Secondary School
SED 350	Roles and Procedures in Special Education
SED 408	Functional Behavior Analysis

SED 409	Instructional Procedures-Students with MSD
SED 410	Characteristics of and Strategies for Teaching Students with Mild Disabilities
SED 425	Specialized Reading for Students with Mild Disabilities
SED 455	Practicum
SED 537	Diagnostic Methods

Professional Education Courses 24 hrs

EDU 100T	Transitions
EDU 103	Issues and Practices of American Education ²
EDU 303	Strategies of Teaching
ELE 421	Student Teaching Elementary P-5, IECE
SED 300	Educating Students with Disabilities
SED 421	Student Teaching in Special Education

Total Curriculum Requirements 120-125 hrs

¹With a grade of *C* or better.

²With a grade of *B* or better.

AREA:

Learning and Behavior Disorders/Middle School Track

Bachelor of Science/Bachelor of Arts CIP 13.1001

ACCREDITED BY: Council for the Accreditation of Educator Preparation (CAEP); Kentucky Education Professional Standards Board

University Studies Requirements 38-43 hrs
(See *Academic Degrees and Programs.*)

University Studies selections must include:

•**Social and Self-Awareness and Responsible Citizenship**

PSY 180 General Psychology

•**University Studies Electives**

CSC 199 Introduction to Information Technology¹

EDP 260 Psychology of Human Development

Note: Certification requires a grade of *B* or better in one English composition course and a *B* or better in a University Studies math course, public speaking, and EDU 103 or EDU 104. Additional requirements for admission to teacher education and student teaching must be met. See advisor and/or Office of Teacher Education Services for details.

Required Courses 51 hrs

CDI 205	Introduction to Communication Disorders
ELE 304	Teaching Elementary Mathematics
ELE 401	Teaching Elementary Social Studies ²
ELE 402	Teaching Elementary Science ³
MAT 115	Mathematics for Middle and Elementary Teachers I
MAT 215	Mathematics for Middle and Elementary Teachers II
MID 307	Middle School Language Arts ⁴
MID 342	Middle Level Teaching Strategies
MID 395	Advanced Strategies of Teaching in the Middle Grades
REA 407	Middle School Reading
SED 350	Roles and Procedures in Special Education
SED 408	Functional Behavior Analysis
SED 409	Instructional Procedures-Students with MSD
SED 410	Characteristics of and Strategies for Teaching Students with Mild Disabilities
SED 425	Specialized Reading for Students with Mild Disabilities
SED 455	Practicum
SED 537	Diagnostic Methods

Professional Education Courses 21 hrs

EDU 100T	Transitions
EDU 103	Issues and Practices of American Education ⁵
MID 421	Middle School Student Teaching

- SED 300 Educating Students with Disabilities
 SED 421 Student Teaching in Special Education

Academic Track 24 hrs⁶
 Students must select one of the following academic tracks.⁷

English and Communication⁷

- ENG 221 Introduction to English Studies
 ENG 228 Standard English Usage
 ENG 310 Introduction to English Linguistics
 ENG 425 Teaching Literature, Writing and Grammar in
 Middle Schools

and

One of the following:

- ENG 204 Advanced Expository Writing
 ENG 214 Introduction to Creative Writing
 ENG 224 Writing in the Professions

Three courses as listed below:

One of the following:

- ENG 303 British Literature to 1760
 ENG 304 British Literature, 1760 to the Present

One of the following:

- ENG 305 Survey of World Literature, 1700-1945
 ENG 306 Contemporary Literature
 ENG 307 World Literature to 1830
 ENG 308 World Literature 1830 to the Present
 ENG 320 Survey in African-American Literature

One of the following:

- ENG 311 American Literature to 1890
 ENG 312 American Literature, 1890 to the Present

Mathematics⁷

- MAT 115 Mathematics for Middle and Elementary Teachers I
 MAT 215 Mathematics for Middle and Elementary Teachers II
 MAT 250 Calculus and Analytical Geometry I
 MAT 305 Intermediate Geometry
 MAT 399 Sets, Logic and Functions
 STA 135 Introduction to Probability and Statistics

Choose between the following:

- MAT 140 College Algebra

and

- MAT 145 Trigonometry

or

- MAT 150 Algebra and Trigonometry

Science⁷

- AST 115/116 Introductory Astronomy/Laboratory
 BIO 101 Biological Concepts
 BIO 216 Biological Inquiry and Analysis
 CHE 105 Introductory Chemistry
 GSC 199 Earth Science
 PHY 125/126 Brief Introductory Physics/Laboratory

Social Studies⁷

- CIV 201 World Civilizations I
 CIV 202 World Civilizations II
 ECO 140 Contemporary Economics
 GSC 110 World Geography
 HIS 221 American Experience to 1865
 HIS 222 American Experience since 1865
 POL 140 American National Government
 and three hours from the following:
 HIS 301 Ancient History to the Fall of Rome
 HIS 302 Medieval Europe

- HIS 305 Irish Diaspora
 HIS 306 Europe in Renaissance and Reformation
 HIS 309 Survey of World Religions
 HIS 316 Women and Gender in World History
 HIS 340 Modern East Asia
 HIS 350 History of Latin America
 HIS 354 Ancient Near East
 HIS 355 Islamic Middle East
 HIS 356 Modern Middle East
 HIS 359 Early India
 HIS 360 Modern India
 HIS 362 Ancient Egypt
 HIS 364 Ancient Rome
 HIS 370 History of Africa

and three hours from the following:

- HIS 407 Modern Imperialism and Colonialism
 HIS 415 Women in History
 HIS 421 U.S. Social and Cultural History to 1865
 HIS 422 U.S. Social and Cultural History Since 1865
 HIS 430 Colonial America to 1763
 HIS 446 History of Kentucky
 HIS 449 Islam in the Modern World
 HIS 450 Modern Africa
 HIS 451 Slavery and Africa
 HIS 459 Genocide in World History

Total Curriculum Requirements 123-128 hrs

¹With a grade of C or better.

²Not required in Social Studies Track.

³Not required in Science Track.

⁴Not required in English Track.

⁵With a grade of B or better.

⁶Substitutions can only be made with prior approval by advisor in the department concerned.

⁷Academic track coursework may include University Studies requirements.

General Special Education Minor 21 hrs

Non-teaching minor. Minors are individualized. Please see your advisor. Six hours of the minor must be upper-level courses.

Master of Arts in Education

**Special Education/Mild Learning and Behavior Disorders
 P-12 Certification Concentration**

CIP 13.1001

ACCREDITED BY: Council for the Accreditation of Educator Preparation (CAEP).

This program is designed for individuals certified in general education who want certification in learning and behavior disorders. This program is also for individuals who hold a categorical special education certificate in one or more areas and want learning and behavior disorders certification. Individuals participating in the alternative route to learning and behavior disorders certification program may also apply for admission to this program once they have received their temporary provisional certificate. Admission to the Teacher Education Program must be obtained. This program can also be used by students with a Rank II status to obtain Rank I status.

Total Course Requirements 31 hours

- ADM 630 Methods of Research^{L,R}

or

- EDU 639 Research to Improve Student Learning^{L,R}

- CDI 635 Graduate Seminar in Communication Disorders

- SED 606 Procedures for Classroom Management and Discipline

- SED 608 Functional Behavior Analysis
- SED 602 Family-Professional Partnerships
- SED 603 Special Education Law and Procedures
- SED 605 Characteristics and Needs of Children and Youth with Mild Disabilities
- SED 615 Collaboration Skills for Educators
- SED 625 Instructional Techniques for Children and Youth with Mild Disabilities
- SED 637 Advanced Diagnostic Procedures
- SED 690 Exit Seminar in Special Education

Undergraduate Certification Deficiencies

- REA 618 Content Area Literacy K-12
(Must be taken to satisfy undergraduate deficiencies or an approved reading course.)

**Master of Arts in Education
Special Education/Moderate to Severe Disabilities
P-12 Certification Concentration** CIP 13.1001

ACCREDITED BY: Council for the Accreditation of Educator Preparation (CAEP).

This program is for individuals with any elementary, middle, secondary, special education, or IECE certification who wish to obtain a P-12 certificate in moderate to severe disabilities. This program can also be used by students with a Rank II status to obtain Rank I status.

Total Course Requirements..... 31 hours

- ADM 630 Methods of Research^{L, R}
- or*
- EDU 639 Research to Improve Student Learning^{L, R}
- SED 602 Family-Professional Partnerships
- SED 603 Special Education Law and Procedures
- SED 607 Transdisciplinary Assessment of Individuals with Moderate to Severe Disabilities
- SED 608 Functional Behavior Analysis
- SED 609 Instructional Procedures - Students with MSD
- SED 614 Advanced Instructional Technology
- SED 631 Nature and Needs of Individuals with Moderate to Severe Disabilities
- SED 645 Strategies for Students with Autism
- SED 655 Special Education Transition
- SED 690 Exit Seminar in Special Education

Note: If any of the above courses were completed for initial certification, other SED courses will be utilized to complete this program.

**Master of Arts in Education
Special Education/Advanced Studies in Learning and Behavior Disorders Teacher Leader Concentration**
CIP 13.1001

ACCREDITED BY: Council for the Accreditation of Educator Preparation (CAEP).

This program is designed for individuals certified in learning and behavior disorders. The program can also be used as a basis for developing a Rank I program.

TEACHER LEADERSHIP

Total Course Requirements..... 30 hours

- EDU 600 Introduction to Teacher Leadership
- EDU 631 Classroom Management and Student Motivation
- EDU 633 Curriculum Development
- EDU 637 Instruction for Diverse Learners
- EDU 639 Research to Improve Student Learning^{L, R}
- EDU 640 Exit Seminar in Teacher Leadership^{L, R}

Additional Courses 15 hrs

- SED 613 Advanced Behavior Support
- SED 614 Advanced Instructional Technology
- SED 651 Social Competence for Safe Environments
- SED 655 Special Education Transition
- SED elective (3 hrs) approved by advisor.

Other Degree Requirements

Students must complete EDU 600 before enrolling in EDU 639.

Moderate to Severe Disabilities

This program is designed for teachers certified in learning and behavior disorders who wish to obtain a P-12 certification in moderate to severe disabilities. A valid learning and behavioral teaching certificate is required for entrance. The student's progress will be continuously assessed throughout the program using established program checkpoints and portfolio entries addressing Kentucky teacher standards.

Total Course Requirements..... 19 hours

- SED 607 Transdisciplinary Assessment of Individuals with Moderate to Severe Disabilities
- SED 609 Instructional Procedures - Students with MSD
- SED 614 Advanced Instructional Technology
- SED 631 Nature and Needs of Individuals with Moderate to Severe Disabilities
- SED 645 Strategies for Students with Autism
- SED 655 Special Education Transition
- SED 690 Exit Seminar in Special Education

**Department of Community
Leadership and Human Services**

108 Carr Health Building

270-809-6802

Chair: Paul Lucko. **Faculty:** Brookhiser, Chakradhar, Esau, Ferreira, Gowen, Hancock, Hepworth, Meriedeth, Pittman-Munke, Rogers, Simon, Weber, Weis, Wylie.

The Department of Community Leadership and Human Services offers areas in criminal justice and social work, majors in criminal justice, nonprofit leadership studies, and minors in adventure leadership, community recreation, criminal justice, gerontology, juvenile justice, nonprofit leadership studies, and social welfare.

Criminal Justice - The criminal justice program affords students a broad-based overview of the criminal justice system and its components as well as the ability to specialize in an area of the student's interest. Through the choice of electives, students can emphasize policing, corrections, the nature of crime, and crime causation. Criminal justice graduates are prepared for a variety of professional careers as well as graduate studies in criminal justice or law.

Social Work - The primary purpose of the social work program is to prepare students for entry-level professional generalist practice as social workers in a variety of social service agencies and organizations. To accomplish this purpose, a well-developed curriculum is offered

that is responsive to the social problems and issues confronting society today, and which provides students a stimulating and provocative approach to preparing themselves for a social work career.

Nonprofit Leadership Studies - The Nonprofit Leadership Studies program is designed to develop the next generation of nonprofit sector leaders, prepared to engage as highly effective and dedicated professionals committed to improving the quality of life for people around the world. Undergraduate and graduate programs of study are offered. The undergraduate program has two tracks: nonprofit management and outdoor recreation. Graduates from the Outdoor Recreation track are eligible to take the national examination to become Certified Park and Recreation Professionals (CRRP).

Criminal Justice

The criminal justice program offers students a broad-based overview of the criminal justice system and its components as well as the opportunity to focus in an area of the student's interest by taking specific elective courses. Criminal justice graduates are prepared for a variety of professional careers as well as criminal justice graduate study or law school.

This program leads to a Bachelor of Arts or a Bachelor of Science in criminal justice. The University Studies component provides the necessary liberal arts education, while the criminal justice area or major further develops the individual student's oral, written, analytical, leadership, and problem-solving skills. Internship experiences in a variety of agencies are available during the junior and senior years and are an excellent way to find employment in federal or state agencies.

The faculty encourages all students to be actively involved in student organizations, which provide opportunities for students to network with criminal justice practitioners and gain valuable leadership experiences. Available is a criminal justice student organization, the Criminal Justice Society.

Requirements for Admission

Students should declare criminal justice as their intended area, major, or minor as early as possible so that they can be properly advised. In order to enroll in any upper-level CRJ course, a student must 1) have a minimum GPA of 2.50; and 2) have completed CRJ 140 with a *C* or higher grade. Any student, regardless of major or minor, in addition to meeting course prerequisites, must have a minimum GPA of 2.50 in order to enroll in any 300-level or higher CRJ course.

Requirements to Graduate: To graduate with a criminal justice area, major, or minor, all students must: 1) have a GPA of 2.50 overall; and 2) must earn a grade of *C* or higher in all CRJ courses counting towards the area, major, or minor, including CRJ electives needed to graduate.

Note to Auditors: Students who desire to take a CRJ course without a grade (for no credit) may do so if such an audit is approved by the course professor in writing by the last day to add a course. If a student is having trouble with a course and is expecting to fail the course, it should be dropped before the drop or withdrawal deadline to secure a *W* grade. If a student changes from normal grade to audit after the first week of class, all course work must still be completed and full attendance is expected. The audit will turn into an *E* (failing final grade) if the student receives less than a *D* as the final grade.

AREA:

Criminal Justice¹

Bachelor of Arts/Bachelor of Science

CIP 43.0104

University Studies Requirements 39-46 hrs
(See *Academic Degrees and Programs*.)

University Studies selections must include:

• **Oral and Written Communication**

COM 161 Introduction to Public Speaking

• **Scientific Inquiry, Methodologies, and Quantitative Skills**

STA 135 Introduction to Probability and Statistics²

• **Social and Self-Awareness and Responsible Citizenship**

POL 140 American National Government

PSY 180 General Psychology

• **University Studies Electives**

CSC 199 Introduction to Information Technology

SOC 133 Introduction to Sociology

or

SOC 231 Social Problems

Required Courses 35 hrs

CRJ 100T Transitions

CRJ 140 Introduction to Criminal Justice

CRJ 220 Law Enforcement

CRJ 240 Corrections

CRJ 300 Crime and Criminals³

CRJ 320 Juvenile Justice

CRJ 325 Criminal Justice Ethics

CRJ 385 Violent Crime

CRJ 400 Applied Criminal Justice Research

CRJ 445 Criminal Justice Diversity

CRJ 499 Senior Seminar in Criminal Justice

CRJ 544 Constitutional and Legal Issues in Criminal Justice

and one of the following:

ENG 204 Advanced Expository Writing

ENG 205 Writing for the Social Science

ENG 224 Writing in the Professions

ENG 324 Technical Writing

Required 300-level and above CRJ Electives 15 hrs

Note: Only six hours of credit toward the area may be received from CRJ 305, 488, or 489. CRJ 448 may be repeated as long as the topic differs.

Collateral/Support Courses 12 hrs

Business

Choose one course from the following:

ACC 200 Principles of Financial Accounting

BUS 140 Foundations of Business

BUS 215 Business Communication

ECO 140 Contemporary Economics

ECO 190 Consumer Economics

ECO 200 Economics and Politics

FIN 230 Personal Financial Planning

MGT 350 Fundamentals of Management

MKT 360 Principles of Marketing

Critical Thinking, Computers and Technology

Choose one course from the following:

COM 261 Debate and Advocacy

COM 367 Communication and Critical Thought

COM 422 Communication and Technology

CSC 101 Introduction to Problem Solving Using Computers

CSC 125 Internet and Web Page design

- EGR 140 Introduction to computing Applications in Science and Engineering
- ENG 226 Argument and Discourse
- MKT 285 Emerging Technologies in Marketing
- PHI 103 Critical Thinking
- PHI 203 Symbolic Logic
- PSY 327 Problem-Solving and Decision-Making
- REC 410 Application of Technology to Recreation Decision Making
- TSM 132 Network Technical Support

Communications

Choose one course from the following:

- COM 131 Introduction to Interpersonal Communication
- COM 331 Interpersonal Communication
- COM 353 Team Communication and Leadership
- COM 361 Career Presentations
- COM 380 Organizational Communication
- COM 384 Communication Skills for Professionals
- COM 439 Conflict and Communication
- COM 461 Persuasive Communication

Psychology

Choose one course from the following:

- PSY 245 Law and Psychology
- PSY 322 Motivation and Emotion
- PSY 325 Introduction to Clinical Psychology
- PSY 404 Drugs, Alcohol and Behavior
- PSY 405 Industrial and Organizational Psychology
- PSY 406 Personality
- PSY 407 Abnormal Psychology
- PSY 471 Behavior Modification

Career-Focused Electives 12-19 hrs

Total Curriculum Requirements 120 hrs

¹No substitutions and/or alterations in the above curriculum shall be made without the recommendation of a criminal justice advisor and the written approval of a criminal justice program director in accordance with criminal justice program policies.

²Students may receive credit for another statistics course of at least three credit hours, such as PSY 300.

³CRJ 300 is **not** the same as the MSU course SOC 338. CRJ 300 cannot be substituted with any course from another institution if it was called "Criminology" and/or offered as a sociology course.

MAJOR:

Criminal Justice¹

Bachelor of Arts/Bachelor of Science

CIP 43.0104

University Studies Requirements 39-46 hrs

(See *Academic Degrees and Programs*.)

University Studies selections must include:

- **Oral and Written Communication**
- COM 161 Introduction to Public Speaking
- **Scientific Inquiry, Methodologies, and Quantitative Skills**
- STA 135 Introduction to Probability and Statistics²
- **Social and Self-Awareness and Responsible Citizenship**
- POL 140 American National Government
- PSY 180 General Psychology
- **University Studies Electives**
- CSC 199 Introduction to Information Technology
- SOC 133 Introduction to Sociology
- or
- SOC 231 Social Problems

Required Courses 26 hrs

- CRJ 100T Transitions
- CRJ 140 Introduction to Criminal Justice
- CRJ 220 Law Enforcement
- CRJ 240 Corrections
- CRJ 300 Crime and Criminals³
- CRJ 400 Applied Criminal Justice Research
- CRJ 499 Senior Seminar in Criminal Justice
- and two of the following:
- CRJ 320 Juvenile Justice
- CRJ 325 Criminal Justice Ethics
- CRJ 385 Violent Crime
- CRJ 445 Criminal Justice Diversity
- CRJ 544 Constitutional and Legal Issues in Criminal Justice
- and one of the following:
- ENG 204 Advanced Expository Writing
- ENG 205 Writing for the Social Science
- ENG 224 Writing in the Professions
- ENG 324 Technical Writing

Required 300-level and above CRJ Electives 12 hrs

Note: Only six hours of credit toward the major may be received from CRJ 305, 488, or 489. CRJ 448 may be repeated as long as the topic differs.

Career-Focused Electives 12-22 hrs

Required Minor⁴ 21-24 hrs

Total Curriculum Requirements 120 hrs

¹No substitutions and/or alterations in the above curriculum shall be made without the recommendation of a criminal justice advisor and the written approval of a criminal justice program director in accordance with criminal justice program policies.

²Students may receive credit for another statistics course of at least three credit hours, such as PSY 300.

³CRJ 300 is **not** the same as the MSU course SOC 338. CRJ 300 cannot be substituted with any course from another institution if it was called "Criminology" and/or offered as a sociology course.

⁴A second major can replace the required minor.

Criminal Justice Minor 21 hrs

CRJ 140 and CRJ 300³; two courses from CRJ 220, 240, 320, or 355; and nine hours of CRJ electives. Only three hours are allowed from CRJ 305, 488, or 489. At least 12 hours must be completed at the upper-level. Students must maintain a 2.50 overall GPA and can only apply courses in which they earned a C or higher toward the minor. Students are expected to take the necessary prerequisites listed under CRJ course descriptions. No substitutions and/or alterations in the above curriculum shall be made without written approval of the criminal justice program director. A minimum 2.50 overall GPA is required for admission and retention in the criminal justice minor.

Juvenile Justice Minor 21 hrs

CRJ 140 and CRJ 320; one course from CRJ 533, 537, or 573; two courses from EDP 260, PSY 260, 261, 262, SOC 441, SWK 336, 395, or 405; and two courses from CRJ 220, 240, 300³, 325, 455, 470, 505, 533, 537, or 573. At least 12 hours must be completed at the upper-level. Students must maintain a 2.50 overall GPA and can only apply courses in which they earned a C or higher toward the minor. Students are expected to take the necessary prerequisites listed under course descriptions. No substitutions and/or alterations in the above curriculum shall be made without written approval of the criminal justice program director. A minimum 2.50 overall GPA is required for admission and retention in the juvenile justice minor. This minor cannot be taken by students in the CRJ major or area.

Social Work

The primary purpose of the social work program is to prepare students for entry-level professional generalist practice as social workers in a variety of social service agencies and organizations. To accomplish this purpose, a well-developed curriculum is offered that is responsive to the social problems and issues confronting society today, providing students with a stimulating and provocative approach to preparing themselves for a social work career. The undergraduate social work program is has been accredited by the Council on Social Work Education since 1974.

The social work program is designed to meet the career interests of students in such fields as family and children's services, health, substance abuse, mental health, aging, education and corrections.

Undergraduate social work practitioners work in such settings as: recreational programs for children; group homes; public and private child welfare programs; public assistance programs; public housing programs; domestic violence shelters; hospitals; nursing homes; home health agencies; programs serving the chronically mentally ill; alcohol/drug rehabilitation and prevention programs; programs serving persons with physical and/or developmental disabilities; senior citizens programs; preschools; elementary and secondary schools; probation and parole; prisons and other court-related programs. Another important function of the program is to provide a sound academic foundation for students entering graduate study in social work or related fields of human service.

Students must earn a grade of C or better in all social work course work. Any social work course with a grade of less than C must be repeated. Students must have a GPA of at least 2.5 in social work program courses, and a minimum overall GPA of 2.5 in order to be graduated.

Requirements for Admission

In order to be admitted to the social work program, a student must 1) have completed 60 semester hours of course work with a minimum GPA of 2.50; 2) have completed SWK 190, 201, 225, and 301 or 302 with a minimum GPA of 2.50 and no grades in a SWK class below C; 3) complete an application for admission to the program; 4) be successfully reviewed by the social work program admissions committee; 5) complete any other requirements or testing that the social work program admissions committee members deem necessary for admission; and 6) sign a statement indicating that he/she has read and will follow the Code of Ethics of the National Association of Social Workers.

Field Practicum

In order to be admitted to SWK 499 Field Practicum, a student must 1) have been formally admitted to the social work program; 2) have completed SWK 310, 311, 312, 313, and 498; and 3) be successfully reviewed by the social work field education review committee, and 4) must have completed all other course work needed for graduation. No student is guaranteed a field placement since agencies have final authority to accept or reject a potential student.

AREA:

Social Work

Bachelor of Social Work Degree

CIP 44.0701

ACCREDITED BY: Council on Social Work Education (CSWE)

University Studies Requirements 38-41 hrs

University Studies selections must include:

•Global Awareness, Cultural Diversity, and the World's Artistic Traditions

One University Studies elective in this category

•Scientific Inquiry, Methodologies, and Quantitative Skills

One University Studies BIO course in this category

STA 135 Introduction to Probability and Statistics

One University Studies math or science elective in this category

•Social and Self-Awareness and Responsible Citizenship

POL 140 American National Government

SOC 133 Introduction to Sociology

•University Studies Electives

CSC 199 Introduction to Information Technology

PSY 180 General Psychology

Required Courses 52 hrs

SWK 100T Transitions

SWK 190 Introduction to Social Work

SWK 201 Social Work and Social Welfare

SWK 225 Human Diversity

SWK 301 Human Behavior and the Social Environment I

SWK 302 Human Behavior and the Social Environment II

SWK 303 Principles and Methods of Research

SWK 310 Social Work Practice I

SWK 311 Social Work Practice Skills

SWK 312 Social Work Practice II

SWK 313 Social Work Practice III

SWK 350 Social Welfare Policies and Services

SWK 385 Social Work in Mental Health Settings

SWK 498 Senior Seminar

SWK 499 Field Practicum

Social Work Electives 15 hrs

Choose two upper division social work (SWK) classes with exception of SWK 500. The other nine hours may be chosen from any SWK courses.

Co-Requirements for Area 15 hrs

Any ECO course or one of the following: FCS 241 or FIN 230, any statistics course, and nine hours from the following prefixes: ANT, CRJ, NTN, PHI, PSY, RGS, SOC, SWK, or any foreign language course.

Unrestricted Electives 0-3 hrs

Total Curriculum Requirements 120 hrs

Social Welfare Minor 21 hrs

SWK 102, 201, 225, and SWK 350. Choose three of the following: SWK 202, 230, 303, 305, 336, 426, 427, 428, or 429. Social welfare minors are not permitted to take SWK 301, 302, 310, or any class that requires SWK 310 as a pre- or corequisite. No substitutions/alterations in the above curriculum will be permitted without written prior approval of the program director. Six hours must be upper-level courses.

CERTIFICATE:**Faith-Based Social Work**

CIP 44.0701

The undergraduate certificate in faith-based social work is designed to complement the desire of many social work students in undergraduate professional areas and in social science majors such as sociology and psychology to volunteer effectively in a faith-based setting. The certificate program's objectives are to provide students with an enhanced knowledge base in the area of church volunteer work, skills for working in mission fields and with congregations, and to acquaint students with best practices in faith based settings. The certificate program is offered through interactive television and online through the course management system at Murray State University.

Requirements for Admission

Students who are enrolled in an undergraduate degree program at Murray State University may be enrolled in the program upon permission of either the Program Coordinator or the major advisor upon the completion of 60 hours or junior status. Post-baccalaureate degree students are also eligible for this program upon permission of the Program Coordinator.

Total Course Requirements 18 hours

SWK 338 Faith-Based Social Work

Choose 12 hours from the following:

SWK 102 Introduction to the Human Services
 SWK 190 Introduction to Social Work
 SWK 202 Interviewing in the Human Services
 SWK 315 Addiction: Treatment and Society
 SWK 336 Family Violence
 SWK 370 Gerontological Social Work Practice
 SWK 426 Spirituality and Social Work Practice
 SWK 488 Cooperative Education/Internship
 SWK 489 Cooperative Education/Internship

Choose three hours from the following:

BIS 399 Seminar in Integrated Studies¹
 PSY 180 General Psychology
 RGS 200 Introduction to Religious Studies
 RGS 300 Foundations of Judaism and Christianity
 RGS 309 Survey of World Religions
 RGS 322 History of Religion in the United States
 SOC 133 Introduction to Sociology

¹May be taken by Bachelor of Integrated Studies declared major students only.

CERTIFICATE:**Substance-Related and Addictive Disorders** CIP 51.1501

The undergraduate certificate in substance-related and addictive disorders is designed to complement two undergraduate professional areas, social work and criminal justice. It will also add value to the nonprofit leadership studies major, to traditional discipline areas such as sociology and psychology, and will enhance the management/human resources track and organizational communication degrees. The certificate program's objectives are to provide students with an enhanced knowledge base in the area of substance abuse, acquaint students with current trends in substance abuse research, and to acquaint students with best practices in working with substance abuse issues. The certificate program is offered through interactive television and online through the course management system at Murray State University.

Requirements for Admission

Students who are enrolled in an undergraduate degree program at Murray State University may be enrolled in the program upon permission of either the Program Coordinator or the major advisor upon the completion of 60 hours or junior status. Post-baccalaureate degree students are also eligible for this program upon permission of the Program Coordinator.

Total Course Requirements 15 hours*Choose 12 hours from the following:*

HEA 470 Education for Drug Abuse Prevention
 HPE 370 Teaching Substance Abuse Education
 PSY 404 Drugs, Alcohol and Behavior
 SWK 315 Addiction Treatment and Society
 SWK 395 Substance Abuse Prevention
 SWK 427 Professional Practice in Drug Court
 SWK 428 History and Philosophy of Drug Court
 SWK 429 Behavioral Issues in Drug Court
 SWK 488 Cooperative Education/Internship
 SWK 489 Cooperative Education/Internship

Choose three hours from the following:

BIS 399 Seminar in Integrated Studies¹
 CRJ 140 Introduction to Criminal Justice
 PSY 180 General Psychology
 SOC 133 Introduction to Sociology
 SWK 190 Introduction to Social Work

¹May be taken by Bachelor of Integrated Studies declared major students only.

Gerontology

Through this minor, students learn about the aging process, services for the elderly, and the techniques for working with the elderly. The 21-hour minor in social gerontology combines course work in several disciplines including sociology, social work, psychology and therapeutic recreation. A minor in gerontology provides students with the background they need to provide services to older people.

Gerontology Minor 21 hrs

GTU 264, 305, 341, 520, plus nine hours of limited electives. Six hours must be upper-level courses.

CERTIFICATE:**Gerontology**

CIP 30.1101

The undergraduate certificate in gerontology is designed to complement three undergraduate professional areas, social work, recreation, and nonprofit leadership. It will also add value to traditional social science discipline areas such as sociology and psychology, and will enhance the management/human resources track and organizational communication degrees. The certificate program's objectives are to provide students with an enhanced knowledge base in the area of gerontology, acquaint students with current trends in gerontological research, and to acquaint students with best practices in working with older clients and in agencies serving older adults. The certificate program is offered through interactive television and online through the course management system at Murray State University.

Requirements for Admission

Students who are enrolled in an undergraduate degree program at Murray State University may be enrolled in the program upon permission of either the Program Coordinator or the major advisor upon the completion of 60 hours or junior status. Post-baccalaureate

degree students are also eligible for this program upon permission of the Program Coordinator.

Total Course Requirements 15 hours

Choose three hours from the following:

BIS	399	Seminar in Integrated Studies ¹
PSY	180	General Psychology
REC	101	Introduction to Recreation and Leisure Services
SOC	133	Introduction to Sociology
SWK	190	Introduction to Social Work

Choose 12 hours from the following:

GTY	207	Inclusive Recreation
GTY	264	Psychology of Aging
GTY	265	Psychology of Death
GTY	303	Community Leisure Organizations
GTY	330	Death and Dying: Issues for Caregivers
GTY	342	Sociology of Retirement
GTY	521	Issues in Social Gerontology
GTY	596	The Minority Elderly
REC	306	Leisure and Aging
SWK	305	Sociology of Retirement
SWK	370	Gerontological Social Work Theory
SWK	488	Cooperative Education/Internship
SWK	489	Eating Disorders and Body Image Counseling

¹May be taken by Bachelor of Integrated Studies declared major students only.

Nonprofit Leadership Studies

The Nonprofit Leadership Studies program is designed to develop the next generation of nonprofit sector leaders, prepared to engage as highly effective and dedicated professionals committed to improving the quality of life for people around the world. The nonprofit sector is highly diverse, addressing issues and needs related to health services, education, social and legal services, civic and environmental advocacy, international relations and development, arts and culture, youth development and human services. Example organizations include the American Red Cross, Boy and Girl Scouts of America, Feeding America, Habitat for Humanity, Humane Society, National Urban League, United Way, World Vision, YMCA, 4-H and a range of institutions in the healthcare, higher education, and faith-based institutions.

The undergraduate program has two tracks: nonprofit management and outdoor recreation. Both tracks provide students with knowledge and skills in the areas of program development, marketing and public relations, financial resource development and management, cultural competency and diversity, volunteer and human resource management, as well as many other competencies needed to work in and lead nonprofit organizations. The Program integrates teaching, research, and service to develop the skills, provide the experiences, and nurture the spirit and passion required of effective leadership. Graduates from the Outdoor Recreation track are eligible to take the national examination to become Certified Park and Recreation Professionals (CRRP).

Note: With the exception of first semester freshmen, all students must have a cumulative GPA of 2.0 or higher and have completed all developmental courses prior to declaring Nonprofit Leadership Studies as a major. The major is offered as a B.A. or B.S. and requires a minor. (A second major can replace the required minor.)

MAJOR:

Nonprofit Leadership Studies/Nonprofit Management Track

Bachelor of Arts/Bachelor of Science

CIP 44.0702

University Studies Requirements 38-44 hrs

(See *Academic Degrees and Programs*.)

University Studies selections must include:

• **Social and Self-Awareness and Responsible Citizenship**

NLS 290 Community Engagement and the Nonprofit Sector

Required Courses 29-32 hrs

NLS	100T	Transitions
NLS	300	Introduction to Philanthropy and the Nonprofit Sector
NLS	302	Special Event Management
NLS	306	Aging in American Society
NLS	350	Program Development
NLS	351	Leadership, Governance, and Board Development
NLS	352	Human Resource and Volunteer Development
NLS	400	Professional Internship
NLS	402	Financial Resource Management and Fund Development
NLS	410	Technology Skill for Community Organizations
NLS	450	Senior Seminar

Nonprofit Management Track 24 hrs

Choose fifteen hours from the following:

NLS	207	Diversity and Inclusion in a Global Society
NLS	290	Community Engagement and the Nonprofit Sector
NLS	305	Grant-making and Philanthropic Foundations
NLS	370	Philanthropy, NGOs and International Development
NLS	380	The Nonprofit Sector in Comparative Perspective: Study Abroad Experience
NLS	430	NPOs and Community Development: Comprehensive Strategies for Impact
NLS	465	Policy, Legal Issues, and Advocacy for Social Change in Nonprofit Organizations
NLS	475	Social Entrepreneurship
NLS	485	Seminar on Leadership Development

Career Related Electives 9 hrs

With the support of the academic advisor, students select courses that align their professional and career goals.

Required Minor 21 hrs

Unrestricted Electives 2-8 hrs

Total Curriculum Requirements 120 hrs

Additional Degree Requirements

- 2.00 cumulative grade point average
- 2.00 grade point average in courses taken at Murray State University
- 2.50 grade point average in major

MAJOR:**Nonprofit Leadership Studies/Outdoor Recreation Track**

Bachelor of Arts/Bachelor of Science CIP 44.0702

University Studies Requirements 38-44 hrs
(See *Academic Degrees and Programs*.)

University Studies selections must include:

•Social and Self-Awareness and Responsible Citizenship

NLS 290 Community Engagement and the Nonprofit Sector

Required Courses 29-32 hrs

NLS 100T Transitions
 NLS 300 Introduction to Philanthropy and the Nonprofit Sector
 NLS 302 Special Event Management
 NLS 306 Aging in American Society
 NLS 350 Program Development
 NLS 351 Leadership, Governance, and Board Development
 NLS 352 Human Resource and Volunteer Development
 NLS 400 Professional Internship
 NLS 402 Financial Resource Management and Fund Development
 NLS 410 Technology Skill for Community Organizations
 NLS 450 Senior Seminar

Outdoor Recreation Track 24 hrs*Choose fifteen hours from the following:*

NLS 101 Introduction to Recreation and Leisure Services
 NLS 295 Wilderness and Remote First Aid
 NLS 301 Outdoor Adventure Skills
 NLS 311 Leadership of Adventure Education
 NLS 403 Managing Recreation Areas and Facilities
 NLS 405 Organization and Administration of Recreation
 NLS 460 Recreational Use of Natural Resources
 NLS 470 Interpretation of Cultural and Natural Resources

Career Related Electives 2-8 hrs*Chosen from the following:*

NLS 207 Diversity and Inclusion in a Global Society
 NLS 445 Research and Evaluation in Recreation
 NLS 480 Special Problems in Nonprofit Organizations
 REC 102 Camp Leadership and Campcraft
 REC 104 Rural Tourism
 REC 129 Basic Canoeing
 REC 150 Recreation Activity Leadership
 REC 161 Outdoor Cooking and Menu Planning
 REC 162 Backpacking and Outdoor Living
 REC 163 Caving
 REC 164 Rock Climbing
 REC 264 Intermediate Rock Climbing
 REC 304 Community Recreation Service Learning
 REC 350 Extended Backcountry Travel
 REC 490 National Recreation Sites and Rural Tourism Traveling Workshop

Required Minor 21 hrs**Total Curriculum Requirements** 120 hrs**Additional Degree Requirements**

- 2.00 cumulative grade point average
- 2.00 grade point average in courses taken at Murray State University
- 2.50 grade point average in major

Adventure Leadership Minor 21 hrs
 NLS 101, 295, 301, 311, and 460. Choose six hours from the following (three hours must be upper-level courses):
 NLS 104, 129, 150, 161, 162, 164, 340, 350, 410, 470, or 490.

Community Recreation Minor 22 hrs
 NLS 101, 207, 302, 306, 350, and 405. Choose three hours of electives from the following: NLS 104, 352, 403, 410, 470, or 490.

Nonprofit Leadership Studies Minor 21 hrs
 NLS 300, 350, 351, 402, 465, and six hours of limited electives. Six hours must be upper-level courses.

Graduate Program

The Master of Science in Nonprofit Leadership Studies is designed to prepare individuals for leadership roles and functions in mission-driven nonprofit sector organizations dedicated to improving the quality of life at the local, regional, national, and global levels. Commitment to innovation, social entrepreneurship, social change, engagement, and advocacy guide the curriculum. The core course content focuses on the full range of organizational leadership roles and management functions central to the successful pursuit of the public good missions across the nonprofit sector. They include but are not limited to organizational development and strategic planning, human resource development (staff and volunteer), financial resource development, legal issues and advocacy, and innovation and social change strategies. The 21 core course credit hours provide a dynamic foundation of information and skills for anyone aspiring to more effective nonprofit sector leadership. Twelve hours of elective courses will be chosen as a concentration area to deepen the individual's knowledge and skills in a focused area of nonprofit organization leadership and development. With approval of the academic advisor, a customized concentration area can be developed with a set of electives selected to complement specific career goals. All courses are available to be taken in person, via the Internet, or a combination of the two approaches. During the final semester of coursework, a comprehensive examination will be required to complete the program of study. The M.S. in Nonprofit Leadership Studies program started admitting students in the Spring of 2015.

Unconditional Admission

Admission is based on a combination of the applicant's academic record, career goals, and ability to communicate in both written and oral forms. Applicants for the M.S. in Nonprofit Leadership Studies must submit both the MSU Graduate Application and a letter of application to the academic program that explains in detail the reasons for interest in the degree, related career goals, and leadership and management expertise, along with a current resume and three letters of reference. An interview with faculty in the program of study is required, based on established department criteria.

Conditional Admission

Conditional admission may be granted to applicants who do not meet University GPA requirements of a 3.0 GPA (based on A equals 4.0), but who demonstrate capacity to succeed as evidenced through the academic program application process. A student who is admitted conditionally must maintain a GPA of 3.0. Failure to do so results in academic probation or academic suspension, per University policy.

Master of Science Nonprofit Leadership Studies

CIP 44.0702

NON-THESIS TRACK ONLY

Total Course Requirements..... 36 hours

Core Courses 24 hours

NLS	600	The Nonprofit Sector and Civil Society
NLS	601	Seminar on Nonprofit Organizations
NLS	602	Financial Resource Management and Development for Nonprofit Organizations
NLS	625	Nonprofit Organization Development, Management, and Leadership
NLS	665	Policy, Legal Issues, and Advocacy for Social Change in Nonprofit Organizations
NLS	675	Social Entrepreneurship
NLS	685	Seminar on Leadership Development
ADM	630	Methods of Research

Concentration Electives 12 hours

Students select one of the following concentrations:

Customized Concentration

Students select 12 hours from the following with the approval of the advisor to complete the Customized Concentration. [No more than two courses (six credit hours) of the 12 hours of electives can be chosen with following prefixes: BUS, CIS, MGT or MKT.]

ADM	624	School and Community Relations
ADM	657	Educational Policy and Ethics
CIS	653	Managerial Decision-Making
CNS	635	Human Development
HDL	655	Social Intelligence: Interpersonal Processes
HDL	660	Developing Human Potential
HDL	675	Assessment of Human Potential
HDL	681	Leading and Developing Others
HDL	682	Leading Organizations—Critical Thinking, Problem Solving and Decision Making
HDL	683	Assessment and Application of Leadership Research
HDL	684	Contemporary Issues in Leadership Development Seminar
HDL	670	Multicultural and Diversity Issues in Leadership
HDL	692	Individual, Group and Team Dynamics
MGT	651	Seminar in Organizational Development
MGT	654	Seminar in Human Resource Management
MGT	657	Seminar in International Management

Human Development and Leadership Concentration

HDL	681	Leading and Developing Others
HDL	682	Leading Organizations: Processes of Critical Thinking and Problem Solving
HDL	683	Assessment and Application of Leadership Research
HDL	684	Contemporary Issues in Leadership Development Seminar

Dual Degree Program

The Master of Science in Nonprofit Leadership Studies offers two dual master's degree programs that allow students to complete two master's degrees by taking fewer credit hours. This alternative is practical in terms of both time and cost savings. Additionally, dual master's students will have a unique educational training making them more competitive in the job market.

The MS in Nonprofit and Leadership Studies can be paired with 1) the MA/MS in General Experimental Psychology (GEPsy) or 2) the MS in Human Development and Leadership (HDL).

Application and Admission

Applicants must hold a bachelor's degree from an accredited

institution of higher education and must declare at the time of application the intention to pursue a dual degree in NLS/GEPsy or NLS/HDL. The normal criteria for admission to each program apply. If a student only meets the admission criteria of one program, the applicant must apply separately to that single degree program and is then required to meet the graduation requirements of that program.

GEPsy - Applicants must be accepted for unconditional admission by the NLS program as well as accepted for admission by the GEPsy program.

HDL - Applicants may be conditionally accepted in one or both programs of the dual degree, per individual programs' policies. Conditionally admitted students will have to adhere to the policies set in place by the program(s) that granted the conditional admission.

Academic standing

Grade point averages (GPA) in the two programs are computed separately. To continue with the dual degrees, students must meet the academic standards in each program. Students failing in one program but meeting academic standards in the other may reapply for admission to the degree program in which the student is able to meet the academic standards and may transfer in completed course work that is applicable to that program.

Course Progression

Students are required to work consistently toward both degrees. Students will be assigned one advisor from each program to support students' successful course progression, and students are expected to meet with each advisor at least once each semester to ensure both programs are being completed in a timely manner.

Graduation Criteria

General Experimental Psychology - Students in the NLS/GEPsy program must complete the thesis required for the GEPsy program. The thesis committee will be chaired by a member of the graduate faculty from the psychology department. One member of the thesis committee will be from the graduate faculty of the NLS program. The choice of thesis topic should be a collaborative decision between the student and the thesis committee and should be a topic relevant to both psychology and nonprofit leadership. Successful completion of the GEPsy thesis will fulfill the comprehensive examination requirement for the NLS degree. The degrees in NLS and GEPsy must be awarded at the same time.

Human Development and Leadership - Students in the NLS/HDL program meet graduation criteria of each program. The final capstone course will fulfill the comprehensive examinations requirement of both programs. The degrees in NLS and HDL must be awarded at the same time.

MS in Nonprofit Leadership Studies and MA/MS in General Experimental Psychology

Total Course Requirements..... 51 hours

Nonprofit Leadership Core Courses..... 24 hours

NLS	600	The Nonprofit Sector and Civil Society
NLS	601	Seminar on Nonprofit Organizations
NLS	602	Financial Resource Management and Development for Nonprofit Organizations
NLS	625	Nonprofit Organization Development, Management, and Leadership
NLS	665	Policy, Legal Issues, and Advocacy for Social Change in Nonprofit Organizations
NLS	675	Social Entrepreneurship
NLS	685	Seminar on Leadership Development
ADM	630	Methods of Research

**General Experimental Psychology Core Courses..... 27 hours
Foundations of Behavior**

- PSY 610 Graduate Seminar in General Experimental Psychology
- PSY 621 Biological Bases of Behavior
- PSY 622 Cognitive Bases of Behavior
- PSY 623 Social Bases of Behavior
- PSY 624 Developmental Bases of Behavior^L

Research Foundations

- PSY 651 Correlational Research Design and Statistics
- PSY 652 Univariate Research Design and Statistics

Thesis

- PSY 698 Thesis^R
- PSY 699 Thesis^R

Other Degree Requirements

Oral defense and examination of the thesis.
Competency in an approved foreign language (M.A. only).

**MS in Nonprofit Leadership Studies and
MS in Human Development and Leadership**

Total Course Requirements..... 48 hours

Nonprofit Leadership Core Courses..... 21 hours

- NLS 600 The Nonprofit Sector and Civil Society
- NLS 601 Seminar on Nonprofit Organizations
- NLS 602 Financial Resource Management and Development for Nonprofit Organizations
- NLS 625 Nonprofit Organization Development, Management, and Leadership
- NLS 665 Policy, Legal Issues, and Advocacy for Social Change in Nonprofit Organizations
- NLS 675 Social Entrepreneurship
- NLS 685 Seminar on Leadership Development

Human Development and Leadership Core Courses..... 21 hours

- CNS 635 Human Development^L
- HDL 625 Legal and Ethical Issues
- HDL 655 Social Intelligence: Interpersonal Processes
- HDL 660 Developing Human Potential Seminar^{PT}
- HDL 670 Multicultural and Diversity Issues in Leadership
- HDL 675 Assessment of Human Potential
- HDL 692 Individual, Group and Team Dynamics

Research Methods Course 3 hours

- ADM 630 Methods of Research

Capstone Course..... 3 hours

Select one of the following:

- HDL 683 Assessment and Application of Leadership Research
- NLS 680 Special Problems in Nonprofit Organizations

CERTIFICATE:

Nonprofit Leadership Studies

CIP 44.0702

The Nonprofit Leadership Studies Certificate program is designed to support professionals working in leadership roles and those seeking to advance into leadership roles in the nonprofit sector. In addition, it supports those wanting to transition from government or business into the nonprofit sector. The certificate will help ensure a quality understanding of the role of the nonprofit sector in strengthening civil society. In addition, students will customize the set of courses taken to align with career interests across the field

of practice. This program leads to a non-practice credential and is not approved by the Kentucky Educational Professional Standards Board.

Requirements for Admission

Admission is based on applicants holding an undergraduate degree from an accredited higher education institution.

Applicants must comply with the Murray State University requirements (see *Graduate Admissions*). Additional requirements for unconditional admission are as follows:

- unconditional admission is based on an undergraduate GPA of 3.0 or higher;
- conditional admission for applicants with an undergraduate GPA below 3.0 requires a letter of application to the Program Director of the Nonprofit Leadership Studies Program describing the interest in the program. A student who is admitted conditionally must maintain a GPA of 3.0. Failure to do so results in academic probation or academic suspension, per University policy.

Total Course Requirements..... 12 hours

Required for the first semester:

- NLS 600 The Nonprofit Sector and Civil Society
With academic advisor support, select three of the following courses:
- NLS 601 Seminar on Nonprofit Organizations
- NLS 602 Financial Resource Management and Development
- NLS 625 Nonprofit Organization Development, Management, and Leadership
- NLS 665 Policy, Legal Issues, and Advocacy for Social Change in Nonprofit Organizations
- NLS 675 Social Entrepreneurship
- NLS 685 Seminar on Leadership Development

ENDORSEMENT: Environmental Education

ACCREDITED BY: Kentucky Education Professional Standards Board

Students enrolled in a M.A.Ed. in elementary, middle, or secondary education may complete a 12-hour environmental education endorsement. Certified teachers are also eligible. This endorsement may be sought in any degree-seeking or planned teacher education program.

Requirements..... 12 hours

- EDU 615 Introduction to Environmental Education
- EDU 664 Techniques of Teaching Environmental Education
Choose two of the following:
- EDU 620 Internship in Environmental Education
- EDU 660 Special Problems in Environmental Education
- EDU 663 Workshops in Environmental Education
- EDU 665 Field Experiences in Environmental Education
- EDU 667 International Environmental Education
- EDU 668 Agriculture and the Environment in the Classroom
- EDU 669 Investigation and Evaluation of Issues in Environmental Education

Department of Early Childhood and Elementary Education

3201 Alexander Hall

270-809-2500

Chair: Jacqueline Hansen. **Faculty:** Branch, Brown, Edington, Erikson, Fort, Gierhart, Gill, Grant, Hansen, Islam, Park, Patterson, Reed, Riley.

The Department of Early Childhood and Elementary Education prepares early childhood and elementary school teachers. Students completing one of the programs of study will be certified to apply to teach in an early childhood setting or in an elementary school. The programs are accredited by the Council for the Accreditation of Educator Preparation (CAEP) and the Kentucky Education Professional Standards Board.

The interdisciplinary early childhood education program prepares graduates to provide early intervention, care and educational services for infants, toddlers, preschool, and kindergarten children with and without disabilities and their families. The program includes courses in special education, early childhood, child development, and professional education. Center-based programs and public schools provide field and clinical experiences for majors.

The elementary education program prepares students to teach in elementary schools, kindergarten through fifth grade. Students are certified to teach all regular content areas to K-5 children. The four-year preparation program includes courses in University Studies, professional education, and elementary teaching methods. Students interact with children in local schools during the professional education courses taken each year of the program.

In addition to undergraduate degrees, the Department of Early Childhood and Elementary Education offers several Master of Arts in Education programs in teacher leader, interdisciplinary early childhood education, and reading and writing: literary specialist endorsement P-12. Students may also earn a Specialist in Education degree or endorsements in Instructional Computer Technology or in Environmental Education (housed in the Department of Community Leadership and Human Services).

Each of the master's programs provides for the renewal of the provisional teaching certificate and advancement to Rank I or Rank II classification. Interdisciplinary Early Childhood Education majors may seek initial certification at the graduate level by meeting all teacher education admission and student teaching requirements.

AREA:

Elementary School Education (P-5)

Bachelor of Arts

CIP 13.1202

ACCREDITED BY: Council for the Accreditation of Educator Preparation (CAEP); Kentucky Education Professional Standards Board

University Studies Requirements 45 hrs
(See *Academic Degrees and Programs*.)

University Studies selections must include:

•**Global Awareness, Cultural Diversity and the World's Artistic Traditions**

GSC 110 World Geography

•**Scientific Inquiry, Methodologies, and Quantitative Skills**

BIO 101 Biological Concepts

MAT 140 College Algebra

•**Social and Self-Awareness and Responsible Citizenship**

EDP 260 Psychology of Human Development

•University Studies Electives

EDU 103 Issues and Practices of American Education

One advisor approved University Studies course

Note: Admission to the teacher education program also requires a grade of B or better in one English composition course, a University Studies math course, COM 161 and EDU 103 or EDU 104. Additional requirements for admission to teacher education and student teaching must be met. See advisor and/or Office of Teacher Education Services for details.

Professional Education 29 hrs

EDU 100T Transitions¹

EDU 222 Instructional Technology

EDU 303 Strategies of Teaching

EDU 403 Structures and Foundations of Education²

ELE 383 Evaluation and Measurement in Elementary Education

ELE 421 Student Teaching in Elementary P-5, IECE²

SED 300 Educating Students with Disabilities

Elementary Education Courses..... 30 hrs

ELE 304 Teaching Elementary Mathematics

ELE 305 Children's Literature for Early and Developing Readers

ELE 307 Teaching Elementary Language Arts

ELE 310 Classroom Environment and Student Engagement for Elementary Teachers

ELE 390 Introduction to Kindergarten

ELE 400 Strategies and Assessment for Teaching Mathematics in the Elementary School²

ELE 401 Teaching Elementary Social Studies²

ELE 402 Teaching Elementary Science²

REA 306 Literacy Development in the Elementary School

REA 412 Assessment and Strategies for Struggling Readers²

Related Education Courses..... 15 hrs

ART 343 Art Materials and Techniques for the Classroom Teacher

ELE 311 Health, Wellness, and Movement

MAT 115 Mathematics for Middle and Elementary Teachers I

MAT 215 Mathematics for Middle and Elementary Teachers II

MUS 246 Music for Elementary Classroom Teachers

Advisor Approved Electives 6-8 hrs

Each student must complete two, advisor-approved university studies electives. These two courses should not replicate those used to meet university studies requirements.

Total Curriculum Requirements 125-127 hrs

¹Students may be required to take GUI 100 to support their academic efforts.

²Admission to Teacher Education required for all 400-level courses. Students shall not enroll in any educator preparation courses restricted to admitted candidates. (16 KAR 5:020)

AREA:

Elementary School Education (P-5)

Bachelor of Science

CIP 13.1202

ACCREDITED BY: Council for the Accreditation of Educator Preparation (CAEP); Kentucky Education Professional Standards Board

University Studies Requirements 39-41 hrs
(See *Academic Degrees and Programs*.)

University Studies selections must include:

•**Global Awareness, Cultural Diversity and the World's Artistic Traditions**

GSC 110 World Geography

•Scientific Inquiry, Methodologies, and Quantitative Skills

- BIO 101 Biological Concepts
- MAT 140 College Algebra
- one approved AST, CHE, GSC, or PHY elective

•University Studies Electives

- EDP 260 Psychology of Human Development
 - EDU 103 Issues and Practices of American Education
- Note:** Admission to the teacher education program also requires a grade of B or better in one English composition course, a University Studies math course, COM 161 and EDU 103 or EDU 104. Additional requirements for admission to teacher education and student teaching must be met. See advisor and/or Office of Teacher Education Services for details.

Professional Education 29 hrs

- EDU 100T Transitions¹
- EDU 222 Instructional Technology
- EDU 303 Strategies of Teaching
- EDU 403 Structures and Foundations of Education²
- ELE 383 Evaluation and Measurement in Elementary Education
- ELE 421 Student Teaching in Elementary P-5, IECE
- SED 300 Educating Students with Disabilities

Elementary Education Courses..... 30 hrs

- ELE 304 Teaching Elementary Mathematics
- ELE 305 Children’s Literature for Early and Developing Readers
- ELE 307 Teaching Elementary Language Arts
- ELE 310 Classroom Environment and Student Engagement for Elementary Teachers
- ELE 390 Introduction to Kindergarten
- ELE 400 Strategies and Assessment for Teaching Mathematics in the Elementary School²
- ELE 401 Teaching Elementary Social Studies²
- ELE 402 Teaching Elementary Science²
- REA 306 Literacy Development in the Elementary School
- REA 412 Assessment and Strategies for Struggling Readers²

Related Education Courses..... 15 hrs

- ART 343 Art Materials and Techniques for the Classroom Teacher
- ELE 311 Health, Wellness, and Movement
- MAT 115 Mathematics for Middle and Elementary Teachers I
- MAT 215 Mathematics for Middle and Elementary Teachers II
- MUS 246 Music for Elementary Classroom Teachers

Advisor Approved Electives 9-12 hrs

Each student must complete three, advisor-approved university studies electives. These three courses should not replicate those taken to meet university studies requirements.

Total Curriculum Requirements 122-127 hrs

¹Students may be required to take GUI 100 to support their academic efforts.

²Admission to Teacher Education required for all 400-level courses. Students shall not enroll in any educator preparation courses restricted to admitted candidates. (16 KAR 5:020)

Graduate Programs

**Master of Arts in Education
Elementary Teacher Leader**

CIP 13.1202

ACCREDITED BY: Council for the Accreditation of Educator Preparation (CAEP); Kentucky Education Professional Standards Board.

Total Course Requirements 30 hours

- EDU 600 Introduction to Teacher Leadership
- EDU 631 Classroom Management and Student Motivation
- EDU 633 Curriculum Development
- EDU 637 Instruction for Diverse Learners
- EDU 639 Research to Improve Student Learning^{R, 1}
- EDU 640 Exit Seminar in Teacher Leadership^t

Academic Emphasis

Choose either the elementary emphasis courses or the literacy emphasis courses listed below:

Elementary

Students may choose elementary concentration supporting the teaching field or an educational endorsement concentration.

- ELE 601 Integrating Social Studies in the Curriculum
- ELE 602 Integrating Language Arts in the Curriculum
- ELE 603 Integrating Mathematics in the Curriculum
- ELE 608 Integrating Science Across the Curriculum
- REA 612 Foundations of Literacy

¹Students must complete EDU 600 before enrolling in EDU 639.

Literacy

Please note that this program does not lead to endorsement as a literacy specialist. Students interested in pursuing a Literacy Specialist Endorsement should complete the Master of Arts in Education: Reading and Writing program.

- REA 612 Foundations of Literacy
 - REA 618 Content Area Literacy K-12
 - REA 626 Word Study: Phonics, Spelling and Vocabulary
- and choose three credit hours from the following or other literacy electives approved by advisor:*

- ELE 602 Integrating Language Arts in the Curriculum
- ELE 616 Research in Children’s Literature
- ENG 604 Purchase Area Writing Project I
- ENG 605 Purchase Area Writing Project II
- LIB 617 Research in Young Adult Literature
- REA 624 Kentucky Reading Project

¹Students must complete EDU 600 before enrolling in EDU 639.

**Specialist in Education
Teacher Education and Professional Development**

CIP 13.1206

ACCREDITED BY: Council for the Accreditation of Educator Preparation (CAEP); Kentucky Education Professional Standards Board.

Total Course Requirements 30 hours

- EDP 675 Advanced Educational Psychology
- EDU 622 Philosophy of Education
- EDU 798 Specialty Study^{L, R}
- ELE 647 Curriculum in the Elementary School
- or*
- MID 640 Middle School Curriculum
- or*

SEC 641 Building the Curriculum of the Secondary School Electives (15 hrs)
Approved in advance by the student's specialist committee.

Other Degree Requirements

Defense of specialty study. See MSU/COEHS requirements.

Master of Arts in Education

Reading and Writing CIP 13.1315

ACCREDITED BY: Council for the Accreditation of Educator Preparation (CAEP); Kentucky Education Professional Standards Board.

NON-THESIS TRACK ONLY

Total Course Requirements 30 hours

- EDU 631 Classroom Management and Student Motivation
- EDU 637 Instruction for Diverse Learners
- EDU 639 Research to Improve Student Learning^{L, R}

Reading Concentration

- REA 612 Foundations of Literacy
 - REA 618 Content Area Literacy K-12
 - REA 628 Literacy Assessment
 - REA 638 Assessment and Instruction of Children with Reading Difficulties
 - REA 639 Supervised Practicum in Reading^{PT}
- Limited reading/writing electives approved in advance by the student's education advisor (6 hrs)
 At least one course with a major emphasis on writing (e.g. ENG 604/605, ELE 602, REA 626) MUST be included.

AREA:

Interdisciplinary Early Childhood Education (Birth to Primary)

Bachelor of Science/Bachelor of Arts CIP 13.1210

ACCREDITED BY: Council for the Accreditation of Educator Preparation (CAEP); Kentucky Education Professional Standards Board

University Studies Requirements 38-41 hrs
 (See *Academic Degrees and Programs*.)

University Studies selections must include:

•**Scientific Inquiry, Methodologies, and Quantitative Skills**

- BIO 101 Biological Concepts
- MAT 117 Mathematical Concepts (or higher)
- Math or Science elective (B.S. only)

•**Global Awareness, Cultural Diversity and the World's Artistic Traditions**

- THD 104 The Theatrical Experience
- Foreign Language (B.A. only 6 hours)

•**Social and Self-Awareness and Responsible Citizenship**

- SOC 133 Introduction to Sociology
- World's Historical, Literary, and Philosophical Traditions**
 Literature, Philosophy, or Fine Arts elective (B.A. only)

•**University Studies Electives**

- CSC 199 Introduction to Information Technology
- PSY 180 General Psychology (B.S. only)

Note: Certification requires a grade of *B* or better in one English composition course and a *B* or better in a University Studies math course, COM 161, and EDU 103 or EDU 104. Additional requirements for admission to teacher education and student teaching must be met. See advisor and/or Office of Teacher Education Services for details.

Professional Studies 26 hrs

- ART 343 Art Materials and Techniques for the Classroom Teacher
- EDP 260 Psychology of Human Development
- EDU 100T Transitions
- EDU 103 Issues and Practices of American Education
- EDU 403 Structures and Foundations of Education
- ELE 421 Student Teaching in Elementary P-5, IECE

Interdisciplinary Early Childhood Courses 51 hrs

- CDI 340 Speech and Language Development
- ELE 301 Language and Early Literacy for Early Childhood
- ELE 302 Music and Movement for Young Children
- ELE 308 Teaching Mathematics and Science in Early Childhood
- ELE 390 Introduction to Kindergarten
- ELE 410 Collaboration and Communication in IECE Environments
- ELE 439 Early Childhood Assessment and Program Development
- ELE 455 Curriculum and Methods for Infants and Toddlers
- ELE 474 IECE Practicum¹
- FCS 250 Early Childhood Development
- FCS 310 Program Planning for Preschool Children
- FCS 311 Child Guidance
- SED 300 Educating Students with Disabilities
- SED 404 Special Education Procedures and Strategies for IECE
- SED 409 Instructional Procedures-Students with MSD
- SED 526 Education of Young Children with Disabilities
- SWK 405 Child Abuse and Neglect

Advisor Approved Electives 2-5 hrs

Total Curriculum Requirements 120 hrs

¹Admission to Teacher Education required. Students shall not enroll in any educator preparation courses restricted to admitted candidates. (16 KAR 5:020)

Graduate Program

Master of Arts in Education

Interdisciplinary Early Childhood Education CIP 13.1210

ACCREDITED BY: Council for the Accreditation of Educator Preparation (CAEP); Kentucky Education Professional Standards Board.

This program leads to eligibility for certification in interdisciplinary early childhood education (birth to primary). Appropriate undergraduate majors for program entry are child development, early childhood education, special education, communication disorders, or other human service fields.

IECE CERTIFICATION

Total Course Requirements 33 hours

- EDU 639 Research to Improve Student Learning^{L, R}
- ELE 604 Advanced Studies in Kindergarten
- ELE 605 Introduction to Interdisciplinary Early Childhood Education
- FCS 625 Advanced Child Development Programs
- SED 604 Special Education Procedures and Strategies for IECE
- SED 626 Education of Young Children with Disabilities
- SED 640 Practicum (1 hr)^{PT, 1}
- or*
- ELE 612 Infant-Toddler Practicum^{PT}
- and*
- ELE 613 Clinical Experiences IECE^{PT}

- SED 652 Assessment and Program Planning - Infants, Toddlers, Preschoolers and Families
- SED 653 Methods and Materials for Infants, Toddlers and Preschoolers
- Elective (3 hrs) with early childhood emphasis chosen with advisor approval. SED 602, 645, ELE 606 or ELE 620 are recommended.

IECE TEACHER LEADERSHIP

Minimum Course Requirements 30 hours

Teacher Leadership Core Courses 15 hrs

- EDU 600 Introduction to Teacher Leadership
- EDU 631 Classroom Management and Student Motivation
- EDU 637 Instruction for Diverse Learners
- EDU 639 Research to Improve Student Learning^R
- EDU 640 Exit Seminar in Teacher Leadership^L
- SED 653 Methods and Materials for Infants, Toddlers and Preschoolers

IECE Concentration 9 hrs

- ELE 604 Advanced Studies in Kindergarten
- FCS 625 Advanced Child Development Programs
- SED 652 Assessment and Program Planning - Infants, Toddlers, Preschoolers and Families

Electives 6 hrs

IECE elective courses chosen with advisor approval.

SED 602, 645, ELE 606 or ELE 620 are recommended.

^LStudents seeking initial certification in education (not currently certified in any educational area) must meet all requirements for admission to Teacher Education and Student Teaching. In order to meet these requirements, students may be required to complete additional undergraduate coursework. Students seeking initial certification in education must complete ELE 612 and 613 and should consult with their advisor and the Director of Teacher Education for additional requirements. Students certified in any education area must take SED 640 to add IECE certification.

Other Degree Requirements

Students must receive a “pass” on the graduate portfolio. Students seeking initial certification must meet all requirements for admission to Teacher Education and Student Teaching. Teacher certification requirements are subject to change. Please refer to the Education Professional Standards Board (EPSB) website at www.kyepsb.net for current requirements or contact 502-564-4606 or 888-598-7667.

ENDORSEMENT: Instructional Computer Technology

ACCREDITED BY: Kentucky Education Professional Standards Board

Students seeking the M.A.Ed. in elementary, middle, or secondary education may complete a 12-hour instructional computer technology endorsement. Students may seek certificate endorsement in instructional computer technology by completing any combination of 12 hours in the following courses.

Requirements 12 hours

- EDU 606 Preparation of Curriculum Materials
- EDU 626 Integration Educational Technology
- Choose two courses from the following:*
- ADM 670 Topics in Educational Technology
- CTE 667 Emerging Trends in Instructional Technology
- SED 614 Advanced Instructional Technology

An instructional computer technology endorsement also requires one year of successful teaching experience. The endorsement is valid for grades P-12.

Department of Educational Studies, Leadership and Counseling

3201 Alexander Hall

270-809-6471

Chair: Susana Bloomdahl. **Faculty:** Bakes, L. Clark, T. Clark, Dodson, Dunham, Koren, Littlepage, Patel, Pender Baum, Pharis, Wilson, Wu, Xu.

The Department of Educational Studies, Leadership and Counseling offers a full range of graduate programs in leadership and counseling. The programs, which range from a Master’s degree to a Doctor of Education, are fully-accredited and designed to provide candidates with the highest quality experiences. Program areas are: (1) postsecondary education administration; (2) school administration, including school principal, supervisor of instruction, director of special education, director of pupil personnel, and superintendent; (3) school counseling, (4) school psychology, including individual intellectual assessment endorsement; (5) clinical mental health counseling; (6) human development and leadership; (7) gifted and talented education; and (8) library media.

Education Programs

Program Director: Randy Wilson

Location: 3201 Alexander Hall

Doctor of Education in P-20 and Community Leadership

The Doctor of Education in P-20 and Community Leadership is designed to foster innovation and creative leadership for experienced educational and community leaders through advanced degree experiences. There are four areas of specialization for the Doctorate of Education in P-20 and Community Leadership: (1) pK-12 Leadership, (2) Postsecondary Leadership, (3) Science, Technology, Engineering, and Mathematics Leadership, and (4) Agriculture Education Leadership.

Requirements for Admission

The program is designed for candidates who have both the academic requirements and sufficient professional preparation and experiences to suggest success at the doctoral level, as well as success as P-20 leaders. The minimum requirements articulated below qualify applicants for consideration, but do not guarantee admission. Admission is granted on a competitive basis.

Unconditional

Admission requirements to the Ed.D. program are as follows:

- An earned master’s degree from a regionally accredited institution of higher education with a GPA of 3.0 or above.
- Note:** STEM Specialization requires a Masters degree in a STEM area;
- a recent (less than five years) Graduate Record Examination (GRE) score detailing Verbal Reasoning, Quantitative Reasoning and Analytical Writing categories;
- a professional resume;
- three confidential professional letters of recommendation and a completed recommendation form attesting to leadership ability and scholarship of the applicant;
- a minimum of three years of successful leadership experience in a pK-12, postsecondary or related community setting;
- a letter of application that addresses applicant’s qualifications and purpose for pursuing the doctorate;
- samples of professional and/or academic writing; and

- a statement of support from the applicant’s employer or a written plan for how the applicant will meet the demands of the program and maintain professional responsibilities; and
- an interview with the program faculty.

Admission is not based on any sole factor but on a combination of the applicant’s academic record and application materials, which describe professional and leadership experiences and academic abilities. Finalists for admission will complete an interview with program faculty to ensure a match between applicant’s abilities and the program’s goals and objectives.

Application deadlines will be posted on the Department of Educational Studies, Leadership and Counseling website for each admission cycle. Applicants should obtain a Program Application by contacting the program at www.murraystate.edu/p20 or 270-809-2793.

Other Degree Requirements

Satisfactory progress through the Ed.D. program requires the following:

- maintenance of a 3.0 overall GPA,
- completion of the early program qualifying exam with a passing score,
- completion of the written and oral qualifying comprehensive examination with a passing score,
- completion of the requirements for clinical field experiences,
- successful defense of the Dissertation Proposal, and
- successful defense of the Dissertation.

Detailed information about these and other policies, such as academic honesty, dissertation guidelines and comprehensive exams, is available from the Department of Educational Studies, Leadership and Counseling and in the Doctor of Education in P-20 and Community Leadership Program Handbook.

Exit Criteria

- Candidates must have a 3.0 overall GPA to qualify for graduation.
- Verification of required clinical experience.
- Successful defense of dissertation.

**Doctor of Education
P-20 and Community Leadership/pK-12 Specialization**
CIP 13.0401

Total Course Requirements..... 60 hours

Core Courses 42 hrs

- ADM 725 Advanced Methods of Quantitative Research in Education
- ADM 730 Advanced Educational Research
- ADM 735 Institutional Research, Assessment and Accreditation
- ADM 800 Seminar in Individual Leadership Development
- ADM 810 Leadership and Ethics in a Diverse Society
- ADM 820 Foundations of P-20 Education
- ADM 830 Development of P-20 Learners
- ADM 900 Clinical Practice I: P-20 Leadership
- ADM 910 Clinical Practice II: P-20 Leadership
- ADM 920 Dissertation Seminar I¹
- ADM 930 Dissertation Seminar II²
- ADM 940 Dissertation Seminar III³
- COM 887 Seminar in Organizational Leadership
- MGT 801 Educational Entrepreneurism

Specialization Area 18 hrs

- ADM 750 Philanthropy and Community Engagement: Institutional Advancement in Education
- ADM 755 The Role of Community Partnerships and Outreach in Education

ADM 760 Executive Leadership
Nine (9) hours of approved electives

¹Students must pass Qualifying Exam before enrolling in ADM 920.
²All ADM 920 course requirements must be met to continue to ADM 930.
³Students must maintain enrollment in ADM 940 until successful defense.

**Doctor of Education
P-20 and Community Leadership/Postsecondary Specialization**
CIP 13.0401

Total Course Requirements..... 60 hours

Core Courses 42 hrs

- ADM 725 Advanced Methods of Quantitative Research in Education
- ADM 730 Advanced Educational Research
- ADM 735 Institutional Research, Assessment and Accreditation
- ADM 800 Seminar in Individual Leadership Development
- ADM 810 Leadership and Ethics in a Diverse Society
- ADM 820 Foundations of P-20 Education
- ADM 830 Development of P-20 Learners
- ADM 900 Clinical Practice I: P-20 Leadership
- ADM 910 Clinical Practice II: P-20 Learner
- ADM 920 Dissertation Seminar I¹
- ADM 930 Dissertation Seminar II²
- ADM 940 Dissertation Seminar III³
- COM 887 Seminar in Organizational Leadership
- MGT 801 Educational Entrepreneurism

Specialization Area 18 hrs

- PSE 750 Academic Program Management and Evaluation
 - PSE 755 Postsecondary Instructional Support Systems
 - PSE 760 Organization and Operations in Postsecondary Education
- Nine hours of approved electives

¹Students must pass Qualifying Exam before enrolling in ADM 920.
²All course requirements must be met to continue to ADM 930.
³Students must maintain enrollment in ADM 940 until successful defense.

**Doctor of Education
P-20 and Community Leadership/STEM Specialization**
CIP 13.0401

Total Course Requirements..... 60 hours

Core Courses 42 hrs

- ADM 725 Advanced Methods of Quantitative Research in Education
- ADM 730 Advanced Educational Research
- ADM 735 Institutional Research, Assessment and Accreditation
- ADM 800 Seminar in Individual Leadership Development
- ADM 810 Leadership and Ethics in a Diverse Society
- ADM 820 Foundations of P-20 Education
- ADM 830 Development of P-20 Learners
- ADM 900 Clinical Practice I: P-20 Leadership
- ADM 910 Clinical Practice II: P-20 Learner
- ADM 920 Dissertation Seminar I¹
- ADM 930 Dissertation Seminar II²
- ADM 940 Dissertation Seminar III³
- COM 887 Seminar in Organizational Leadership
- MGT 801 Educational Entrepreneurism

Specialization Area 18 hrs
 STM 901 Professional Studies in STEM Education I
 STM 902 Professional Studies in STEM Education II
 STM 904 Contemporary Issues in STEM Policy and Education
 Nine hours of approved STEM area electives in the student's area.

¹ Students must pass Qualifying Exam before enrolling in ADM 920.

² All course requirements must be met to continue to ADM 930.

³ Students must maintain enrollment in ADM 940 until successful defense.

**Doctor of Education
 P-20 and Community Leadership/Agricultural
 Education Leadership Specialization** CIP 13.0401

Total Course Requirements 60 hours

Core Courses 42 hrs

- ADM 725 Advanced Methods of Quantitative Research in Education
- ADM 730 Advanced Educational Research
- ADM 735 Institutional Research, Assessment and Accreditation
- ADM 800 Seminar in Individual Leadership Development
- ADM 810 Leadership and Ethics in a Diverse Society
- ADM 820 Foundations of P-20 Education
- ADM 830 Development of P-20 Learners
- ADM 900 Clinical Practice I: P-20 Leadership
- ADM 910 Clinical Practice II: P-20 Learner
- ADM 920 Dissertation Seminar I¹
- ADM 930 Dissertation Seminar II²
- ADM 940 Dissertation Seminar III³
- COM 887 Seminar in Organizational Leadership
- MGT 801 Educational Entrepreneurism

Specialization Area 18 hrs

- AED 900 Trends and Advocacy in Agricultural Leadership
- AED 910 Agricultural Education Stewardship in Practice
- AED 920 Seminar in Agricultural Education Leadership
- AED 930 Training and Presentation Development Strategies for Agricultural Audiences
- AED 940 Agricultural Education Supervision in Practice
- AED/AGR elective (3 hrs)

¹ Students must pass Qualifying Exam before enrolling in ADM 920.

² All course requirements must be met to continue to ADM 930.

³ Students must maintain enrollment in ADM 940 until successful defense.

Postsecondary Education Administration

Program Coordinator: Ben Littlepage

Location: 3201 Alexander Hall

The Master of Arts in Postsecondary Education Administration prepares individuals for careers in 2-year and 4-year postsecondary institutions and fields related to higher education through the service regionally, nationally, and internationally. The curriculum provides students with a foundation of research, administration, leadership, development theory, multicultural and diversity issues, group/team dynamics, and legal/ethic issues. One 150-clock hour internship provides the depth of experience needed for careers in postsecondary education and related fields.

Requirements for Admission

The program is designed for candidates who have a desire to move into leadership positions within a 2-year or 4-year postsecondary institution. The program allows for full-time or part-time study. If a student desires to complete the degree on a part-time basis, it is

strongly recommended that the student be employed in a postsecondary setting to facilitate the completion of internship requirements. The minimum requirements articulated below qualify applicants for consideration, but do not guarantee admission. Admission is granted on a competitive basis.

Unconditional

Admission requirements are as follows:

- an earned bachelor's degree from a regionally accredited institution of higher education with a GPA of 3.0 or above;
- application for admission to the MSU Graduate School;
- application for admission to the Master of Arts in Postsecondary Education Administration program;
- three confidential professional letters of recommendation attesting to leadership ability and scholarship of the applicant;
- two writing samples as defined by the criteria on the application for admission to the Master of Arts in Postsecondary Education Administration program; and
- a successful interview with the graduate faculty (if necessary).

Admission is not based on any sole factor but on a combination of the applicant's academic record and application materials, which describe professional and leadership experiences and academic abilities. Finalists for admission will complete an interview with program faculty to ensure a match between applicant's abilities and the program's goals and objectives.

Application deadlines will be posted on the Department of Educational Studies, Leadership and Counseling website for each admission cycle. Applicants should obtain a Program Application by contacting the department at www.murraystate.edu/pse or 270-809-2793.

Exit Criteria

Candidates must have a 3.0 overall GPA to qualify for graduation.

Verification of required Internship experiences.

Successful completion of the capstone research project or case study analysis.

Detailed information about these and other policies, internship guidelines, and the capstone research project, is available at the Postsecondary Education Administration Program website, www.murraystate.edu/pse.

**Master of Arts
 Postsecondary Education Administration** CIP 13.0406

Total Course Requirements 36 hours

- ADM 630 Methods of Research
- ADM 735 Institutional Research, Assessment and Accreditation
- CNS 635 Human Development
- PSE 615 Introduction to Student Affairs in Higher Education
- PSE 616 College Students in the United States
- PSE 630 Globalization and Internalization of Higher Education
- PSE 700 History and Foundations of American Higher Education
- PSE 710 Higher Education and the Law
- PSE 740 Contemporary Issues in Postsecondary Education
- PSE 755 Postsecondary Instructional Support Systems
- PSE 760 Organization and Operations in Postsecondary Education
- PSE 720 Internship I

CERTIFICATE:**College Advising**

CIP 13.1102

The Certificate in College Advising equips individuals with counseling-based advising skills and an organizational understanding for postsecondary education. Although the certificate program is open to individuals who meet the admissions criteria, ideal candidates are those who work or desire to work in the counseling or postsecondary education administration field, workforce development, or career centers.

Requirements for Admission

Students who hold an undergraduate degree, graduate degree, or those currently enrolled in a graduate program may apply for the Certificate in College Advising.

Applicants must comply with Murray State University requirements (see *Graduate Admissions*). Additional requirements for unconditional admission are as follows:

- a recent (less than five years) Graduate Record Examination (GRE) score; or an earned master's degree in Postsecondary Education Administration, Higher Education Administration, or related field, from a regionally accredited college or university;
- a written statement of intent for admission into the Certificate for College Advising program;
- a current resume; and
- three letters of recommendation from people able to address the applicant's potential to be successful in college advising.

Conditional admission will be determined by the Coordinator of the Certificate in College Advising.

Total Course Requirements 12 hours

CNS 619	Foundational Counseling Techniques
CNS 686	Career Counseling
PSE 616	College Students in the United States
PSE 740	Contemporary Issues in Postsecondary Education

Other Degree Requirements

Students must complete the 12 credit-hour curriculum and a culminating project to successfully complete the certificate program. Through the culminating project, students will integrate disparate concepts from each of the certificate courses in the form of a synthesized case study. In the culminating project, the student will craft a detailed story of a college student, develop a plan of action that reflects key concepts from the core curriculum, and identify an appropriate theory that would be used to guide a professional in working with the case study subject. Students will discuss the basis for their culminating project with the certificate coordinator.

pK-12 School Administration Programs

Program Coordinator: Richard Dodson
Location: 3201 Alexander Hall

**Specialist in Education
Education Administration**

CIP 13.0499

ACCREDITED BY: Council for the Accreditation of Educator Preparation (CAEP).

The Specialist in Education: Education Administration is designed for individuals pursuing district-level certification in K-12 education. This is a 21-hour program in addition to a 30-hour Master of Arts in Education: Education Administration degree. Upon completion of the 30-hour education administration master's degree, the student may reapply to the Education Administration Specialist program and complete the remaining 21 hours.

NOTE: Total program hours must equal or exceed 60 hours beyond the bachelor's degree. Additional advisor-approved elective(s) may be required with chair approval, curriculum may be used for only certification or rank change.

Requirements for Admission

Admission requirements are as follows:

- earned Master of Arts in Education: Education Administration degree;
- a valid Kentucky Teaching Certificate; and
- a minimum of five (5) years of experience as a professional educator at time of application.

Total Course Requirements 21-30 hours

ADM 667	Pupil Personnel Accounting ¹
	or
SED 650	Administration of Special Education Programs
ADM 669	Seminar in School Administration ^R
ADM 677	Crisis Management in Educational Settings ¹
ADM 739	Roles and Responsibilities of the School Superintendent ^L
ADM 749	School District Management
ADM 759	Instructional Planning in Education
ADM 779	The Superintendency Capstone ^{PT, 2}
	or
ADM 798	Specialty Study ³

Advisor approved electives as needed (0-9 hrs)

Exit Criteria

Verification of field experiences.
Successful defense of specialty study or capstone project.

¹ Field experience required

² Capstone project embedded in final course.

³ Students not admitted to superintendent program must take ADM 798.

**Master of Arts in Education
Education Administration**

CIP 13.0499

ACCREDITED BY: Council for the Accreditation of Educator Preparation (CAEP).

The Master of Arts in Education Administration is designed for individuals seeking initial professional certification for Kentucky Instructional Leadership-School Principal (Level 1), and/or certification as a Career and Technical Education principal. This degree is required for admission to other Kentucky Professional Administrative Certificate programs. Coursework is aligned with the Interstate School Leader Licensure Consortium (ISLLC) standards, the Technology Standards for School Administrator (TSSA), and the Kentucky Dispositions, Dimensions and Functions for School Leaders (KDF). There are over 500 hours of documented field experience required, which occur with a diversity of students in different contexts (elementary, secondary) and at different levels of engagement (observing, participating, leading). Admission to the program is competitive, selective, and collaborative. Pursuant to 16 KAR 3:050, Murray State University and partner school districts collaborate to co-select candidates, co-design program experiences, and coordinate resources to support candidate field-experience (i.e., release time, access to data, mentoring). Applicants must be affiliated with a partner school district through employment or through a Statement of Sponsorship. For certification as Kentucky Instructional Leadership-School Principal (Level 1) applicants must possess a master's degree, making this a second master's degree. Career and Technical Education applicants with initial certification at the associate degree level, may enter the program as a first master's degree and are restricted to the CTE Principal certificate with an earned bachelor's degree.

Admission Requirements

- an earned master’s degree from a regionally accredited college or university;
- documented affiliation with a partner school district;
- a minimum of three (3) years of teaching experience at time of application; and
- a valid Kentucky Teaching Certificate or an approved waiver of Kentucky certification.

Procedures for Admission

This program is organized and delivered through a regional cohort model. Applicants should contact the Department of Educational Studies, Leadership and Counseling to obtain a schedule of cohorts, application deadline dates, and a departmental application. All application materials must be submitted by the advertised deadline for consideration for the cohort. These materials include:

- completed departmental and university graduate applications;
- current professional resume reflecting leadership experiences;
- requested letters of reference and completed rating sheets; and
- requested essays.

All application materials will be screened and interviews schedule by a selection committee for each cohort. Following the interviews, applicants will be notified of the admission decision by the department.

Total Course Requirements 30 hrs

MA and Level 1 Certification

- ADM 601 School Leadership and Culture¹
- ADM 602 Socio-Political Dimensions of School Leadership¹
- ADM 611 School-wide Instructional Leadership¹
- ADM 612 Development of School Personnel¹
- ADM 631 Organization and Operation of Schools
- ADM 632 Principal Internship I^{PT,1}
- ADM 671 Principal Internship II^{R,1}
- ADM 672 Legal and Ethical Issues in Schools
- ADM 681 Instructional Leadership for Diverse Learners
- ADM 682 Principal Internship III¹

Exit Criteria

- Verification of internship and field experience hours.
- Successful defense of capstone project.
- Must have at least a 3.00 cumulative GPA.

¹ Field experience required.

Certification Procedures

For certification as Instructional Leadership-School Principal Level 1, the candidate must show proof of an earned Master of Arts in Education: Education Administration and passing scores of the following tests: 1) School Leader Licensure Assessment (#1494) and 2) the Kentucky Principal test with chair approval, a program may be developed only for certification and rank change purposes.

Within five years of receipt of the Level 1 certificate, the program for Level 2 must be completed.

Level II Principal Certification 6 hrs

- ADM 669 Seminar in School Administration
- Advisor approved elective based upon candidate needs (3 hrs)

Career and Technical Education Principal Concentration

Requirements for Admission

- an earned master’s degree from a regionally accredited college or university;

- NOTE:** Occupation-based candidates: earned bachelor’s degree in appropriate area from a regionally accredited college or university;
- documented affiliation with a partner school district or technical center;
 - a minimum of three (3) years of teaching experience at time of application; and
 - a valid Kentucky Teaching Certificate in CTE area or an approved waiver of Kentucky certification.

Procedures for Admission

This program is organized and delivered through a regional cohort model. Applicants should contact the Department of Educational Studies, Leadership and Counseling to obtain a schedule of cohorts, application deadline dates, and a departmental application. All application materials must be submitted by the advertised deadline for consideration for the cohort. These materials include:

- completed departmental and university graduate applications;
- current professional resume reflecting leadership experiences;
- requested letters of reference and completed rating sheets; and
- requested essays.

All application materials will be screened and interviews schedule by a selection committee for each cohort. Following the interviews, applicants will be notified of the admission decision by the department.

Total Course Requirements 30 hrs

MA and Career and Technical Education Certification

- ADM 601 School Leadership and Culture¹
- ADM 602 Socio-Political Dimensions of School Leadership¹
- ADM 611 School-wide Instructional Leadership¹
- ADM 612 Development of School Personnel¹
- ADM 671 Principal Internship II^{R,1}
- ADM 672 Legal and Ethical Issues in Schools
- ADM 681 Instructional Leadership for Diverse Learners
- ADM 682 Principal Internship III^{PT,1}
- CTE 672 Managing CTE Learning Facilities¹
- CTE 676 Organization and Administration of Career and Technical Education¹

¹ Field experience required.

Exit Criteria

- Verification of internship and field experience hours.
- Successful defense of capstone project.

Certification Procedures

For certification as a Career and Technical Education Principal, the candidate must show proof of an earned master’s in education administration and passing scores of the following tests: 1) School Leader Licensure Assessment (#1494) and 2) the Kentucky Principal test. With chair approval, a program may be developed for certification and rank change only.

Note: Candidates completing the program as a second master’s may also earn certification as School Principal Level 1 by completing ADM 631.

Master of Arts in Education (Middle or Secondary Education) with School Improvement Leader Concentration

Students seeking a middle or secondary M.A.Ed. or +30 program in middle or secondary education, may complete a 12-hour school improvement leader concentration as part of the program requirements. Course experiences within the concentration are designed to support teachers as they serve in leadership roles such as School-Based Decision Making councils. This concentration does not lead to administrative certification or endorsement.

Total Course Requirements 12 hours

ADM 627 School Law and Finance for Teachers¹
ADM 656 School Improvement Processes for Teachers
ADM 657 Educational Policy and Ethics
Advisor approved ADM elective (3 hrs)

Master of Arts in Education Library Media

CIP 13.1334

The Master of Arts in Education in Library Media offers two areas of emphasis. The certified teacher course of study is offered for students with a teaching certificate that would like certification as a school media librarian. The initial certification course of study is appropriate for students with no teaching certificate that would like to begin an education career as a school media librarian.

Requirements for Admission

All applicants to the library media program should meet the minimum requirements outlined below.

- an earned bachelor's degree from a regionally accredited institution with a minimum GPA of 2.75;
- application for admission to the MSU Graduate School; and
- application for admission to the library media program.

Admission is not based on any sole factor, but a combination of the applicant's academic record and application materials.

Total Course Requirements 33 hours

Profession Education 9 hours

EDU 626 Integrating Educational Technology
EDU 633 Curriculum Development
EDU 639 Research to Improve Student Learning^R

Concentration 12 hours

LIB 600 Libraries and Education¹
LIB 620 Library Administration
LIB 630 Organizing and Managing Library Collections
LIB 640 21st Century Skills and Services
LIB 699 Exit Seminar in Library Media Education^{L,2}

CERTIFIED TEACHER TO ADD LIBRARY MEDIA CERTIFICATION

Clinical Experience 3 hours

Choose three of the four following courses:

LIB 626 Administration Practicum in Library Media^{PT}
LIB 636 Cataloging Practicum in Library Media^{PT}
LIB 646 21st Century Skills Practicum in Library Media^{PT}
LIB 656 Technology Practicum in Library Media^{PT}

Electives 9 hours

(Limited to library media or library media related courses approved in advance by the student's advisor.)

ELE 616 Research in Children's Literature

or

LIB 617 Research Young Adult Literature
LIB 601 Learning and Libraries

or

LIB 604 Library in the School Curriculum
LIB 610 Collection Management

¹ LIB 600 must be taken during the first semester of the program.

² LIB 699 must be taken in the last semester of the program.

INITIAL CERTIFICATION

Students seeking initial certification in education (not currently certified in any educational area) must pass the Praxis Core Academic Skills Test for Educators (CASE) and attend an on-campus *Admission to Teacher Education* orientation before admission to the program. During the first few semesters of the program, the student must meet all requirements for admission to Teacher Education (16 KAR 5:020), including but not limited to, completing 200 hours of field experience, in compliance with 16 KAR 5:040 (3). Fifty of these hours will come from LIB 600 and the remaining 150 hours of field experience will come from three of the four practicum classes. In order to meet the requirements for admission to Teacher Education, students may be required to complete additional graduate or undergraduate coursework. Students seeking initial certification in education should consult with their advisor and the Director of Teacher Education for requirements.

Clinical Experience 3 hours

Choose three of the following four courses:

LIB 626 Administration Practicum in Library Media
LIB 636 Collections Practicum in Library Media
LIB 646 21st Century Skills Practicum in Library Media
LIB 656 Technology Practicum in Library Media

Student Teaching Experience 3 hours

LIB 613 Clinical Experience in Library Media¹

Electives 6 hours

ELE 616 Research in Children's Literature

or

LIB 617 Research Young Adult Literature
LIB 601 Learning and Libraries

or

LIB 604 Library in the School Curriculum

¹ Requires admission to Teacher Education and admission to Student Teaching.

Other Degree Requirements

Students must maintain a minimum GPA of 3.0 and successfully complete the program portfolio. Students must achieve a passing score on the Praxis II for Library Media Specialist (5311), and if the candidate is going for initial certification, a passing score on the Principles of Learning and Teaching Test (5622, 5623, 5624).

Student Teaching Requirements

Requirements for student teaching are described in the introductory section of the College of Education and Human Services. Questions should be directed to the office of Teacher Education Services, 270-809-2054.

ENDORSEMENT: Gifted Education

Students enrolled in M.A.Ed. or +30 program in elementary, middle, or secondary education may complete a 12-hour gifted education endorsement. Certified teachers are also eligible. The courses for the certificate include:

Total Course Requirements 12 hours

- GTE 691 Nature and Needs of the Gifted Student^L
- GTE 692 Methods and Materials for Teaching Gifted Students
- GTE 694 Supervised Practicum in Gifted Education^{PT}

Choose one of the following:

- EDU 621 Advanced Methods of Teaching¹
- EDU 637 Instruction for Diverse Learners¹
- GTE 693 Educational Programs for Gifted Students

¹This course may not be used as an elective when required within a graduate level program.

A gifted education endorsement also requires one year of successful teaching experience. The endorsement is valid for grades K-12; however, assignment to a full-time self-contained gifted education class shall be restricted to the level of the base certificate. The endorsement shall have the same duration as the base certificate.

Exit Assessment: GPA of 3.0 or higher in endorsement courses, with completed GTE 694, and a portfolio score of 82 or above. Individuals applying for this endorsement September 1, 2009 or after, must successfully complete Praxis II Gifted Education (5358).

Kentucky Administrator Professional Endorsements

There are four Kentucky administrative endorsements that may be obtained at the post-master's degree level. These endorsements are a) Instructional Leadership-School Superintendent, b) Instructional Leadership-Supervisor of Instruction c) Director of Pupil Personnel, and d) Director of Special Education. All programs are aligned to the Interstate School Leader Licensure Standards and the Technology Standards for School Administrators.

Requirements for Admission

Applicants to these programs must have the following:

- earned Master of Arts in Education: Education Administration degree;
- a valid Kentucky Teaching Certificate;
- a minimum of three (3) years of teaching experience at time of application; and
- additional requirements as listed with each endorsement as appropriate.

ENDORSEMENT:

Instructional Leadership-School Superintendent

Applicants should apply to the MSU Graduate School and obtain a program application from www.murraystate.edu/elc.

Requirements for Admission

Pursuant to 16 KAR 3:010, applicants must submit the following:

- a) a valid Kentucky Professional Certificate;
- b) evidence of a minimum of three years of teaching experience at time of application;
- c) evidence of at least two years of experience in a position of school principal, supervisor of instruction, guidance counselor, director of pupil personnel; director of special education, school business administrator, local district coordinator of vocational education, or a coordinator, administrator, or supervisor of district-wide services. Other administrative experience may be substituted for this require-

ment with the approval of the Education Professional Standards Board.

d) an admission portfolio that includes a written statement from a supervisor or education agency representative attesting to the skills and evidence of the applicant's suitability in the following areas:

1. The ability to improve student achievement;
2. Knowledge of school laws related to school finance, school operations, and personnel matters;
3. The ability to implement curriculum, instruction, and assessment;
4. A commitment to ongoing professional growth;
5. Effective communication skills; and
6. The ability to build relationships, foster teamwork, and develop networks.

e) Proof the applicant completed a master's degree program.

Total Course Requirements 12 hours

- ADM 739 Roles and Responsibilities of the School Superintendent^L
- ADM 749 School District Management
- ADM 759 Instructional Planning in Education
- ADM 779 The Superintendency Capstone^{PT, 1}

¹ Must be unconditionally admitted to superintendent program to enroll.

Exit Criteria

- Successful defense of the Capstone Project.
- Verification of all field experience and mentor hours.

ENDORSEMENT:

Instructional Leadership-Supervisor of Instruction

Level I Total Course Requirements 6 hours

- ADM 669 Seminar in School Administration
- ADM 749 School District Management

Level II Total Course Requirements 3 hours

- ADM 759 Instructional Planning in Education

ENDORSEMENT: Director of Pupil Personnel

Level I Total Course Requirements 6 hours

- ADM 667 Pupil Personnel Accounting
- ADM 669 Seminar in School Administration

Level II Total Course Requirements 6 hours

- ADM 677 Crisis Management in Educational Settings
- or*
- COM 639 Seminar in Conflict Resolution
- or*
- HDL 692 Group Processes and Team Development

ENDORSEMENT: Director of Special Education

In addition to the requirements listed for all Kentucky Administrator Professional Endorsements, applicants must:

- qualify for a Kentucky teaching certificate or a school psychology certificate **and**
- provide evidence of three years of experience as a teacher or school psychologist, with at least one year as a teacher of exceptional children or school psychologist.

Level I Total Course Requirements 6 hours

- SED 603 Special Education Law and Procedures
- SED 650 Administration of Special Education Program

Level II Total Course Requirements 3 hours

ADM 749 School District Management

or

ADM 759 Instructional Planning in Education

Counseling Programs

Programs Coordinator: Samir Patel

Location: 3201 Alexander Hall

The department offers the Specialist in Education degree, the Master of Arts in Education degree, and a Master of Science in Human Development and Leadership. The department also offers non-degree programs leading to post-master's certification endorsements in school counseling and a sixth-year school psychology program.

Specialist in Education Counseling

CIP 13.1101

ACCREDITED BY: Council for the Accreditation of Educator Preparation (CAEP)

There are three concentrations for the Ed.S. in Counseling: school counseling, clinical mental health counseling, and school psychology.

Students completing the Ed.S. in School Counseling are eligible for rank change (Rank I). Students who have completed the 48 hour M.A.Ed. in School Counseling and who are interested in obtaining mental health licensure will need to complete the Clinical Mental Health Counseling concentration. *Note:* Applicants holding a master's degree that is less than 48 hours or is from another institution will undergo a transcript evaluation and may be required to take additional coursework to ensure equivalence to the current degree requirements.

Requirements for Admission

Admission is not based on any one factor but on a combination of the applicant's academic record, work experience, potential for becoming an effective and ethical mental health professional and the match between the program training objectives and the applicant's professional goals.

Applicants must meet Murray State requirements listed in *Graduate Admissions* as well as submit:

- a MSU Graduate School application;
- an application to the counseling program. The program application may be obtained by contacting the Department of Educational Studies, Leadership and Counseling or through the department's website;
- a written statement of intent reflecting graduate level writing ability;
- three letters of recommendation from people able to address the applicant's potential as a counseling professional;
- a current resume; and
- have an interview with the Counseling Program Admissions Committee.

Note: Admission to the program does not guarantee graduation, certification, or licensure. The following nonacademic conditions may result in dismissal if they are observed to impair the student's ability to work in class, practicum, or internship settings: 1) personal concerns, 2) interpersonal relationship problems, 3) personal attitudes or values that conflict with effective counseling relationships, and 4) unethical behavior.

Conditional Admission

Conditional admission may be granted to applicants deficient in a single area as space permits. Exceptions will be made on a case-by-case basis. Students admitted conditionally must obtain a B or better

grade in each of their first nine credit hours of program study to gain unconditional status.

SCHOOL COUNSELING CONCENTRATION

Upon successful completion of the 48-hour Masters of Arts in Education in School Counseling program, students can complete an additional 12 credit hours to earn the Specialist in Education Degree (Ed.S.) in School Counseling.

Students who complete this program are eligible for a rank change (Rank I). *Note:* This is a non-mental health licensure concentration.

Exit Criteria

Students must successfully complete the Ed.S. School Counseling concentration courses with no more than two C's or below within the Master's and Ed.S. coursework and maintain a 3.0 GPA.

Total Course Requirements 60 hours

48 credit hours transferred from M.A. in School Counseling, plus the following courses:

- CNS 625 Legal and Ethical Issues
- CNS 694 Advanced Counseling and Supervision
- CNS 722 Substance Use and Addictions Counseling
- CNS 734 Marriage, Couples and Family Counseling

CLINICAL MENTAL HEALTH COUNSELING CONCENTRATION

ACCREDITED BY: Council for Accreditation of Counseling and Related Education Professions (CACREP)

The curriculum of the Clinical Mental Health Counseling concentration consists of 60 credit hours. Graduates of this program will be eligible to take the National Counselor Exam (NCE). In addition graduates will also become eligible for the Licensed Professional Counselor Associate status (LPCA) in the state of Kentucky.

Exit Criteria

Students must successfully complete the Ed.S. Clinical Mental Health Counseling concentration courses with no more than two C's or below, maintain a 3.0 GPA, pass the Midpoint Clinical Application Exam taken after 33 credit hours, complete an oral defense, and pass the exit exam.

Total Course Requirements 60 hours

- ADM 630 Methods of Research^R
- CNS 617 Introduction to Counseling
- CNS 618 Issues in Mental Health Counseling
- CNS 619 Foundational Counseling Techniques¹
- CNS 624 Theories of Counseling^L
- CNS 625 Legal and Ethical Issues
- CNS 635 Human Development
- CNS 671 Multicultural Counseling
- CNS 676 Clinical Diagnosis and Treatment Planning
- CNS 683 Tests and Measurements
- CNS 686 Career Counseling
- CNS 692 Group Counseling
- CNS 694 Advanced Counseling and Supervision
- CNS 722 Substance Use and Addictions Counseling
- CNS 734 Marriage, Couples and Family Counseling
- CNS 752 Trauma and Crisis Counseling
- CNS 790 Practicum^{PT}
- CNS 794 Internship I
- CNS 795 Internship II

Approved Electives (3 hrs)

Chosen from the following:

- CNS 746 Wellness and Prevention Approaches
- CNS 748 Expressive Activities Counseling
- CNS 760 Eating Disorders and Body Image Counseling

¹A grade of A or B must be received in CNS 619 to continue in program.

SCHOOL PSYCHOLOGY CONCENTRATION

The Ed.S. in School Psychology concentration is a 66 credit hour program which leads to Standard Kentucky Certification in School Psychology and Rank I. Applicants should have a bachelor's degree in psychology, special education, or other mental health related fields.

Prerequisites:

- Master's degree in a related field (e.g., counseling, psychology, communication disorders, or special education) from a regionally accredited institution;
- three letters of recommendation;
- a written goals statement;
- personal interview;
- GRE (V=146, Q=140; V+Q=286 minimum).

Total Course Requirements 66 hours

Provisional Certification 60 hrs^{1,2}

ADM	630	Methods of Research ^R
ADM	725	Advanced Methods of Quantitative Research in Education
CNS	619	Foundational Counseling Techniques ³
CNS	624	Theories of Counseling ^L
CNS	635	Human Development
CNS	671	Multicultural Counseling
CNS	676	Clinical Diagnosis and Treatment Planning
CNS	677	Psycho-Educational Assessment
CNS	683	Tests and Measurements
CNS	688	Professional School Psychology
CNS	689	Individual Testing
CNS	690	Advanced Individual Testing
CNS	692	Group Counseling
CNS	694	Advanced Counseling and Supervision
CNS	790	Practicum ⁴
CNS	798	Specialty Study
SED	603	Special Education Law and Procedures
SED	608	Functional Behavior Analysis
SED	613	Advanced Behavior Support
		or
SED	645	Strategies for Students with Autism
SED	625	Instructional Techniques for Children and Youth with Mild Disabilities

Standard Certification..... 6 hrs⁵

CNS 794 Internship I^P^T

CNS 795 Internship II

¹Allows individual to do internship.

²Candidates must take PRAXIS specialty area examination in school psychology and obtain a minimum score of 161 before provisional school psychology certification can be awarded.

³A grade of A or B must be received in CNS 619 to continue in program.

⁴Practicum in school psychology.

⁵Candidate must have valid provisional certification in school psychology before internship can be contracted.

Master of Arts in Education School Counseling

CIP 13.1101

ACCREDITED BY: Council for the Accreditation of Educator Preparation (CAEP); Council for Accreditation of Counseling and Related Education Professions (CACREP)

The Master of Arts in Education in School Counseling is a 48 credit hour program designed to prepare individuals to work in mental health, consultative, and leadership positions in P-12 school settings.

Requirements for Admission

Admission is not based on any sole factor but on a combination of the applicant's academic record, work experience, potential for becoming an effective and ethical counselor and the match between the program training objectives and the applicant's professional goals.

Applicants must meet Murray State requirements listed in *Graduate Admissions* as well as submit:

- a MSU Graduate School application;
- an application to the counseling program. The program application may be obtained by contacting the Department of Educational Studies, Leadership and Counseling or on the department's website;
- a written statement of intent reflecting graduate level writing ability;
- three letters of recommendation from people able to address the applicant's potential as a counseling professional;
- a current resume; and
- have an interview with the Counseling Program Admissions Committee.

Note: Admission to the program does not guarantee graduation or certification. The following nonacademic conditions may result in dismissal if they are observed to impair the student's ability to work in class, practicum, or internship settings: 1) personal concerns, 2) interpersonal relationship problems, 3) personal attitudes or values that conflict with effective counseling relationships, and 4) unethical behavior.

Conditional Admission

Conditional admission may be granted to applicants deficient in a single area as space permits. Exceptions will be made on a case-by-case basis. Students admitted conditionally must obtain a B or better grade in each of their first nine credit hours of program study to gain unconditional status.

Exit Criteria

Students must successfully complete the 48-credit hour M.A.Ed. in School Counseling courses with no more than two C's or below and a 3.0 GPA, pass the Midpoint Clinical Application Exam taken after 33 credit hours, pass the oral defense, and pass the exit exam.

Requirements for School Counseling Certificate

The following is required to be recommended for a Provisional School Counseling Certificate (grades P-12).

1. Hold a baccalaureate degree from a regionally accredited college or university.
2. Satisfactorily complete M.A.Ed. in School Counseling requirements with a minimum 3.0 GPA.
3. Satisfactorily complete practicum and internship experiences in school counseling as prescribed by state regulations.
4. Pass Midpoint Clinical Application Exam after the candidate has completed 30 credit hours with a minimum GPA of 3.0. Eligible for rank change with passing score and 33 credit hours of school counseling coursework.
5. Pass exit exam.

Total Course Requirements48 hours

ADM 630	Methods of Research ^R
CNS 617	Introduction to Counseling
CNS 619	Foundational Counseling Techniques ¹
CNS 624	Theories of Counseling ^L
CNS 635	Human Development
CNS 671	Multicultural Counseling
CNS 676	Clinical Diagnosis and Treatment Planning
CNS 683	Tests and Measurements
CNS 686	Career Counseling
CNS 689	Individual Testing
CNS 692	Group Counseling
CNS 720	Elementary School Counseling
CNS 725	Middle/Secondary School Counseling
CNS 790	Practicum ^{PT}
CNS 794	Internship I
CNS 795	Internship II

¹A grade of A or B must be received in CNS 619 to continue in program.

ENDORSEMENT:**Standard Certification in School Counseling**

ACCREDITED BY: Council for the Accreditation of Educator Preparation (CAEP).

According to the Kentucky Education Professional Standards Board (EPSB), standard certification requires: 1) current provisional certification in school counseling (received upon successful completion of an approved master's degree in school counseling); 2) one year of full time employment as a certified school counselor with a valid Kentucky teaching certificate or two years work experience as a certified school counselor who does not hold a valid Kentucky teaching certificate; and 3) complete an additional six credit hours of approved course work in school counseling. Courses used toward provisional certification cannot be counted toward standard certification.

Requirements for Admission

Submit a copy of provisional certification and a letter from current or past supervisor verifying employment as a school counselor with a graduate application form to Murray State University Graduate Admissions.

Total Course Requirements 6 hours

CNS 625	Legal and Ethical Issues
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Choose one of the following:

CNS 676	Clinical Diagnosis and Treatment Planning
CNS 694	Advanced Counseling and Supervision
CNS 722	Substance Use and Addictions Counseling
CNS 734	Marriage, Couples and Family Counseling
CNS 746	Wellness and Prevention Approaches
CNS 748	Expressive Activities Counseling
CNS 752	Trauma and Crisis Counseling
CNS 760	Eating Disorders and Body Image Counseling

Note: Courses taken for standard certification may be applied towards the specialist degree in education or other future certifications if listed in the curriculum.

ENDORSEMENT:**Individual Intellectual Assessment for the School Counselor**

This program endorsement is designed to meet state certification requirements for a practicing school counselor to perform district-wide assessments.

Prerequisites

- School counselor certification: provisional or standard.
- Experience as a certified and practicing school counselor.

Note: Courses taken toward this certification must be current (within five years) before the practicum can be scheduled.

Total Course Requirements 15 hours

CNS 677	Psycho-Educational Assessment
CNS 683	Tests and Measurements
CNS 689	Individual Testing
CNS 690	Advanced Individual Testing
CNS 790	Practicum ¹

¹Practicum in school psychology.

CERTIFICATION: School Psychology - 6th year program

This program leads to a standard certificate in school psychology. Prerequisites are:

- master's degree in a related field (e.g., counseling, psychology, communication disorders, special education) from a regionally accredited institution;
- completion of CNS 619 or equivalent;
- three letters of recommendation;
- written goals statement;
- personal interview;
- GRE (V=146, Q=140; V+Q=286 minimum)

Note: Courses taken in the master's degree may be utilized where appropriate with the approval of the student's advisor.

Total Curriculum Requirements 60 hours**Provisional Certification^{1,2} 54 hours**

ADM 630	Methods of Research ^R
ADM 725	Advanced Methods of Quantitative Research in Education
CNS 624	Theories of Counseling ^L
CNS 635	Human Development
CNS 671	Multicultural Counseling
CNS 676	Clinical Diagnosis and Treatment Planning
CNS 677	Psycho-Educational Assessment
CNS 683	Tests and Measurements
CNS 688	Professional School Psychology
CNS 689	Individual Testing
CNS 690	Advanced Individual Testing
CNS 692	Group Counseling
CNS 694	Advanced Counseling and Supervision
CNS 790	Practicum ^{PT, 3}
SED 603	Special Education Law and Procedures
SED 608	Functional Behavior Analysis
SED 613	Advanced Behavior Support

or

SED 645	Strategies for Students with Autism
SED 625	Instructional Techniques for Children and Youth with Mild Disabilities

Note: Rank I or Rank II will be recommended with the provisional certification depending on the individual's entire academic record.

Standard Certification⁴ 6 hours

CNS 794 Internship I

CNS 795 Internship II

¹Allows individual to do internship.²Candidates must take PRAXIS speciality area examination in school psychology and obtain a minimum score of 161 before provisional school psychology certification can be awarded.³Practicum in school psychology.⁴Candidate must have valid provisional certification in school psychology before internship can be contracted.**Master of Science****Human Development and Leadership**

CIP 44.0201

The Master of Science in Human Development and Leadership will prepare individuals for leadership roles and functions to successfully work with individuals, groups, and teams in for-profit and non-profit businesses and organizations at the local, regional, national, and global levels. The 21 core course hours will provide a solid foundation of information and skills for anyone with leadership responsibilities in organizations. Twelve hours of concentration area courses expand the individual's knowledge and skill base to focus on his/her career path. The transdisciplinary approach of Human Development and Leadership provides a broad base of leadership development courses with depth achieved through application of core course assignments to the concentration area and current/future career goals. The M.S. in Human Development and Leadership program totals 33 semester hours.

Requirements for Admission**•Unconditional Admission**

Admission is not based on any sole factor, but on a combination of the applicant's academic record, career goals, and ability to communicate through writing. Applicants to the M.S. in Human Development and Leadership should submit both the MSU Graduate Application and a departmental application. A 3.0 GPA must be maintained to remain in the program. Failure to do so results in academic probation or academic suspension, per University policy.

•Conditional Admission

Conditional admission may be granted to applicants who do not meet University GPA requirements of a 3.0 GPA (based on A equals 4.0), but who demonstrate his/her capacity to succeed as evidenced through the department application. A student who is admitted conditionally must maintain a GPA of 3.0. Failure to do so results in academic probation or academic suspension, per University policy.

Required Core Curriculum 21 hoursADM 630 Methods of Research^R

or

POL 660 Research

COM 639 Seminar in Conflict Resolution

or

HDL 655 Social Intelligence: Interpersonal Processes

CNS 635 Human Development^L

HDL 625 Legal and Ethical Issues

HDL 660 Developing Human Potential Seminar^{PT}

HDL 670 Multicultural and Diversity Issues in Leadership

HDL 692 Individual, Group and Team Dynamics

Emphasis/Electives 12 hours

Choose 12 hours from any **one** of the following areas or with the approval of advisor, design 12 hours to meet specific career goals.

These courses must be approved when filing student's program.

Criminal Justice

Choose any four approved CRJ courses such as:

CRJ 605 Seminar in Administration of Justice

CRJ 610 Seminar in Criminal Justice Issues

CRJ 620 Mass and Serial Murder

CRJ 622 Issues in Policing

CRJ 633 Juvenile Delinquency

CRJ 637 Juvenile Justice Procedures

CRJ 644 Graduate Cooperative Education

CRJ 645 Graduate Internship

CRJ 650 Constitutional and Legal Issues in Criminal Justice

CRJ 655 Crime Prevention

CRJ 673 Victimology

CRJ 675 Comparative Criminal Justice Systems

CRJ 695 Special Problems

Educational Administration

ADM 600 Introduction to Educational Leadership

ADM 624 School and Community Relations

ADM 645 Educational Resource Management

ADM 664 School Principal

Educational Data Management and Analytics

HDL 631 Educational Data Management Techniques

HDL 632 Advanced Statistical Analyses of Educational Data

HDL 633 Educational Data Mining

HDL 634 Observation and Interview Data Assessment

Environmental Education

EDU 615 Introduction to Environmental Education

EDU 664 Techniques of Teaching Environmental Education

and two of the following:

EDU 660 Special Problems in Environmental Education

EDU 663 Workshops in Environmental Education

EDU 665 Field Experiences in Environmental Education

EDU 667 International Environmental Education

EDU 669 Investigating and Evaluating Issues in Environmental Education

Industrial Supervision

IET 684 Engineering Economic Analysis

IET 691 Industrial Operations

IET 693 Systems Management Technology

IET 695 Industrial Supervision

Instructional Development

EDU 606 Preparation of Curriculum Materials

EDU 622 Philosophy of Education

EDU 625 Theory and Practice in Classroom Management

EDU 626 Integration of Educational Technology

Intercultural Communications

CNS 684 Problems

COM 640 Seminar in Intercultural Communication

JMC 600 Seminar in International Mass Communication

JMC 601 Media, Culture, Gender and Race

Leadership Development

NLS 685 Seminar on Leadership Development

HDL 681 Leading and Developing Others

HDL 682 Leadership Processes: Critical Thinking, Problem Solving and Decision Making

and one of the following courses:

HDL 683 Assessment and Application of Leadership Research

HDL 684 Contemporary Issues in Leadership Development Seminar

Non-Profit Leadership

NLS 600 The Nonprofit Sector and Civil Society

Choose any three of the six listed below:

NLS 601 Seminar on Nonprofit Organizations

NLS 602 Financial Resource Management and Development

NLS 625 Nonprofit Organization Development, Management and Leadership

NLS 665 Policy, Legal Issues and Advocacy for Social Change in Nonprofit Organizations

NLS 675 Social Entrepreneurship

NLS 685 Seminar on Leadership Development

Public Administration

Choose any four of the five listed below:

POL 670 Foundations of Public Administration

POL 671 Public Policy Analysis

POL 673 Public Budgeting and Finance

POL 674 Public Organizations

POL 681 Human Resource Administration

Other Degree Requirements

Successful completion of the program with a 3.0 GPA is required. Students must also pass the comprehensive exam, to be taken during the final semester of courses.

NOTE: The HDL program (including the emphasis areas) leads to a non-practice credential and is not EPSB approved.

CERTIFICATE:**Human Development and Leadership** CIP 44.0201

The Human Development and Leadership Certificate program is designed for individuals working in positions such as administrative, program development, or direct information and provides skills for those with leadership responsibilities or for those wanting to move toward assuming a greater leadership role. The four courses focus on the self, working with diverse individuals and cultures, developing an understanding of and how to utilize assessments in non-clinical settings, and understanding the process of working in and with groups. The successful completion of the Human Development and Leadership Certificate is indicated on the student's transcript.

Requirements for Admission

Students with an undergraduate degree or those currently enrolled in a graduate or professional degree program may apply for the Human Development and Leadership Certificate program. Persons who already hold a graduate degree may also apply for the certificate program.

Applicants to the HDL Certificate Program should submit both the MSU Graduate Application and a Departmental application. Admission is not based on any sole factor but on a combination of the applicant's academic record, career goals, and ability to communicate through writing. Students must maintain a GPA of 3.0. Failure to do so results in Academic Probation or Academic Suspension, per University policy.

Total Course Requirements 12 hours

HDL 660 Developing Human Potential Seminar^{PT}

HDL 670 Multicultural and Diversity Issues in Leadership

HDL 675 Assessment of Human Potential

HDL 692 Individual, Group and Team Dynamics

Other Degree Requirements

Successful completion (with a GPA of 3.0) of twelve hours of graduate-level coursework to include the four courses listed above. Students may transfer up to six credit hours of similar graduate study. This program leads to a non-practice credential and is not approved by the EPSB.

Center for Communication Disorders

125 Alexander Hall

270-809-2446

Academic Director: Robert Lyons. **Faculty:** Branson, A. Brown, S. Brown, Coulter, Hart, Kleinhans, Schaaf, Smetana, Young.

The Center for Communication Disorders is comprised of pre-professional undergraduate and professional graduate training and programs. Degrees offered in this program include a Bachelor of Arts and Bachelor of Science in Communication Disorders and a Master of Science in Speech-Language Pathology. Students in the undergraduate communication disorders program are encouraged to study abroad.

The Master of Science in Speech-Language Pathology at Murray State University is accredited by the Council on Academic Accreditation in Audiology and Speech-Language Pathology of the American Speech-Language Hearing Association, 2200 Research Boulevard, #310, Rockville, MD 20850, 800-498-2071 or 301-296-5700. The graduate program leads to certification by the American Speech-Language-Hearing Association and to Kentucky state licensure in speech-language pathology.

Requirements for Admission

Students may not enroll in CDI 325, 345, or 400-level CDI classes until they have been admitted to the undergraduate communication disorders program. All student who have an overall grade point average of 3.0 or better will be admitted once they have completed 40 semester hours.

Once admitted to the program, the student must maintain an overall GPA of 3.00 and an area GPA of 3.00. Any student whose GPA falls below this minimum may not continue in the area until the GPA requirements are met.

AREA:**Communication Disorders**

Bachelor of Science/Bachelor of Arts

CIP 51.0204

University Studies Requirements39-43 hrs

(See *Academic Degrees and Programs.*)

University Studies selections must include:

•**Scientific Inquiry, Methodologies, and Quantitative Skills**

One biological science course

CHE 105 Introductory Chemistry (or higher)

or

PHY 105 The Science of Sound (or higher)

•**Social and Self-Awareness and Responsible Citizenship**

PSY 180 General Psychology

Required Courses 48 hrs

CDI 100T Transitions

CDI 205 Introduction to Communication Disorders

CDI 215 Clinical Phonetics

CDI 310 Anatomy and Physiology

CDI 315 Speech Science

CDI 325 Pediatric Speech Disorders I¹

CDI 340 Speech and Language Development

CDI 345 Pediatric Language Disorders II¹

CDI 405 Audiology¹

CDI 440 Neurogenic Communication Disorders¹

CDI 451 Aural Rehabilitation¹

CDI	465	Neuroanatomy and Physiology for Applied Health Sciences ¹
CDI	470	Pediatric Speech Disorders II ¹
CDI	472	Pediatric Language Disorders II ¹
CDI	474	Elementary Clinical Skills (2 semesters) ¹
CDI	480	School Services for Communication Disorders ¹
CDI	482	Augmentative Alternative Communication ¹

Required Support Courses 9-10 hrs

EDP	260	Psychology of Human Development
		<i>or</i>
PSY	260	Lifespan Development
STA	135	Introduction to Probability and Statistics
		<i>or</i>
PSY	300	Principles and Methods of Statistical Analysis
SED	300	Educating Students with Disabilities

Required Limited Electives..... 12 hrs

Choose from the following. Six hours must be upper-level electives.

BIO	120	Scientific Etymology
BIO	220	Clinical Terminology
COM	131	Introduction to Interpersonal Communication
COM	331	Interpersonal Communication
COM	340	Intercultural Communication
COM	353	Team Communication and Leadership
COM	367	Communication and Critical Thought
COM	384	Communication Skills for Professionals
ENG	228	Standard English Usage
ENG	310	Introduction to English Linguistics
GTY	305	Services to Older Americans
HCA	301	Overview of the Health Care Delivery System
HEA	195	First Aid and Safety
HEA	415	Communication Techniques for Health Care Providers
PSY	261	Child Psychology
PSY	264	Psychology of Aging
PSY	265	Psychology of Death
PSY	310	Health Psychology
PSY	326	Psychology of Language
PSY	471	Behavior Modification
REC	306	Leisure and Aging
SED	408	Functional Behavior Analysis
SED	526	Education of Young Children with Severe Disabilities
SOC	343	Minorities in the United States
		One course offered through Study Abroad
		Other advisor approved elective

Required Toward K-12 Certification² 12 hrs

CDI	480	School Services for Communication Disorders
COM	161	Introduction to Public Speaking
CSC	199	Introduction to Information Technology ³
EDP	260	Psychology of Human Development ³

Note: A teaching certificate is required to obtain a tenured position as an SLP in Kentucky schools. Specific undergraduate courses must be taken and grade requirements met before a student can meet qualifications for admission to teacher education. Students should meet with academic advisors to ensure they meet these requirements.

Total Curriculum Requirements 120 hrs

¹Students must be admitted to the Communication Disorders program and maintain an overall and area GPAs of at least 3.00.

²These courses are required only for students pursuing public school certification. Although these courses are taken at the bachelor's level, requirements for certification are completed at the master's level.

³May be taken as a University Studies elective.

Graduate Program

The accredited graduate program in speech-language pathology emphasizes an evidenced-based approach to human communication disorders. Master's degree graduates meet academic and practicum requirements for ASHA certification (except for the Clinical Fellowship and Praxis in Speech-Language Pathology) and Kentucky state licensure in speech-language pathology. Practicum experiences at the MSU Speech-Language and Hearing Clinic and off campus provide opportunities to develop skills in the prevention, evaluation and treatment of communication disorders in relation to the broader biopsychosocial aspects of the human condition.

Requirements for Admission

Applicants must meet the Murray State University requirements (see *Graduate Admissions*). Additional requirements for unconditional admission are as follows.

- Complete application for admission to Murray State University Graduate School by deadline;
- Complete application to the graduate program in speech-language pathology by the deadline issued by the Center for Communication Disorders;
- A baccalaureate degree in communication disorders or equivalent from a regionally accredited institution;
- At least a 3.0 undergraduate grade point average.
- Submission of official Graduate Record Examination scores by program application deadline.
- Successful completion of courses in biology, physics or chemistry, and statistics.
- Successful completion of the following prerequisite courses (or their equivalents) at time of application.

CDI	215	Clinical Phonetics
CDI	310	Anatomy and Physiology
CDI	315	Speech Science
CDI	325	Pediatric Speech Disorders I
CDI	340	Speech and Language Development
CDI	345	Pediatric Language Disorders I
CDI	405	Audiology
CDI	451	Aural Rehabilitation
CDI	465	Neuroanatomy and Physiology for Applied Health Sciences
CDI	470	Pediatric Speech Disorders II
CDI	472	Pediatric Language Disorders II

Additional courses may be required to meet certification and/or graduate degree requirements.

Additional course work completed prior to graduate study must be approved by the student's advisor and the academic director in order to be used for certification and/or licensure requirements.

Students who are not native speakers of English must demonstrate competence in written and spoken English. This can be done by submitting a satisfactory score on the GRE as well as the TOEFL or IELTS, taken within two years of the date of application. The Graduate Program in Speech-Language Pathology requires a minimum score of 114 on the internet-based TOEFL (ibT) with no band less than 22 on Reading and Listening, 26 on Speaking, and 24 on Writing. An overall score of 8 is required on the IELTS with no band less than 7.0. The TOEFL or IELTS scores must be on file in the Graduate School prior to receipt of the application for graduate study.

Master of Science Speech-Language Pathology

CIP 51.0204

ACCREDITED BY: Council on Academic Accreditation in Audiology and Speech-Language Pathology of the American Speech-Language Hearing Association; Council for the Accreditation of Educator Preparation (CAEP)

THESIS REQUIREMENTS

Total Course Requirements 62 hours

CDI 611	Seminar: Current Trends and Issues (2 hrs)
CDI 620	Phonological Disorders ^L
CDI 624	Disorders of Voice
CDI 625	Fluency Disorders
CDI 646	Research Methods for Speech-Language Pathologists ^R
CDI 647	Early Language Development and Disorders
CDI 648	School-Age Language Disorders
CDI 660	Motor Speech Disorders
CDI 664	Introduction to Clinical Practicum
CDI 670	Practicum Seminar ^{PT}
CDI 672	Diagnostic Methods
CDI 674	Clinical Practicum (4 hrs)
CDI 680	Adult Neurogenic Communication Disorders
CDI 686	Swallowing Disorders
CDI 698	Thesis
CDI 699	Thesis
Optional Approved Elective	

Professional Semester(s):

CDI 601	Professional Issues
CDI 676	Medical/Clinical Placement
<i>and</i>	
CDI 621	Student Teaching in Speech-Language Pathology
<i>or</i>	
CDI 640	Individualized School Placement
<i>or</i>	
CDI 694	Advanced Clinical Practicum

Under unusual circumstances, the graduate advisor may substitute CDI 695 or appropriate related coursework for a required course.

Other Degree Requirements

Four hundred (400) clock hours of supervised clinical experiences in practice of speech-language pathology, one of CAA's certification requirements.

Oral defense and examination of the thesis.

NON-THESIS REQUIREMENTS

Total Course Requirements 61 hours

Same as above with the following substitution for thesis:

CDI 611	Seminar: Current Trends and Issues (4 hrs)
CDI 674	Clinical Practicum (7 hrs)

Other Degree Requirements

The Certificate of Clinical Competence (CCC), a nationally recognized credential, requires an applicant for certification to complete a minimum of 400 clock hours of supervised clinical experience in the practice of speech-language pathology (Standard V-C). Twenty-five hours must be spent in clinical observation, and 375 hours must be spent in direct client/patient contact.

Successful completion of a Written Comprehensive Examination.

Graduate students in speech-language pathology or graduates of the program interested in teacher certification need to contact the Director of Teacher Education Services (TES). The individual will work with TES to determine how they can meet teacher certification requirements. Additional coursework is required.

CERTIFICATE: Interdisciplinary Brain Injury Studies

CIP 51.0201

The purpose of this certificate is to prepare professionals from a broad range of disciplines to play a leadership role in providing services and support to individuals who have acquired brain injury and their caregivers. The curriculum emphasizes an interdisciplinary perspective of the cognitive impairments and concomitant behavioral issues facing individuals and their families as well as a biopsychosocial approach to neurorehabilitation. This certificate program benefits speech-language pathologists, occupational therapists, physical therapists, special educators, classroom teachers, nurses, psychologists, counselors, social workers, and personnel in vocational rehabilitation.

Requirements for Admission

Graduate degree candidates preparing for careers in public service and program administration that relate to understanding and meeting the needs of this population or are in an allied health profession are eligible to apply for this certificate. Applicants must comply with Murray State University requirements (see *Graduate Admissions*).

Additional requirements for unconditional admission are as follows:

- an earned master's degree in an appropriate discipline from a regionally accredited college or university with an overall GPA of 3.0; or
- acceptance into a graduate program at Murray State University in one of the following programs: speech-language pathology, special education, education, nursing, psychology or counseling with an undergraduate overall GPA of 3.0;
- a written statement of intent for admission into the Interdisciplinary Brain Injury Studies Certificate program, that includes a) description of discipline relevant experiences with this population and b) description of interdisciplinary experiences with this population;
- a current resume;
- applicants who are not native speakers of English must demonstrate competence in written and spoken English. This can be done by submitting a satisfactory score on the IELTS with an overall score of 7 with no band less than 6.

Accepted students must maintain a GPA of 3.0. Failure to do so results in academic probation or academic suspension per University policy.

Total Course Requirements 12 hours

CDI 611	Seminar on Current Trends and Issues (two semesters/two credits per semester)
CDI 665	Neuroanatomy for Allied Health Professions
CDI 690	Interdisciplinary Leadership Project
Approved elective (3 hrs)	

Other Degree Requirements

Students must complete the 12 credit-hour curriculum and the individualized interdisciplinary brain injury leadership project to successfully complete the certificate program. Through the culminating project, students will integrate the knowledge and skills obtained from the certificate courses in the form of an artifact that represents key functions for those who would assume leadership roles in to providing specialized services and supports to individuals across the lifespan with acquired brain injuries and their families. This leadership project may address any of the concepts from the core curriculum in the form of an evidence-based literature review or case study, research proposal or grant project, or development and delivery of in-service training.

Note: Admission to this certificate program does not guarantee the awarding of the certificate. The following nonacademic conditions may result in dismissal from the certificate program if they are observed to impair the student's ability to work in class or collaborate with others: 1) personal concerns, 2) interpersonal relationship problems, 3) personal attitudes or values that conflict with effective interdisciplinary collaborative relationships, and 4) unethical behavior. At the time the student enrolls in CDI 690 Leadership Project, the student must have a 3.0 GPA and have completed CDI 665 and four credits of CDI 611 or they may be dropped from the certificate program. When a student enrolled in the certificate program has completed five or more semester hours of graduate course work with a grade point average of less than 3.00, they are subject to dismissal from the certificate program.



College of Humanities and Fine Arts



David Balthrop, Dean
100 Faculty Hall
270-809-6937

DEPARTMENTS

Art and Design	132	Music	155
English and Philosophy	137	Political Science and Sociology	162
Global Language and Theatre Arts	146	Psychology	166
History	152		

PROGRAMS

UNDERGRADUATE

Baccalaureate

- Art
- Creative Writing
- English
- French
- German
- History
- International Studies
- Japanese
- Liberal Arts
- Music
- Music Business
- Political Science
- Psychology
- Sociology
- Spanish
- Theatre

Minor

- Art
- Art History
- Chinese Studies
- Creative Writing
- English
- English Education
- Film Studies
- French
- Gender and Diversity Studies
- German
- History
- International Studies
- Japanese
- Legal Studies
- Literature and Philosophy
- Music
- Music Theatre
- Philosophy
- Political Science
- Professional Writing
- Psychology
- Religious Studies
- Rhetoric
- Social Science
- Sociology
- Spanish
- Theatre
- Theatre Design/Technical
- Theatre Performance

GRADUATE

Master's

- Clinical Psychology
- Creative Writing
- English
- General Experimental Psychology
- History
- Music Education
- Public Administration
- Teaching English to Speakers of Other Languages

Doctorate

- English Pedagogy and Technology

Certificate

- Gender Studies
- Research Design and Analysis

College of Humanities and Fine Arts

Mission

The College of Humanities and Fine Arts strives to foster awareness and appreciation of the humanities, fine arts, and social sciences among students, the university community, and the public. The College is a learning community dedicated to the pursuit of knowledge and its application through civic and professional leadership. Students and faculty members act as advocates for the humanities, fine arts, and social sciences in a variety of ways, ranging from teaching and scholarly work to performance, exhibition, and consultation. To this end, the College actively promotes research and creative activities among its faculty and students.

The College seeks to provide a personalized learning experience promoting the free and rigorous pursuit of knowledge, respect for differing points of view and cultures, appreciation of personal expression in all its artistic forms, awareness of the role of an educated citizenry in a democratic society, and understanding of the role values play in thought and action. The College aims to develop students who think critically and creatively, communicate effectively, and participate actively in their communities. Thus, the College of Humanities and Fine Arts is committed to preparing well-educated, thoughtful, and contributing citizens of the world.

Programs

The College of Humanities and Fine Arts consists of the departments of Art and Design; English and Philosophy; Global Languages and Theatre Arts; History; Global Languages and Theatre Arts; Music; Political Science and Sociology; and Psychology.

Undergraduate degrees offered are Bachelor of Science (B.S.), Bachelor of Arts (B.A.), Bachelor of Fine Arts (B.F.A.), Bachelor of Music Education (B.M.E.), and Bachelor of Music (B.M.). Graduate degrees are Doctor of Arts (D.A.), Master of Arts (M.A.), Master of Fine Arts (M.F.A.), Master of Music Education (M.M.E.), Master of Public Administration (M.P.A.), and Master of Science (M.S.). Murray State University is an accredited institutional member of the National Association of Schools of Art and Design, the National Association of Schools of Music, the National Association of Schools of Theatre, and the Master's in Psychology and Counseling Accreditation Council.

The College offers programs in the traditional humanities (English, history, and global languages); social sciences (political science and sociology); and behavioral science (psychology). The fine and performing arts (art, music, and theatre) offer traditional and contemporary programs in their disciplines through studio and classroom courses, performances, gallery events, and ensembles. Additionally, the college encourages all students to participate in the cultural and artistic life of the campus through creative writing colloquia, poetry readings, exhibitions, and participation in music ensembles, theatrical productions, marching band, and/or choral groups. The college offers a variety of innovative arts, humanities, and social science courses through the institution's University Studies curriculum. English composition and the two interdisciplinary core courses, World Civilizations and Humanities, are integral parts of preparing every Murray State student to communicate effectively; to engage in sound analysis and make logical decisions; to understand the world's historical, literary, and philosophical traditions; to understand cultural diversity and competing economic and political systems as well as complex moral and ethical issues; and to become responsible citizens in a democratic society, all of which are desired characteristics of the Murray State graduate.

The college serves as the cultural heart of the university and the region by providing a broad range of cultural and intellectual programs. Campus and regional community members are encouraged to attend college events. Distinguished college faculty engage actively in

teaching, scholarly/creative activity, and service. The college is committed to service to the community through its role in teacher education and involvement with the public schools. The English and Philosophy department sponsors the MSU Reading Series and the Murray Shakespeare Festival. The Global Languages and Theatre Arts Department sponsors the Cinema International as well as the several theatrical performances each academic year. The Department of Political Science and Sociology annually sponsors the Harry Lee Waterfield Distinguished Lecture in Public Affairs.

In addition, the college offers students rich opportunities for experiential learning. Several departments in the college offer professional engagement courses to help students make connections between humanities and fine arts content and application of skills in real world settings. In addition to course-embedded experiential learning, particularly in the fine arts studio courses and lessons, the college emphasizes undergraduate research; service learning; internships; education abroad; and co-curricular experiences, such as through Mock Trial, Model United Nations, and the literary magazine *Notations*. MSU is a member of both the Kentucky Institute for International Studies and the Cooperative Center for Study Abroad consortia of public and private universities offering study-abroad programs in numerous international destinations. Many college faculty are also involved in foreign travel and study through MSU's Signature Education Abroad and Discover programs.

For graduate study, the college offers a doctorate in English and master's degrees in creative writing, English, history, music education, clinical and general experimental psychology, public administration, and teaching English to speakers of other languages (TESOL). The college also supports the Master of Arts in Education in Secondary Education. Graduates of programs in the college pursue a variety of careers. In addition to teaching, graduates are employed in business, communications, government, law, the ministry, psychology, and a variety of private and social agencies, as well as international governmental and non-governmental organizations. Careers available in the fine arts fields include performance (vocal, instrumental, and theatrical); design; web design; graphic communications; and art, museum, and theatre management. All programs follow the liberal arts model of preparing students broadly for a rapidly changing job market. Students are prepared to communicate effectively, think critically, develop the analytical skills necessary to solve problems, learn on their own, understand human behavior, and imagine alternative ways of viewing problems. Several of the programs in the college provide excellent preparation for a career in law.

Departments and programs of the College of Humanities and Fine Arts are housed in five buildings on the main campus: the Price Doyle Fine Arts Center, Faculty Hall, Visual Arts Building, Wells Hall, and Wilson Hall. The college also utilizes the Lindsey Costume House.

Note: L=literature; R=research; PT=professional training. See page 58.

Liberal Arts

The Liberal Arts major is designed for students interested in investigating connections between two or more traditional liberal arts fields. Following a wide-reaching University Studies and core program, students choose two 18-hour fields of study drawn from the arts, humanities, natural sciences, and social sciences, plus a minor, and at least one Study Abroad experience. Liberal Arts majors also produce a multidisciplinary senior project in which they explore a topic of interest that combines at least two of their fields of study.

Liberal Arts majors are self-motivated and think creatively across the disciplines. Liberal Arts majors prepare to serve the growing demand in business, industry, and the professions for broadly educated individuals who exhibit interpersonal, analytical, technical, and

communication skills, as well as individual initiative. The Liberal Arts Coordinator is Barbara Cobb, who may be contacted by email (bcobb@murraystate.edu) or by calling 270-809-4538.

MAJOR:

Liberal Arts

Bachelor of Arts/Bachelor of Science

CIP 24.0101

Note: Study abroad, the hours for which will be taken as part of meeting major, minor, and/or University Studies requirements, is a required element of this program.

University Studies Requirements 41-44 hrs
(See *Academic Degrees and Programs.*)

University Studies selections must include:

•Global Awareness, Cultural Diversity and the World's Artistic Traditions

One of the following:

- ART 211 Ancient and Medieval Art
- ART 212 Art from the Renaissance to the Present
- ART 213 Art of Global Cultures
- MUS 104 Introduction to Jazz History
- MUS 105 Introduction to Music History
- MUS 106 Music in Film
- MUS 107 Introduction to American Musical Theatre
- MUS 108 Introduction to World Music
- MUS 109 Musicianship I: Music Fundamentals
- THD 101 Dance Appreciation
- THD 104 The Theatrical Experience
- THD 201 World Theatre

•World's Historical, Literary, and Philosophical Traditions

Must include one of the following:

- ENG 201 Appreciation of Literature
- ENG 243 Literary Masterpieces: Fantasy, Myth and Legend
- GDS 201 Introduction to Gender and Diversity Studies
- RGS 200 Introduction to Religious Studies

•University Studies Elective

One of the following:

- ANT 140 Introduction to Cultural Anthropology
- ARC 150 Introduction to Archaeology
- HIS 221 American Experience to 1865
- HIS 222 American Experience Since 1865
- PHI 201 Introduction to Philosophy
- POL 261 Introduction to Political Theory
- PSY 180 General Psychology
- SOC 133 Introduction to Sociology
- SOC 231 Social Problems

Core Courses 7 hrs

- LBA 100T Transitions
- LBA 438 Seminar in Liberal Arts

and one of the following:

- BIO 308 Ethics in Biology
- PHI 202 Ethics
- PHI 330 Medical Ethics
- PHI 376 Environmental Ethics

Fields..... 36-40 hrs

Choose two fields from the seven disciplines following. No more than one field can be taken from the same discipline. Courses in each field are on file in the Registrar's Office and on the Murray State Liberal Arts website, www.murraystate.edu/liberalarts.

•Fine Arts

- Art History18
- Music20
- Theatre18

•Humanities

- English18
- Modern Language (one language).....18
- Philosophy18

•Natural Science/Mathematics

- Biology.....19
- Chemistry19
- Geosciences..... 18-20
- Mathematics..... 19-20
- Physical Science 19-20

•Social Science

- Economics.....18
- History18
- International Affairs.....18
- Legal Studies.....18
- Political Science18
- Religious Studies.....18
- Psychology 18-19
- Sociology18

•Gender and Diversity Studies18

•Sustainability Studies 18-19

•Interdisciplinary Studies18

With the approval of the program coordinator, an interdisciplinary field will be created, using courses designated within existing liberal arts fields.

Internship/Cooperative Education 0-6 hrs

In order to build workplace skills, Liberal Arts majors are strongly encouraged to participate in a program coordinator-approved internship or cooperative education placement. See the MSU Career Services website (www.murraystate.edu/careerservices) for more information.

Required Minor 21-24 hrs

Electives 5-15 hrs

Total Curriculum Requirements 120 hrs

Department of Art and Design

604 Price Doyle Fine Arts Center

270-809-3784

Chair: TBA. **Faculty:** Beaver, Bryant, Gamble, Hand-Bryant, Lavery, Leys, S. Martin, T. Martin, Reeves, Smetana, Utgaard, Williams.

The Department of Art and Design provides a broad range of programs and professional opportunities for students preparing to work as practicing artists, craftspersons and designers, for careers in art education, and for graduate study in art, art education, and art history. The Department of Art and Design offers the Bachelor of Fine Arts, the Bachelor of Art, and the Bachelor of Science degrees in Art with a studio art track; and the Bachelor of Fine Arts and the Bachelor of Art in Art/Studio Art-Enhanced Art History Track. The Bachelor of Fine Arts, the Bachelor of Art, and the Bachelor of Science degrees in art teaching certification are available to undergraduate students within each degree as a track requiring only an additional year of study. Degree candidates are certified to teach art in kindergarten through grade 12.

Areas of studio emphasis include ceramics, drawing, furniture design/woodworking, graphic design, metalsmithing, painting, photography, printmaking, and sculpture; non-studio areas include art education and art history. Furthermore, minors are offered in both studio art and art history; in addition art history is offered as an area of emphasis within the liberal arts degree. A number of departmental courses are also included in University Studies: art and visual culture, three introductory courses in art history, and studio art for non-majors. Graduate courses in art are offered in support of the M.A.Ed. with a teaching area in studio art.

The curricular structure of each degree program is organized to encourage students to study and explore a variety of media and techniques upon which later specialization may be based in the areas listed above. At the intermediate and advanced levels, students are encouraged by faculty to express their own personal direction and ideas and to establish professional standards by the exhibition of their work. The culmination of the student's undergraduate study is the senior exhibition requirement.

The Department of Art and Design actively supports personal and artistic growth of its students by promoting the Institute for International Studies, which offers a variety of study abroad opportunities for MSU art students, and the National Student Exchange.

The department operates a network of four galleries on campus: the department's Clara M. Eagle Gallery, located in the Price Doyle Fine Arts Center, includes the main gallery and the Mary Ed Mecoy Hall Gallery on the sixth floor, as well as an upper gallery on the seventh floor. In addition, the Curris Center Gallery provides regular exhibitions on the first floor of the Curris Center. The galleries exhibition schedules include regional, national, and international artists, as well as the department faculty and alumni and the community at large. Every spring a juried exhibition of student work, organized by OMAS (Organization of Murray Art Students), fills the main Clara M. Eagle Gallery space and camps the academic year. Furthermore, the Visiting Artist program brings in artists from across the country for workshops and public lectures throughout the school year.

Each summer, the department also organizes a residential Summer Art Workshop for high school students. Studios in all areas are well-equipped with traditional and contemporary technologies (3-D printer, laser cutter, CNC router, etc.), providing maximum opportunities for students to pursue their interests. The Art and Design classrooms and studios are located in the Price Doyle Fine

Arts Building, Old Fine Arts Building, the Visual Arts Building, and Woods Hall. Advanced undergraduate students are provided personal studio spaces.

NOTE: A grade of C or better must be achieved in all courses with the ART prefix that are applied to art area degree requirements. All courses with the ART prefix that serve as prerequisites require a grade of C or better before the next course in a sequence may be taken.

Scholarships

Scholarships and grants-in-aid are available to qualified art students. For additional information refer to the scholarship section of this *Bulletin* or contact the scholarship person in the Department of Art and Design.

Accreditation

Murray State University is an accredited institutional member of the National Association of Schools of Art and Design (NASAD). Teacher certification programs are also accredited by the National Council for Accreditation of Teacher Education (NCATE).

Credit by Examination

The credit by examination programs in which the MSU Department of Art and Design participates are the Advanced Placement Program of the College Board (APP), the departmental challenge examination, and the non-credit placement examination. Test results are subject to evaluation prior to credit approval. For additional information contact the department chair.

AREA:

Art/Studio Art Track

Bachelor of Fine Arts

CIP 50.0702

ACCREDITED BY: National Association of Schools of Art and Design (NASAD)

University Studies Requirements..... 35-38 hrs
(See *Academic Degrees and Programs.*)

University Studies selections must include:

•**Global Awareness, Cultural Diversity and the World's Artistic Traditions**

ART 211 Ancient and Medieval Art
or

ART 213 Art of Global Cultures

•**University Studies Elective**

ART 212 Art from the Renaissance to the Present

Core Courses 60 hrs

- ART 100T Transitions
- ART 101 Drawing I: Introduction to Drawing
- ART 111 Two-dimensional Design
- ART 112 Three-dimensional Design
- ART 201 Drawing II: Life Drawing
- ART 298 Mid-Degree Review Seminar¹
- ART 399 Professional Practices
- ART 498 B.F.A. Practicum Exhibition

Three of the following:

- ART 300 Drawing III
- ART 330 Introduction to Painting I
- ART 350 Introduction to Graphic Design I: Digital Art
- ART 379 Introduction to Printmaking I
- ART 382 Introduction to Photography I
- ART 393 Special Topics in 2-D

Three of the following:

- ART 309 Introduction to Metalsmithing I
- ART 310 Introduction to Woodworking I
- ART 360 Introduction to Sculpture I
- ART 370 Introduction to Ceramics I
- ART 394 Special Topics in 3-D

and

Five sequential courses from one of the following areas: ceramics, drawing, furniture design/woodworking, graphic design, metalsmithing, painting, photography, printmaking, or sculpture with advisor approval.

One of the following:

- ART 415 Greek and Roman Art
- ART 416 Medieval Art
- ART 418 Renaissance Art
- ART 419 Baroque Art

One of the following:

- ART 428 Nineteenth-Century Art
- ART 429 Art from 1900 to 1960
- ART 430 Contemporary Art, 1960 to the Present

One of the following:

- ART 420 Special Topics in Art History
- ART 425 Art of Asia
- ART 491 Special Problems in Art History

or one course from: ART 415, 416, 418, 419, 428, 429, 430

Studio Art Track Courses..... 15 hrs

Studio electives to be selected in consultation with advisor.

Unrestricted Electives..... 7-10 hrs

Total Curriculum Requirements¹ 120 hrs

¹The baccalaureate degree is not awarded automatically upon completion of any required number of courses or units of credit. The progress and status of students in the program is regularly assessed through reviews. All students are required to register for ART 298 the semester after they complete 21 studio credit hours of ART courses. After passing ART 298, students may form a B.F.A. jury and track in the B.F.A. requirements. A final review, ART 498, is conducted by B.F.A. jury in conjunction with fulfilling the senior B.F.A. Practicum Exhibition requirement. B.F.A. students must maintain a 3.00 GPA in the area of their studio concentration.

AREA:

Art/Studio Art Track

Bachelor of Arts/Bachelor of Science

CIP 50.0702

ACCREDITED BY: National Association of Schools of Art and Design (NASAD)

University Studies Requirements 38-44 hrs

(See *Academic Degrees and Programs.*)

University Studies selections must include:

•**Global Awareness, Cultural Diversity and the World's Artistic Traditions**

- ART 212 Art from the Renaissance to the Present

•**University Studies Elective**

- ART 211 Ancient and Medieval Art

or

- ART 213 Art of Global Cultures

Core Courses 43 hrs

- ART 100T Transitions
- ART 101 Drawing I: Introduction to Drawing

- ART 111 Two-dimensional Design
- ART 112 Three-dimensional Design
- ART 201 Drawing II: Life Drawing
- ART 298 Mid-Degree Review Seminar¹
- ART 399 Professional Practices
- ART 499 BA/BS Practicum Group Exhibition

Three of the following:

- ART 300 Drawing III
- ART 330 Introduction to Painting I
- ART 350 Introduction to Graphic Design I: Digital Art
- ART 379 Introduction to Printmaking I
- ART 382 Introduction to Photography I
- ART 393 Special Topics in 2-D

Three of the following:

- ART 309 Introduction to Metalsmithing I
- ART 310 Introduction to Woodworking I
- ART 360 Introduction to Sculpture I
- ART 370 Introduction to Ceramics I
- ART 394 Special Topics in 3-D

One of the following:

- ART 415 Greek and Roman Art
- ART 416 Medieval Art
- ART 418 Renaissance Art
- ART 419 Baroque Art

One of the following:

- ART 428 Nineteenth-Century Art
- ART 429 Art from 1900 to 1960
- ART 430 Contemporary Art, 1960 to the Present

One of the following:

- ART 420 Special Topics in Art History
- ART 425 Art of Asia
- ART 491 Special Problems in Art History

or one course from: ART 415, 416, 418, 419, 428, 429, 430

Studio Art Track Courses..... 12 hrs

Two sequential courses in the same studio emphasis above the introductory level, and two additional courses to be selected in consultation with advisor.

Unrestricted Electives..... 21-27 hrs

Total Curriculum Requirements¹ 120 hrs

¹The baccalaureate degree is not awarded automatically upon completion of any required number of courses or units of credit. The progress and status of students in the program is regularly assessed through reviews. All students are required to register for ART 298 the semester after they register for 21 credit hours of studio ART courses. A final review, ART 499, is conducted by a faculty jury in conjunction with fulfilling the senior B.A./B.S. Practicum Exhibition requirement.

AREA:

Art/Studio Art-Enhanced Art History Track

Bachelor of Fine Arts

CIP 50.0702

ACCREDITED BY: National Association of Schools of Art and Design (NASAD)

University Studies Requirements 35-38 hrs

(See *Academic Degrees and Programs.*)

University Studies selections must include:

•**Global Awareness, Cultural Diversity and the World's Artistic Traditions**

- ART 211 Ancient and Medieval Art

or

- ART 213 Art of Global Cultures

•University Studies Elective

ART 212 Art from the Renaissance to the Present

Core Courses 60 hrs

- ART 100T Transitions
- ART 101 Drawing I: Introduction to Drawing
- ART 111 Two-dimensional Design
- ART 112 Three-dimensional Design
- ART 201 Drawing II: Life Drawing
- ART 298 Mid-Degree Review Seminar
- ART 399 Professional Practices
- ART 498 B.F.A. Practicum Exhibition

Three of the following:

- ART 300 Drawing III
- ART 330 Introduction to Painting I
- ART 350 Introduction to Graphic Design I: Digital Art
- ART 379 Introduction to Printmaking I
- ART 382 Introduction to Photography I
- ART 393 Special Topics in 2-D

Three of the following:

- ART 309 Introduction to Metalsmithing I
- ART 310 Introduction to Woodworking I
- ART 360 Introduction to Sculpture I
- ART 370 Introduction to Ceramics I
- ART 394 Special Topics in 3-D

One of the following:

- ART 415 Greek and Roman Art
- ART 416 Medieval Art
- ART 418 Renaissance Art
- ART 419 Baroque Art

One of the following:

- ART 428 Nineteenth-Century Art
- ART 429 Art from 1900 to 1960
- ART 430 Contemporary Art, 1960 to the Present

One of the following:
 ART 420 Special Topics in Art History
 ART 425 Art of Asia
 ART 491 Special Problems in Art History¹
 or one course from: ART 415, 416, 418, 419, 428, 429, 430
 and
 Five sequential courses from in studio art to be selected from one of the following areas: ceramics, drawing, furniture design/woodworking, graphic design, metalsmithing, painting, photography, printmaking, or sculpture with advisor approval.

Enhanced Art History Track Courses²..... 27 hrs

*Five courses in studio art to be selected in consultation with advisor.
 and*

One of the following:

- ART 415 Greek and Roman Art
 - ART 416 Medieval Art
 - ART 418 Renaissance Art
 - ART 419 Baroque Art
- One of the following:*
- ART 428 Nineteenth-Century Art
 - ART 429 Art from 1900 to 1960
 - ART 430 Contemporary Art, 1960 to the Present

Two of the following:

- ART 420 Special Topics in Art History
 - ART 425 Art of Asia
 - ART 491 Special Problems in Art History¹
- or one course from: ART 415, 416, 418, 419, 428, 429, 430

Unrestricted Electives..... 0-1 hrs

Total Curriculum Requirements³ 120 hrs

¹An independent study course in the student's area of emphasis is recommended.

²Study abroad is strongly recommended.

³The baccalaureate degree is not awarded automatically upon completion of any required number of courses or units of credit. The progress and status of students in the program is regularly assessed through reviews. All students are required to register for ART 298 the semester after they register for 21 credit hours of studio ART courses. After passing ART 298, students may form a B.F.A. jury and track in the B.F.A. requirements. Students tracking in the B.F.A. with Enhanced Art History must include an art history faculty as a member of their jury. A final review, ART 498, is conducted by the B.F.A. jury in conjunction with fulfilling the senior B.F.A. Practicum Exhibition requirement. B.F.A. students must maintain a 3.00 GPA in the area of their studio concentration.

AREA:

Art/Studio Art-Enhanced Art History Track

Bachelor of Arts CIP 50.0702

ACCREDITED BY: National Association of Schools of Art and Design (NASAD)

University Studies Requirements 41-44 hrs

(See *Academic Degrees and Programs.*)

University Studies selections must include:

•Global Awareness, Cultural Diversity and the World's Artistic Traditions

- ART 211 Ancient and Medieval Art
 or
 ART 213 Art of Global Cultures

•World's Historical, Literary, and Philosophical Traditions

- ART 212 Art from the Renaissance to the Present

•University Studies Elective

- ART 211 Ancient and Medieval Art
 or
 ART 213 Art of Global Cultures

Core Courses 43 hrs

- ART 100T Transitions
 - ART 101 Drawing I: Introduction to Drawing
 - ART 111 Two-dimensional Design
 - ART 112 Three-dimensional Design
 - ART 201 Drawing II: Life Drawing
 - ART 298 Mid-Degree Review Seminar¹
 - ART 399 Professional Practices
 - ART 499 BA/BS Practicum Group Exhibition
- One of the following:*
- ART 415 Greek and Roman Art
 - ART 416 Medieval Art
 - ART 418 Renaissance Art
 - ART 419 Baroque Art

One of the following:

- ART 428 Nineteenth-Century Art
- ART 429 Art from 1900 to 1960
- ART 430 Contemporary Art, 1960 to the Present

One of the following:

- ART 420 Special Topics in Art History
 - ART 425 Art of Asia
 - ART 491 Special Problems in Art History¹
- or one course from: ART 415, 416, 418, 419, 428, 429, 430
- Three of the following:*
- ART 300 Drawing III
 - ART 330 Introduction to Painting I
 - ART 350 Introduction to Graphic Design I: Digital Art

- ART 379 Introduction to Printmaking I
- ART 382 Introduction to Photography I
- ART 393 Special Topics in 2-D
- Three of the following:*
- ART 309 Introduction to Metalsmithing I
- ART 310 Introduction to Woodworking I
- ART 360 Introduction to Sculpture I
- ART 370 Introduction to Ceramics I
- ART 393 Special Topics in 3-D

Enhanced Art History Track Courses²..... 15 hrs
Two sequential courses in the same studio emphasis above the introductory level.
and

One of the following:

- ART 415 Greek and Roman Art
- ART 416 Medieval Art
- ART 418 Renaissance Art
- ART 419 Baroque Art

One of the following:

- ART 428 Nineteenth-Century Art
- ART 429 Art from 1900 to 1960
- ART 430 Contemporary Art, 1960 to the Present

One of the following:

- ART 420 Special Topics in Art History
- ART 425 Art of Asia
- ART 491 Special Problems in Art History¹

or one course from: ART 415, 416, 418, 419, 428, 429, 430
Note: Study abroad experience is strongly recommended.

Unrestricted Electives..... 18-21 hrs

Total Curriculum Requirements³ 120 hrs

¹An independent study course in the student's area of emphasis is recommended.

²Study abroad is strongly recommended.

³The baccalaureate degree is not awarded automatically upon completion of any required number of courses or units of credit. The progress and status of students in the program is regularly assessed through reviews. All students are required to register for ART 298 the semester after they complete 21 studio credit hours of ART courses. A final review, ART 499, is conducted by faculty jury in conjunction with fulfilling the senior B.A./B.S. Practicum Exhibition requirement.

AREA:

Art/Teaching Certification Track

Bachelor of Fine Arts CIP 50.0702

ACCREDITED BY: National Association of Schools of Art and Design (NASAD)

Note: Certification requires a grade of *B* or better in one English composition course and a grade of *B* or better in a University Studies math course, public speaking, and EDU 103 or equivalent course. Additional requirements for admission to teacher education and student teaching must be met. See advisor and/or Office of Teacher Education Services for details.

University Studies Requirements..... 35-38 hrs
(See Academic Degrees and Programs.)

University Studies selections must include:

•Global Awareness, Cultural Diversity and the World's Artistic Traditions

- ART 211 Ancient and Medieval Art
- or*
- ART 213 Art of Global Cultures

•Social and Self-Awareness and Responsible Citizenship

- EDP 260 Psychology of Human Development

•University Studies Electives

- ART 212 Art from the Renaissance to the Present
- EDU 103 Issues and Practices of American Education

Core Courses 60 hrs

- ART 100T Transitions
- ART 101 Drawing I: Introduction to Drawing
- ART 111 Two-dimensional Design
- ART 112 Three-dimensional Design
- ART 201 Drawing II: Life Drawing
- ART 298 Mid-Degree Review Seminar¹
- ART 399 Professional Practices
- ART 498 B.F.A. Practicum Exhibition

Three of the following:

- ART 300 Drawing III
- ART 330 Introduction to Painting I²
- ART 350 Introduction to Graphic Design I: Digital Art
- ART 379 Introduction to Printmaking I
- ART 382 Introduction to Photography I
- ART 393 Special Topics in 2-D

Three of the following:

- ART 309 Introduction to Metalsmithing I
- ART 310 Introduction to Woodworking I
- ART 360 Introduction to Sculpture I
- ART 370 Introduction to Ceramics I
- ART 394 Special Topics in 3-D

and

Five sequential courses from in studio art to be selected from one of the following areas: ceramics, drawing, furniture design/woodworking, graphic design, metalsmithing, painting, photography, printmaking, or sculpture with advisor approval.

One of the following:

- ART 415 Greek and Roman Art
- ART 416 Medieval Art
- ART 418 Renaissance Art
- ART 419 Baroque Art

One of the following:

- ART 428 Nineteenth-Century Art
- ART 429 Art from 1900 to 1960
- ART 430 Contemporary Art, 1960 to the Present

Two of the following:

- ART 420 Special Topics in Art History
- ART 425 Art of Asia
- ART 491 Special Problems in Art History¹

or one course from: ART 415, 416, 418, 419, 428, 429, 430

Teaching Certification Track 32 hrs

- ART 341 Fundamentals of Elementary School Art
- ART 342 Fundamentals of Secondary School Art
- EDU 403 Structure and Foundations of Education
- ELE 421 Student Teaching Elementary P-5, IECE
- SEC 420 Practicum in Secondary Schools³
- SEC 421 Student Teaching in the Secondary School
- SEC 422 Extended Practicum⁴
- SED 300 Educating Students with Disabilities

Total Curriculum Requirements⁴ 127-130 hrs

¹The baccalaureate degree is not awarded automatically upon completion of any required number of courses or units of credit. The progress and status of students in the program is regularly assessed through reviews. All students are required to register for ART 298 the semester after they register for 21 credit hours of studio ART courses. After passing ART 298, students may form a B.F.A. jury and track in the B.F.A. requirements. Students tracking in the B.F.A. with Enhanced Art History must include an art history faculty as a

member of their jury. A final review, ART 498, is conducted by B.F.A. jury in conjunction with fulfilling the senior B.F.A. Practicum Exhibition requirement. B.F.A. students must maintain a 3.00 GPA in the area of their studio concentration.

²Students must choose ART 330 as part of the core for teaching certification.

³Must be taken two semesters before student teaching.

⁴Must be taken one semester before student teaching.

AREA:

Art/Teaching Certification Track¹

Bachelor of Arts/Bachelor of Science

CIP 50.0702

ACCREDITED BY: National Association of Schools of Art and Design (NASAD)

Note: Certification requires a grade of *B* or better in one English composition course and a grade of *B* or better in a University Studies math course, public speaking, and EDU 103 or equivalent course. Additional requirements for admission to teacher education and student teaching must be met. See advisor and/or Office of Teacher Education Services for details.

University Studies Requirements 38-44 hrs
(See *Academic Degrees and Programs.*)

University Studies selections must include:

•**Global Awareness, Cultural Diversity and the World's Artistic Traditions**

ART 211 Ancient and Medieval Art
or

ART 213 Art of Global Cultures

•**Social and Self-Awareness and Responsible Citizenship**

EDP 260 Psychology of Human Development¹

•**University Studies Electives**

ART 212 Art from the Renaissance to the Present²

EDU 103 Issues and Practices of American Education¹

Core Courses 49 hrs

ART 100T Transitions

ART 101 Drawing I: Introduction to Drawing

ART 111 Two-dimensional Design

ART 112 Three-dimensional Design

ART 201 Drawing II: Life Drawing

ART 298 Mid-Degree Review Seminar²

ART 399 Professional Practices

ART 499 BA/BS Practicum Group Exhibition

Three of the following:

ART 300 Drawing III

ART 330 Introduction to Painting I³

ART 350 Introduction to Graphic Design I: Digital Art

ART 379 Introduction to Printmaking I

ART 382 Introduction to Photography I

ART 393 Special Topics in 2-D

Three of the following:

ART 309 Introduction to Metalsmithing I

ART 310 Introduction to Woodworking I

ART 360 Introduction to Sculpture I

ART 370 Introduction to Ceramics I

ART 394 Special Topics in 3-D

One of the following:

ART 415 Greek and Roman Art

ART 416 Medieval Art

ART 418 Renaissance Art

ART 419 Baroque Art

One of the following:

ART 428 Nineteenth-Century Art

ART 429 Art from 1900 to 1960

ART 430 Contemporary Art, 1960 to the Present

One of the following:

ART 420 Special Topics in Art History

ART 425 Art of Asia

ART 491 Special Problems in Art History

or one course from: ART 415, 416, 418, 419, 428, 429, 430

Two sequential courses in the same studio emphasis above the introductory level, with advisor approval.

Teaching Certification Track 32 hrs

ART 341 Fundamentals of Elementary School Art

ART 342 Fundamentals of Secondary School Art

EDU 403 Structure and Foundations of Education

ELE 421 Student Teaching Elementary P-5, IECE

SEC 420 Practicum in Secondary Schools⁴

SEC 421 Student Teaching in the Secondary School

SEC 422 Extended Practicum⁵

SED 300 Educating Students with Disabilities

Total Curriculum Requirements¹ 120-125 hrs

¹May be used as University Studies elective.

²The baccalaureate degree is not awarded automatically upon completion of any required number of courses or units of credit. The progress and status of students in the program is regularly assessed through reviews. All students are required to register for ART 298 the semester after they register for 21 credit hours of studio ART courses. A final review, ART 499, is conducted by faculty jury in conjunction with fulfilling the senior B.A./B.S. Practicum Exhibition requirement.

³Students must choose ART 330 as part of the core for teaching certification.

⁴Must be taken two semesters before student teaching.

⁵Must be taken one semester before student teaching.

Art Minor 21 hrs

One of the following: ART 101, 111, or 112. One of the following: ART 121, 211, 212, or 213. Five additional studio courses 200-level or above (not ART 343). At least six hours must be upper-level courses.

Art History Minor 21 hrs

Three of the following: ART 121, 211, 212, 213; and four additional upper-level (300 or 400 level) art history courses, with advisor approval.

Graduate Program

The graduate courses taught by the Department of Art and Design provide course work for candidates seeking the Master of Arts in education with a teaching area in studio art, and other graduate programs.

Master of Arts in Education

Secondary Teacher Leader with Teaching Area in Studio Art
CIP 13.1205

The Department of Art and Design provides instruction in support of the M.A.Ed. in Secondary Teacher Leader with a concentration in studio art. Prospective students should contact the graduate coordinator in the academic subject department and the College of Education and Human Services for details on advising and graduate program design.

Department of English and Philosophy

7C9 Faculty Hall
270-809-2401

Chair: M. Sue Sroda. **Faculty:** Adair, Arneson, Bell, Binfield, Black, Brown, Carthell, Claywell, Cobb, Crofton, Cyzewski, Dawkins, Easterling, Edminster, Goggins, Jerrell, Johns, Jones, McIntosh, Morgan, Neelon, Nielsen, Osborne, Phillips, Roulston, Song, Stone, Trites, Walker, Wier, Xia.

The Department of English and Philosophy helps students explore the world of words and ideas while preparing for a variety of creative and dynamic careers. Students majoring in the department's programs can look forward to success in fields such as creative writing, technical writing, business, publishing, teaching, law, and journalism. Through their studies at Murray State, English and Philosophy majors gain the flexibility of a well-developed mind, a facility with the power of language, and the analytical skills employers want.

To reach their goals, students may choose from a number of areas, tracks, and minors. **Note:** Each track program described below—Literature Track, Creative Writing Track, English/Philosophy Track, and three English Education tracks—shares a core of courses.

English Teacher Certification Programs

English Teacher Certification Programs help students develop the skills needed to succeed as teachers in the classroom. The programs work in conjunction with the College of Education and Human Services to prepare students for certification as elementary, middle, and secondary school teachers. The department offers the B.A. within the English/Education area and the B.A. in Teaching English to Speakers of Other Languages. A minor in English Education is also offered.

Creative Writing Program

The Creative Writing Program helps students prepare for careers in editing, publishing, law, advertising, journalism, and communications, in addition to helping them grow as practicing poets and/or fiction writers and teachers of creative writing. Students may earn a B.F.A. in Creative Writing degree or a B.A. in English/Creative Writing track. A minor in creative writing is offered as well.

Literature Program

Literature Program students examine the fiction, poetry, drama, and film of a wide variety of traditions, from ancient to contemporary. The program helps students develop a broad sense of literature, focusing on both traditional and non-canonical writers in English. The B.A. degree in English/Literature is available, as well as minors in literature and rhetoric.

Philosophy Program

Students enrolled in the Philosophy program explore the historical trajectory of philosophical thought and its current applications in many professional and academic fields. Philosophy is a critical and reflective discipline, the study of which strengthens students' evaluative and moral reasoning skills, and prepares students to succeed in future endeavors such as the arts, law school, seminary, medicine, business, computer science, and education. Students may earn a B.A. or B.S. degree through the Literature/Philosophy Track.

Graduate Programs

The Department of English and Philosophy offers the Master of Arts in English (with concentrations in literature, English education, and English with philosophy as a cognate discipline); a Master of Arts in Teaching English to Speakers of Other Languages (TESOL); a low-residency Master of Fine Arts in Creative Writing; a certificate in Gender Studies and courses toward an English specialization in the Master of Arts in Education (secondary education) degree.

For even more advanced study, the department has created the innovative Doctor of Arts in English Pedagogy and Technology (with specializations in teaching literature, teaching writing, and K-12 language, language arts and literacy).

AREA:

English/English Education-Secondary Certification (Grades 8-12)
Bachelor of Arts CIP 23.0101

University Studies Requirements 41-44 hrs
(See *Academic Degrees and Programs*.)

•University Studies Electives

EDP 260 Psychology of Human Development
EDU 103 Issues and Practices of American Education
Note: Certification requires a grade of *B* or better in ENG 105, MAT 117 or higher, COM 161, and EDU 103 or equivalent course. Additional requirements for admission to teacher education and student teaching must be met. See advisor and/or Office of Teacher Education Services for details.

Required Courses 25 hrs

ENG 100T Transitions
ENG 221 Introduction to English Studies
ENG 303 British Literature to 1760
ENG 304 British Literature, 1760 to the Present
ENG 311 American Literature to 1890
ENG 312 American Literature, 1890 to the Present
ENG 321 Research in Literary Studies
ENG 334 Shakespeare
and one of the following:
ENG 309 History of the English Language
ENG 310 Introduction to English Linguistics

Required Limited Electives..... 24 hrs

ENG 214 Introduction to Creative Writing
ENG 228 Standard English Usage
ENG 329 Teaching English in Secondary Schools
ENG 435 Teaching Literature in Secondary Schools
ENG 445 Teaching Writing Secondary Schools
and

Three 300-500 level ENG courses, all of which must be in literature, at least one covering writings prior to 1800.

Required for Secondary Certification 29 hrs

EDU 403 Structures and Foundations of Education
EDU 405 Evaluation and Measurement in Education¹
SEC 420 Practicum in Secondary Schools¹
SEC 421 Student Teaching in the Secondary School
SEC 422 Extended Practicum²
SED 300 Educating Students with Disabilities

Unrestricted Electives..... 0-1 hrs

Total Curriculum Requirements 120-126³ hrs

¹Must be taken together and two semesters before student teaching.

²Must be taken one semester before student teaching.

³Six additional hours may be required in a modern language to achieve 202-level proficiency, and should be taken as electives as indicated.

AREA:
English/Teaching English to Speakers of Other Languages (P-12) Track

Bachelor of Arts

CIP 23.0101

University Studies Requirements 41-44 hrs

(See *Academic Degrees and Programs*.)

Note: Certification requires a grade of *B* or better in ENG 105, MAT 117 or higher, COM 161, and EDU 103 or equivalent course. Additional requirements for admission to teacher education and student teaching must be met. See advisor and/or Office of Teacher Education Services for details.

Required Courses 25 hrs

ENG 100T Transitions
 ENG 221 Introduction to English Studies
 ENG 303 British Literature to 1760
 ENG 304 British Literature, 1760 to the Present
 ENG 311 American Literature to 1890
 ENG 312 American Literature, 1890 to the Present
 ENG 321 Research in Literary Studies
 ENG 334 Shakespeare

and one of the following:

ENG 309 History of the English Language
 ENG 310 Introduction to English Linguistics

Required Limited Electives..... 21 hrs

ENG 228 Standard English Usage
 ENG 309 History of the English Language¹
 or
 ENG 310 Introduction to English Linguistics¹
 ENG 362 Ethnolinguistics in the U.S.
 TSL 331 ESL Methods Grades P-5
 TSL 332 ESL Methods Grades 5-12
 TSL 409 Acquisition of Languages in Children and Adolescents
 TSL 410 ESL Assessment, Placement, and Advocacy

Required for Secondary Certification 32 hrs

EDP 260 Psychology of Human Development²
 EDU 103 Issues and Practices of American Education²
 EDU 403 Structures and Foundations of Education
 ELE 421 Student Teaching Elementary P-5, IECE
 SEC 420 Practicum in Secondary Schools³
 SEC 421 Student Teaching in the Secondary School
 SEC 422 Extended Practicum⁴
 SED 300 Educating Students with Disabilities

Unrestricted Electives..... 0-1 hrs

Total Curriculum Requirements 120-122 hrs

¹Whichever was not taken in the core.

²May be taken as a University Studies elective.

³Must be taken two semesters before student teaching.

⁴Must be taken one semester before student teaching.

MAJOR:
**English/
 Teaching English to Speakers of Other Languages Track**

Bachelor of Arts

CIP 23.0101

Note: This major does not lead to Teacher Certification.

University Studies Requirements 41-44 hrs

(See *Academic Degrees and Programs*.)

•Social and Self-Awareness and Responsible Citizenship

EDP 260 Psychology of Human Development

Required Courses 25 hrs

ENG 100T Transitions
 ENG 221 Introduction to English Studies
 ENG 303 British Literature to 1760
 ENG 304 British Literature, 1760 to the Present
 ENG 311 American Literature to 1890
 ENG 312 American Literature, 1890 to the Present
 ENG 321 Research in Literary Studies
 ENG 334 Shakespeare

and one of the following:

ENG 309 History of the English Language
 ENG 310 Introduction to English Linguistics

Required Limited Electives..... 27 hrs

ENG 228 Standard English Usage
 ENG 309 History of the English Language¹
 or
 ENG 310 Introduction to English Linguistics¹
 ENG 362 Ethnolinguistics in the U.S.
 ENG 392 Professional Engagement
 SED 300 Educating Students with Disabilities
 TSL 331 ESL Methods Grades P-5
 TSL 332 ESL Methods Grades 5-12
 TSL 409 Acquisition of Languages in Children and Adolescents
 TSL 410 ESL Assessment, Placement, and Advocacy

Required Minor 21-24 hrs

Unrestricted Electives..... 0-6 hrs

Total Curriculum Requirements 120 hrs

¹Whichever was not taken in the core.

AREA:
Creative Writing

Bachelor of Fine Arts

CIP 23.1302

University Studies Requirements 44-47 hrs

(See *Academic Degrees and Programs*.)

Required Courses 25 hrs

ENG 100T Transitions
 ENG 221 Introduction to English Studies
 ENG 303 British Literature to 1760
 ENG 304 British Literature, 1760 to the Present
 ENG 311 American Literature to 1890
 ENG 312 American Literature, 1890 to the Present
 ENG 321 Research in Literary Studies
 ENG 334 Shakespeare

and one of the following:

ENG 309 History of the English Language
 ENG 310 Introduction to English Linguistics

Concentration Required Electives 15 hrs

Choose one of the following concentrations:

Concentration in Fiction

- ENG 341 Introduction to Writing Fiction²
 - ENG 408 Forms of Fiction
 - ENG 415 Writer’s Workshop: Short Story
 - ENG 560 Advanced Creative Writing: Fiction
- and one of the following:*
- ENG 342 Introduction to Writing Poetry
 - ENG 343 Special Topics in Creative Writing
 - ENG 344 Introduction to Creative Non-Fiction
 - ENG 416 Writer’s Workshop: Poetry

Concentration in Poetry

- ENG 342 Introduction to Writing Poetry
 - ENG 416 Writer’s Workshop: Poetry (6 hrs)
 - ENG 561 Advanced Creative Writing: Poetry
- and one of the following:*
- ENG 341 Introduction to Writing Fiction
 - ENG 343 Special Topics in Creative Writing
 - ENG 344 Introduction to Creative Non-Fiction
 - ENG 415 Writer’s Workshop: Short Story

Restricted Electives..... 13 hrs

- ENG 562 BFA Senior Seminar
- Three 300-500 level literature courses and one additional course in literature or creative writing.

Unrestricted Electives..... 20-23 hrs

Total Curriculum Requirements 120 hrs¹

¹The bachelor of fine arts degree is not awarded automatically upon completion of any required number of courses or units of credit. Students must be admitted to this program. To apply, students must submit an application available from the creative writing coordinator; students must have a *B* or better in a creative writing course at Murray State and must submit a writing sample, to be reviewed by a committee.

²Prerequisite ENG 214 should be taken as a University Studies Elective.

AREA:

English/Literature Track

Bachelor of Arts CIP 23.0101

University Studies Requirements 41-44 hrs

(See Academic Degrees and Programs.)

Required Courses 25 hrs

- ENG 100T Transitions
 - ENG 221 Introduction to English Studies
 - ENG 303 British Literature to 1760
 - ENG 304 British Literature, 1760 to the Present
 - ENG 311 American Literature to 1890
 - ENG 312 American Literature, 1890 to the Present
 - ENG 321 Research in Literary Studies
 - ENG 334 Shakespeare
- and one of the following:*
- ENG 309 History of the English Language
 - ENG 310 Introduction to English Linguistics

Required Limited Electives..... 31 hrs

- ENG 392 Professional Engagement
 - ENG 548 Senior Seminar in Literary Studies
- and two of the following:*
- a. ENG 342 Introduction to Writing Poetry
 - or*
 - ENG 380 Introduction to Poetry and Poetics

- b. ENG 451 Introduction to Drama
- c. ENG 344 Introduction to Creative Nonfiction *or*
- ENG 407 Short Fiction *or*
- ENG 408 Forms of Fiction *or*
- ENG 452 Introduction to Fiction

and five courses from the following groups, at least one from each group

British and European Literature I

- ENG 402 Early English Literature
- ENG 403 Medieval Drama
- ENG 411 Non-Shakespearean Elizabethan-Jacobean Drama
- ENG 426 Classical Literature
- ENG 427 Medieval Literature
- ENG 428 Renaissance Literature
- ENG 436 Seventeenth-Century British Literature
- ENG 450 Sixteenth-Century British Literature

British and European Literature II

- ENG 405 British Novel to 1830
- ENG 406 British Novel since 1830
- ENG 418 Restoration and Eighteenth-Century British Literature
- ENG 419 European Cinema
- ENG 420 British Romantic Literature
- ENG 430 British Poetry and Non-Fictional Prose, 1832-1900
- ENG 436 Seventeenth-Century British Literature
- ENG 438 British Fiction, 1832 to 1900
- ENG 439 Modern British Literature

American Literature

- ENG 409 The American Novel
- ENG 410 Contemporary American Literature
- ENG 413 American Poetry
- ENG 431 American Literature, 1607-1820
- ENG 442 American Literature, 1820-1870
- ENG 443 American Literature, 1870-1920
- ENG 444 American Literature, 1920-Present

Interdisciplinary, World, and Diversity Literatures

- ENG 305 Survey of World Literature, 1700-1945
- ENG 306 Contemporary Literature
- ENG 307 World Literature to 1830
- ENG 308 World Literature, 1830-Present
- ENG 315 Global Cinema
- ENG 317 Literature and Religion
- ENG 318 Women’s Literature
- ENG 319 Gay and Lesbian Literature
- ENG 320 Survey in African-American Literature
- ENG 350 Modern Japanese Literature in Translation
- ENG 360 Literature and Philosophy
- ENG 370 Law and Literature
- ENG 371 Literature and the Environment

300-500 level ENG courses..... 6 hrs

Electives 20-23 hrs

Total Curriculum Requirements 120 hrs

MAJOR:
English/Literature Track

Bachelor of Arts

CIP 23.0101

University Studies Requirements 41-44 hrs
(See *Academic Degrees and Programs.*)**Required Courses** 25 hrs

ENG 100T Transitions
 ENG 221 Introduction to English Studies
 ENG 303 British Literature to 1760
 ENG 304 British Literature, 1760 to the Present
 ENG 311 American Literature to 1890
 ENG 312 American Literature, 1890 to the Present
 ENG 321 Research in Literary Studies
 ENG 334 Shakespeare

and one of the following:

ENG 309 History of the English Language
 ENG 310 Introduction to English Linguistics

Required Limited Electives 19 hrs

ENG 392 Professional Engagement
 ENG 548 Senior Seminar in Literary Studies

and two of the following:

- a. ENG 342 Introduction to Writing Poetry
 or
 ENG 380 Introduction to Poetry and Poetics
 b. ENG 451 Introduction to Drama
 c. ENG 344 Introduction to Creative Nonfiction *or*
 ENG 407 Short Fiction *or*
 ENG 408 Forms of Fiction *or*
 ENG 452 Introduction to Fiction

*and one course from the following three subject groups***British and European Literature I**

ENG 402 Early English Literature
 ENG 403 Medieval Drama
 ENG 411 Non-Shakespearean Elizabethan-Jacobean Drama
 ENG 426 Classical Literature
 ENG 427 Medieval Literature
 ENG 428 Renaissance Literature
 ENG 436 Seventeenth-Century British Literature
 ENG 450 Sixteenth-Century British Literature

British and European Literature II

ENG 405 British Novel to 1830
 ENG 406 British Novel since 1830
 ENG 418 Restoration and Eighteenth-Century British Literature
 ENG 419 European Cinema
 ENG 420 British Romantic Literature
 ENG 430 British Poetry and Non-Fictional Prose, 1832-1900
 ENG 436 Seventeenth-Century British Literature
 ENG 438 British Fiction, 1832 to 1900
 ENG 439 Modern British Literature

American Literature

ENG 409 The American Novel
 ENG 410 Contemporary American Literature
 ENG 413 American Poetry
 ENG 431 American Literature, 1607-1820
 ENG 442 American Literature, 1820-1870
 ENG 443 American Literature, 1870-1920
 ENG 444 American Literature, 1920-Present

*and one course of the following:***Interdisciplinary, World, and Diversity Literatures**

ENG 305 Survey of World Literature, 1700-1945
 ENG 306 Contemporary Literature
 ENG 307 World Literature to 1830
 ENG 308 World Literature, 1830-Present
 ENG 315 Global Cinema
 ENG 317 Literature and Religion
 ENG 318 Women's Literature
 ENG 319 Gay and Lesbian Literature
 ENG 320 Survey in African-American Literature
 ENG 350 Modern Japanese Literature in Translation
 ENG 360 Literature and Philosophy
 ENG 370 Law and Literature
 ENG 371 Literature and the Environment

*And three hours from 300-500 level ENG courses***Required Minor** 21-24 hrs**Electives** 11-17 hrs**Total Curriculum Requirements** 120 hrs**MAJOR:**
English/Creative Writing Track

Bachelor of Arts

CIP 23.0101

University Studies Requirements 41-44 hrs
(See *Academic Degrees and Programs.*)**Required Courses** 25 hrs

ENG 100T Transitions
 ENG 221 Introduction to English Studies
 ENG 303 British Literature to 1760
 ENG 304 British Literature, 1760 to the Present
 ENG 311 American Literature to 1890
 ENG 312 American Literature, 1890 to the Present
 ENG 321 Research in Literary Studies
 ENG 334 Shakespeare

and one of the following:

ENG 309 History of the English Language
 ENG 310 Introduction to English Linguistics

Concentration Required Electives 18 hrs*Choose one of the following concentrations***Concentration in Fiction**

ENG 341 Introduction to Writing Fiction¹
 ENG 342 Introduction to Writing Poetry
 ENG 344 Introduction to Creative Non-Fiction
 ENG 408 Forms of Fiction
 ENG 415 Writer's Workshop: Short Story
 ENG 560 Advanced Creative Writing: Fiction

Concentration in Poetry

ENG 341 Introduction to Writing Fiction¹
 ENG 342 Introduction to Writing Poetry
 ENG 344 Introduction to Creative Non-Fiction
 ENG 416 Writer's Workshop: Poetry (6 hrs)
 ENG 561 Advanced Creative Writing: Poetry

Required Minor 21-24 hrs**Electives** 9-15 hrs**Total Curriculum Requirements** 120 hrs¹Prerequisite ENG 214 should be taken as a University Studies elective.

AREA:

English/Philosophy Track

Bachelor of Arts/Bachelor of Science

CIP 23.0101

University Studies Requirements 38-44 hrs
(See *Academic Degrees and Programs*.)

•**Social and Self-Awareness and Responsible Citizenship**
PHI 202 Ethics

Required Courses 25 hrs

- ENG 100T Transitions
- ENG 221 Introduction to English Studies
- ENG 303 British Literature to 1760
- ENG 304 British Literature, 1760 to the Present
- ENG 311 American Literature to 1890
- ENG 312 American Literature, 1890 to the Present
- ENG 321 Research in Literary Studies
- ENG 334 Shakespeare
- and one of the following:
- ENG 309 History of the English Language
- ENG 310 Introduction to English Linguistics

Required Limited Electives..... 31 hrs

- PHI 184 Logic, Language and Truth
- PHI 201 Introduction to Philosophy
- PHI 304 History of Philosophy I: Ancient and Medieval
- PHI 305 History of Philosophy II: Modern/19th Century
- PHI 360 Literature and Philosophy
- PHI 392 Professional Engagement
- PHI 498 Major Figures

and four additional PHI courses (at least two at the 300-level or higher)

Restricted Electives..... 9 hrs
ENG, GDS, PHI, or TSL, or approval of advisor. ENG 101, 102, 105, or 150 may not be used.

Unrestricted Electives.....11-17 hrs

Total Curriculum Requirements 120 hrs

English Minor21 hrs
ENG 221, 321, and five English courses at the 300- or 400-level. At least six hours must be upper-level courses.

English Education Minor21 hrs
Non-teaching minor that does not lead to certification. ENG 221, 329, and five of the following: ENG 107, 214, 228, 417, 425, 435, 445; TSL 331, 332. At least six hours must be upper-level courses.

Creative Writing Minor21 hrs
ENG 221, four courses in creative writing, plus two upper-level English courses. At least six hours must be upper-level courses.

Film Studies Minor21 hrs
ENG 313, 401 and 15 hours of the following: ENG 213, 315, 343, 351, 352, 400, 460; FRE 419, GER 419; SPA 419; ART 382, 383, 384, 385; HIS 477; JMC 270, 336, 358; MUS 106, 313. May include only one of the following: ENG 341, 342, 415, or 416. At least six hours must be upper-level courses.

Gender and Diversity Studies Minor21 hrs
GDS 201. Choose 18 hours of electives from the following: ANT 140, 329, 343, 344, 596; ARC 150, 330; ART 211, 212, 356; CHN 340; COM 340; ECO 140; ENG 245, 250, 318, 319, 320; GDS 351, 412; GSC 110; HIS 309, 320, 340, 350, 354, 355, 359, 360, 370, 415, 445, 450, 451,

455, 472, 474, 475, 481; POL 342, 445, 453, 454; PSY 221, 302; SOC 331, 337, 355; or SWK 225, or one of the following: CHN 105, FRE 105, GER 105, JPN 105, SPA 105. At least six hours must be upper-level courses.

Literature and Philosophy Minor 21 hrs
ENG 221, ENG/PHI 360, and PHI 201. One of the following: ENG 303, 304, 311, or 312. One of the following: ENG 305, 306, 334, 426, 427, 428, or 534. Two of the following: PHI 304, 305, 310, 315, 321, 325, 356, 357. At least six hours must be upper-level courses. Only two of these courses may be shared with University Studies.

Philosophy Minor 21 hrs
PHI 201 and 202 or 203 and five additional courses in philosophy, four at or above the 300-level. At least six hours must be upper-level courses. Only two of these courses may be shared with University Studies.

Professional Writing Minor21 hrs
ENG 226 and 324. Five of the following: BUS 215, CSC 125, ENG 204, 214, 224, 228, 322, 325, 327, 331, 332, 353, 404; GCM 152, JMC 194, 294, 295; LST 310. At least six hours must be upper-level courses.

Rhetoric Minor21 hrs
ENG 226, 331, and PHI 103. Four of the following: ENG 309, 332, 370, 404, 446; HIS 301, JMC 330, MCG 351, PHI 201, 202, 304, 380, 383; POL 352, PSY 303.

Graduate Programs

Graduate Coordinator - Kevin Binfield
Director, TESOL - Latricia Trites
Director, MFA in Creative Writing - Ann Neelon

Doctor of Arts: English Pedagogy and Technology

The mission of the Doctor of Arts program in English Pedagogy and Technology is to develop master educators within the broad content area of English from elementary through secondary and developmental levels in western Kentucky and other regions.

The objectives of the Doctor of Arts program in English Pedagogy and Technology are

- 1) to foster the advanced development of content expertise in English for teaching at the elementary school, middle school, high school, and adult education levels;
- 2) to provide professional educators with skills in pedagogical research to refine and improve their teaching practice with special regard to teaching diverse populations and differentiating instruction;
- 3) to provide professional educators with skills to participate in curriculum development and assessment;
- 4) to provide supportive experiences to teachers who are preparing National Board Certification submissions in English-related areas;
- 5) to enable professional educators to refine their abilities to facilitate college readiness in English;
- 6) to provide professional educators with opportunities to develop expertise in the uses of instructional technology in individual classroom settings and in overall curricula.

Requirements for Admission

Applicants must comply with the Murray State University requirements for admission to graduate programs (see Chapter 2 of the Murray State University Academic Bulletin). For non-native speakers of English, a TOEFL score of 24 for each section of the iBT,

an IELTS score of 7.5 with no band lower than 7.0 or a previous degree in the field earned from an accredited U.S. institution.

Additional requirements for unconditional and conditional admission are:

Unconditional

- Master’s degree in English, English Education, TESOL, or closely related discipline (including Education with significant coursework in English language arts such as reading, writing, and literacy), with 30 graduate credit-hours and a graduate GPA of 3.2 or higher;
- Completion of a graduate-level research skills course in English, English Education, TESOL, or closely related discipline with a grade of 3.0 or higher;
- Sample of writing in the field judged to be indicative of likely success in a doctoral program;
- Portfolio of teaching materials of the applicant’s own design indicative of teaching ability,
- Three satisfactory letters of reference, at least two of which address the applicant’s academic ability and at least one of which addresses the applicant’s teaching ability;
- Satisfactory interview with graduate faculty.

Conditional

- Master’s degree in English, English Education, TESOL, or closely related discipline (including Education with significant coursework in English language arts such as reading, writing, and literacy), with 30 graduate credit-hours and a graduate GPA of 3.0;
- Departmental judgment of probable success based on
 - Sample of writing in the field judged to be indicative of likely success in a doctoral program;
 - Portfolio of teaching materials of the applicant’s own design indicative of teaching ability,
 - Three satisfactory letters of reference, at least two of which address the applicant’s academic ability and at least one of which addresses the applicant’s teaching ability;
 - Satisfactory interview with graduate faculty;
 - Other evidence such as teaching experience, professional achievement, GRE General Test scores indicative of likely success in a doctoral program;
 - and/or a planned program of prerequisite courses.

Note: Meeting the above criteria does not guarantee admission to a cohort, since admission to a cohort is competitive. The department may also defer admission to a later date.

**Doctor of Arts
English Pedagogy and Technology/
Teaching English Language Specialization** CIP 23.0101

Total Course Requirements..... 48 hours

Core Courses 24 hrs

- ENG 900 Methods of Analysis and Reflection in English Teaching
- ENG 907 Theories of Curriculum Design and Application in English
- ENG 908 Assessment in English
- ENG 977 Instructional Technology for English
- ENG 997 Applied Practice I¹
- ENG 998 Applied Practice II¹

Teaching English Literature Limited Electives 24 hrs

- Choose from the following:*
- ENG 601 Teaching Writing in Schools

- ENG 603 Teaching English Language Arts in Schools
 - ENG 618 Introduction to Linguistic Science
 - ENG 681 Special Topics in Rhetoric and Composition
 - TSL 600 Methods and Materials for Teaching ESL/EFL
 - TSL 605 Teaching ESL/EFL Writing
 - TSL 609 Foundations of Second Language Acquisition
 - TSL 634 Language and Culture
- Other ENG courses 600-level or above appropriate to specialization with Director approval

Other Degree Requirements

- Qualifying examination over an approved reading list after completion of at least 24 hours of coursework.
- Evaluation of progress upon completion of qualifying examination to determine whether the student will continue to the candidacy/capstone phase of the program.
- Oral excursus of capstone project.
¹Includes capstone project.

**Doctor of Arts
English Pedagogy and Technology/
Teaching English Literacy K-Adult Specialization**
CIP 23.0101

Total Course Requirements..... 48 hours

Core Courses 24 hrs

- ENG 900 Methods of Analysis and Reflection in English Teaching
- ENG 907 Theories of Curriculum Design and Application in English
- ENG 908 Assessment in English
- ENG 977 Instructional Technology for English
- ENG 997 Applied Practice I¹
- ENG 998 Applied Practice II¹

Teaching English Literacy K-Adult Restricted Electives 6 hrs

- ENG 752 The Reading/Writing Connection in English
- ENG 955 Seminar in English Literacy

Teaching English Literacy K-Adult Limited Electives 18 hrs

Choose from the following:

- ELE 616 Research in Children’s Literature
- ENG 601 Teaching Writing in Schools
- ENG 602 Teaching Literature in Schools
- ENG 603 Teaching English Language Arts in Schools
- ENG 685 Teaching English at the College Level
- ENG 750 Purchase Area Literacy Academy
- ENG 957 Adult English Literacy
- LIB 617 Research in Young Adult Literature
- REA 612 Foundations of Literacy
- REA 618 Content Area Reading/Writing K-12
- REA 628 Literacy Assessment

Three hours ENG courses 600-level or above appropriate to specialization with Director approval

Other Degree Requirements

- Qualifying examination over an approved reading list after completion of at least 24 hours of coursework.
- Evaluation of progress upon completion of qualifying examination to determine whether the student will continue to the candidacy/capstone phase of the program.
- Oral excursus of capstone project.
¹Includes capstone project.

Doctor of Arts
**English Pedagogy and Technology/
 Teaching English Literature Specialization** CIP 23.0101

Total Course Requirements..... 48 hours

Core Courses 24 hrs

- ENG 900 Methods of Analysis and Reflection in English Teaching
- ENG 907 Theories of Curriculum Design and Application in English
- ENG 908 Assessment in English
- ENG 977 Instructional Technology for English
- ENG 997 Applied Practice I¹
- ENG 998 Applied Practice II¹

Teaching English Literature Limited Electives 24 hrs

- ENG 602 Teaching Literature in Schools
- American Literature Courses
- British Literature Courses
- Three hours of ENG courses 600-level or above appropriate to specialization with Director approval

Other Degree Requirements

- Qualifying examination over an approved reading list after completion of at least 24 hours of coursework.
- Evaluation of progress upon completion of qualifying examination to determine whether the student will continue to the candidacy/capstone phase of the program.
- Oral excursus of capstone project.
¹Includes capstone project.

Doctor of Arts
**English Pedagogy and Technology/
 Teaching Writing Specialization** CIP 23.0101

Total Course Requirements..... 48 hours

Core Courses 24 hrs

- ENG 900 Methods of Analysis and Reflection in English Teaching
- ENG 907 Theories of Curriculum Design and Application in English
- ENG 908 Assessment in English
- ENG 977 Instructional Technology for English
- ENG 997 Applied Practice I¹
- ENG 998 Applied Practice II¹

Teaching Writing Limited Electives..... 24 hrs

Choose from the following:

- ENG 601 Teaching Writing in Schools
- ENG 603 Teaching English Language Arts in Schools
- ENG 604 Purchase Area Writing Project I
- ENG 605 Purchase Area Writing Project II
- ENG 624 Historical Principles in Composition Theory
- ENG 681 Special Topics in Rhetoric and Composition
- Three hours of ENG courses 600-level or above appropriate to specialization with Director approval

Other Degree Requirements

- Qualifying examination over an approved reading list after completion of at least 24 hours of coursework.
- Evaluation of progress upon completion of qualifying examination to determine whether the student will continue to the candidacy/capstone phase of the program.
- Oral excursus of capstone project.
¹Includes capstone project.

Doctor of Arts
**English Pedagogy and Technology/
 K-12 English Language, Language Arts, and Literacy Specialization** CIP 23.0101

Total Course Requirements..... 48 hours

Core Courses 24 hrs

- ENG 900 Methods of Analysis and Reflection in English Teaching
- ENG 907 Theories of Curriculum Design and Application in English
- ENG 908 Assessment in English
- ENG 977 Instructional Technology for English
- ENG 997 Applied Practice I¹
- ENG 998 Applied Practice II¹

Language, Language Arts, and Literacy Restricted Electives... 6 hrs

- ENG 981 Content Knowledge in English for Age Level
- ENG 982 Differentiation of Instruction in English
- ENG 983 Teaching Practice and Classroom Environments in English
- ENG 984 Effective and Reflective English Teaching Practice

Language, Language Arts, and Literacy Limited Electives..... 18 hrs

Twelve hours ENG courses 600-level or above appropriate to specialization with Director approval

Other Degree Requirements

- Qualifying examination over an approved reading list after completion of at least 24 hours of coursework. National Board Certification may substitute for the qualifying examination.
- Evaluation of progress upon completion of qualifying examination to determine whether the student will continue to the candidacy/capstone phase of the program.
- Oral excursus of capstone project.
¹Includes capstone project.

Master of Arts
English CIP 23.0101

The objectives of the M.A. program in English are (1) to prepare teachers of language, literature and composition at the college and secondary school levels, (2) to provide a broad foundation for those wishing to pursue further graduate study; and (3) to meet the special needs of a variety of pre-professional programs.

Requirements for Admission

Applicants must comply with the Murray State University requirements (see *Graduate Admissions*). For non-native speakers of English, a TOEFL score of 22 for each section of the iBT, an IELTS score of 7.0 with no band lower than 6.5, or a previous degree earned from an accredited U.S. institution subject to departmental standards. Requirements for unconditional and conditional admission are shown below.

Unconditional

- Undergraduate major or minor in English Literature or substantial equivalent thereof.
- Undergraduate GPA of 3.0 or higher.

Conditional

Departmental judgment of probable success based on Graduate Record Examination scores, letters of recommendation, or other evidence such as a planned program of prerequisite courses. Students

will have their skills in reading and writing assessed by the Coordinator prior to enrollment in graduate courses.

Note: At least half of the total coursework, excluding thesis credit, must be in 600-level courses. Any substitutions for the requirements listed below must be approved by the departmental graduate coordinator. ENG 618 and ENG 634 do not count toward the M.A. in English; ENG 610 may count only once, for no more than three credit hours, toward the M.A. in English.

LITERATURE

Total Course Requirements 30 hours

ENG 600 Research and Bibliography^{L,R}

American literature courses (6 hrs)

British literature courses (6 hrs)

ENG electives (15 hrs)

ENGLISH WITH PHILOSOPHY AS A COGNATE DISCIPLINE

Total Course Requirements 30 hours

ENG 600 Research and Bibliography^{L,R}

American literature courses (6 hrs)

British literature courses (6 hrs)

PHI electives (15 hrs)

ENGLISH WITH MODERN LANGUAGES AS A COGNATE DISCIPLINE

Total Course Requirements 30 hours

ENG 600 Research and Bibliography^{L,R}

American literature courses (6 hrs)

British literature courses (6 hrs)

FRE, GER, JPN, or SPA electives (9 hrs)

ENG, FRE, GER, JPN, or SPA electives (6 hrs)

Note: Graduate courses may not duplicate undergraduate course content.

ENGLISH EDUCATION

Total Course Requirements 30 hours

ENG 600 Research and Bibliography^{L,R}

ENG 791 Reflective Teaching and Roundtable

American literature courses (6 hrs)

British literature courses (6 hrs)

and twelve hours chosen from the following:

ENG 601 Teaching Writing in Schools

ENG 602 Teaching Literature in Schools

ENG 603 Teaching English Language Arts in Schools

ENG 604 Purchase Area Writing Project I

ENG 605 Purchase Area Writing Project II

ENG 750 Purchase Area Literacy Academy

ENG 752 Reading and Writing Connection in English

Note: Graduate courses may not duplicate undergraduate course content.

Satisfactory scores in Take One! will meet the requirements for the education portion of the written comprehensive examination.

WRITING STUDIES

Total Course Requirements 30 hours

ENG 600 Research and Bibliography^{L,R}

American literature courses (6 hrs)

British literature courses (6 hrs)

and fifteen hours chosen from the following:

ENG 601 Teaching Writing in Schools

ENG 604 Purchase Area Writing Project I

ENG 605 Purchase Area Writing Project II

ENG 620 Life-Writing

ENG 624 Historical Principles in Composition Theory

ENG 626 Advanced Technical Writing

ENG 627 Rhetoric and Professional Writing

ENG 628 Writing Proposals and Grants

ENG 629 Project Design and Usability

ENG 630 Issues in Technical and Professional Writing

ENG 644 Graduate Cooperative Education

ENG 681 Special Topics in Rhetoric and Composition

ENG 685 Teaching English at the College Level

Other Degree Requirements

- Oral examination over the approved reading list.
- Exit portfolio (for specified tracks).

Master of Arts in Education

Secondary Teacher Leader with English Concentration

CIP 13.1205

The Department of English and Philosophy provides instruction in support of the M.A.Ed. in Secondary Teacher Leader with a concentration in English. Prospective students should contact the graduate coordinator in the academic subject department and the College of Education and Human Services for details on advising and graduate program design. If approved by the English graduate coordinator, nine of these hours also may be counted toward the M.A. in English (thesis or non-thesis) as a second degree if they fall within the eight-year time limit.

Master of Fine Arts

Creative Writing

CIP 23.1302

The M.F.A. in Creative Writing (low-residency program) offers advanced instruction to creative writers whose circumstances prohibit them from pursuing a traditionally structured course of graduate study. The M.F.A. offers possible concentrations in fiction, poetry, and creative nonfiction. The degree requires four 9-day residencies at Murray State University, offered twice annually; most of the curriculum requirements are satisfied via distance learning. Each tutorial must be accompanied by a residency.

Requirements for Admission

Applicants must comply with the Murray State University requirements (see *Graduate Admissions*). Additional requirements for admission are:

- a baccalaureate degree with a major, minor, or evidence of sufficient study in literature;
- committee approval of application based on the following factors:
 - writing sample in appropriate genre (see below)
 - GPA at previous undergraduate and/or graduate programs
 - two letters of recommendation.
 - a personal essay (200-300 words) addressing the applicant's experiences and goals as a writer
 - preparation and experience as demonstrated in personal statement.

Submission of Writing Sample—All applicants must declare a specialization in fiction, poetry, or creative nonfiction and submit electronically a writing sample within the chosen genre. The writing sample may be composed of one or multiple works. Prose samples should be double-spaced, and all samples should be typed in a legible font: fiction 20-30 pages; creative nonfiction 20-30 pages; poetry, 15-20 pages. Applicants who would like to be considered in more than one genre should submit multiple writing samples. The 200-300 word personal statement should address the student's experiences and goals as a writer. The writing sample and personal statement should be included in the same Word document and emailed as an attachment to msu.mfaadmissions@murraystate.edu with the subject heading Application Materials. Writing samples are not returnable.

THESIS ONLY

Total Course Requirements 49 hours

Three semesters of the following. Students are generally required to take three sections in their chosen genre: fiction, poetry, or creative nonfiction. With the permission of the M.F.A. Director, students may take two residency/tutorial sequences in their chosen genre and one in another genre.

- ENG 661 Fiction Tutorial^L
or
- ENG 662 Poetry Tutorial^L
or
- ENG 663 Creative Nonfiction Tutorial^L

Four semesters of the following. Students are generally required to take four residency/tutorial sequences in chosen genre: fiction, poetry, or creative nonfiction. With the permission of the M.F.A. Director, students may take three sections in their chosen genre and one in another genre.

Note: One of the four residencies precedes ENG 668.

- ENG 665 Fiction Residency
or
- ENG 666 Poetry Residency
or
- ENG 667 Creative Nonfiction Residency

Required Courses

- ENG 664 Field Study^{PT}
- ENG 668 Creative Thesis
- ENG 669 Thesis Residency

Required Electives 9 hrs

- Graduate-level contemporary literature course (3 hrs)
- Graduate-level literature courses (6 hrs)

Other Requirements

The creative thesis is the final body of work produced and submitted by the M.F.A. student. The thesis semester culminates in an oral thesis defense. A student's enrollment in ENG 668 is subject to the approval of the M.F.A. Director and the student's present and past mentors. If the M.F.A. Director, in consultation with the student's present and past mentors, determines that the student is not ready to enter the thesis semester, the student must enroll in both another residency and another tutorial in the chosen genre. After completing ENG 668, each student must enroll in ENG 669, a final residency, during which he/she will give a teaching presentation, read publicly from the thesis, attend a post-thesis defense meeting, and finalize thesis revisions.

**Master of Arts
Teaching English to Speakers of Other Languages**

CIP 13.1401

Requirements for Admission

Applicants must comply with the Murray State University requirements (see *Graduate Admissions*). Application for admission will be considered for Fall admission only with exceptions handled on a case-by-case basis. Additional requirements for unconditional admission are as follows:

- an undergraduate major in English or a modern foreign language or approval by the TESOL Advisory Committee;
- at least 12 semester hours in one modern foreign language or demonstrated proficiency at that level (permission may be granted to complete this proficiency during the program; for non-native speakers, language may be English);

- for non-native speakers of English, a TOEFL score of 20 for each section of the iBT, an IELTS score of 6.5 with no band lower than 6.0 or a previous degree earned from an accredited U.S. institution or successful completion of Level 6 of the MSU ESL program.
- Students who have a minimum of 18 for each section of the iBT or an IELTS score of 6.0 with no band below 5.5, but meet all other conditions for admittance may be admitted conditionally by the TESOL Advisory committee. Under these conditions, students will have their English language skills assessed by the director of the TESOL program immediately after they arrive on campus to determine if further classes are needed to develop English language proficiency. After assessment the students may be assigned to full-time language study in the English as a Second Language Program, may be permitted to take graduate-level classes on a conditional basis along with further designated language study, or may be permitted to begin graduate study without further restrictions.
- All students must submit an internship proposal by the end of the semester before they will enroll in that class. Students must meet the specified guidelines indicated below for each internship before proposals will be considered. Each proposal must be approved by the TESOL Committee. Note that the default internship course will be TSL 690 Internship: Teaching Focus. Only students who have met very rigorous requirements, as noted below, will be allowed to enroll in an optional internship course.

Note: Admission to the program does not guarantee graduation. Students are expected to hold to the ethical standards expected of the teaching profession, and unethical conduct, such as violations of the MSU Academic Honesty Policy, may result in dismissal from the program.

NON-THESIS ONLY

Total Course Requirements 33 hours

- TSL 600 Methods and Materials for Teaching ESL/EFL^L
- TSL 605 Teaching ESL/EFL Writing
- TSL 609 Foundations of Second Language Acquisition
- TSL 610 Applied Linguistics and Professional Practices^R
- TSL 615 Course and Syllabus Design in ESL/EFL
- TSL 620 Computer Assisted Language Learning
- TSL 623 Testing and Evaluation in Second Language Teaching
- TSL 634 Language and Culture
- TSL 653 Integrated ESL/EFL Skills Seminar
- TSL 680 Practicum
- TSL 690 Internship^{PT}

Other Degree Requirements

Formal evaluations during the course of the program will include submission of a summative portfolio and will include a one-hour oral exit examination.

Optional Internship Focus

The default internship course will be TSL 690 Internship: Teaching Focus. Only students who have met very rigorous requirements, as noted below, will be allowed to enroll in an optional internship course.

TSL 691 Internship: Research Focus - Permission to enroll in this course as a substitute for TSL 690 requires teaching experience; TSL 610; approval by the TESOL Committee based on a superior score of the TSL 610 final project and research proposal, using an external rubric; and recommendation of TSL 610 professor.

TSL 692 Internship: Materials Design Focus - Permission to enroll in this course as a substitute for TSL 690 requires teaching experience; TSL 615; approval by the TESOL Committee based on a superior score of the TSL 615 final project and materials proposal, using an external rubric; and recommendation of TSL 615 professor.

ENDORSEMENT: English as a Second Language

In keeping with Kentucky Department of Education guidelines, students who hold or are earning a certificate to teach at the elementary, middle school or secondary level may seek a K-12 certificate endorsement in English as a second language by completing the following 12 semester hours of course work:

ENG 618	Introduction to Linguistic Science
TSL 600	Methods and Materials for Teaching ESL/EFL
TSL 609	Foundations of Second Language Acquisition
TSL 634	Language and Culture

Other Degree Requirements

An oral examination is required. English as a Second Language certificate endorsement seekers are required in Kentucky to take the Teaching English as a Second Language Praxis exam upon completion of the above courses.

CERTIFICATE**Gender Studies**

CIP 05.0299

The Certificate in Gender Studies is an interdisciplinary course of study that is designed to complement traditional, disciplinary graduate and professional degree programs. The objectives are to provide students with opportunities to think in an interdisciplinary fashion about issues of gender and sexuality, to provide students with instruction and practice in employing the methods they learn in their degree programs toward inquiries into issues of gender and sexuality, to enable recipients of the certificate to teach in the area of gender studies at the post-secondary level, and to prepare students for further graduate study in the areas of gender and sexuality.

Requirements for Admission

Applicants must comply with the Murray State University requirements (see *Graduate Admissions*). Additional requirements for unconditional admission are as follows:

- an undergraduate degree or current enrollment in a graduate or professional degree program;
- for non-native speakers of English, a TOEFL score of 20 for each section of the iBT, an IELTS score of 6.5 with no band lower than 6.0, a previous degree earned from an accredited U.S. institution, or successful completion of Level VI of the Murray State ESL program;
- for unconditional admission, an undergraduate GPA of 3.0 or higher;
- for conditional admission, program judgment of probable success based on GRE (Graduate Record Exam) scores, letters of recommendation, and/or other evidence such as a planned program of prerequisite courses.

Total Course Requirements..... 18 hours

GDS 600	Gender Theory and Research
GDS 699	Scholarly Writing and Gender Studies

and twelve hours from the following:

ENG 615	Topics in Women's Literature
ENG 619	Gay and Lesbian Literature
HIS 615	Women in History
JMC 601	Media, Culture, Gender, and Race
GDS 670	Lesbian, Gay, Bisexual, and Transgender Studies
GDS 680	Gender, Sexuality, and the Law
GDS 690	Seminar in Gender Studies
PHI 657	Feminist Philosophy

Independent Study, Directed Reading, Special Topics, and similar courses may be taken with prior approval of the GDS program.

Department of Global Languages and Theatre Arts

Global Languages - 4A Faculty Hall 270-809-2501

Theatre Arts - 106 Fine Arts Building 270-809-4421

Chair: Brent Menchinger. **Faculty:** Barne, Crider, Ekida, Garre, Graham, Hatakeyama, Kane, Ortega, Phillipy, Picech-Reisinger, Post, Riegler, Romero-Gonzalez, Saint Paul, Walsh, Wu.

The Department of Global Languages and Theatre Arts advances the understanding and appreciation of language and theatre study domestically and abroad. The department provides an important facet of the liberal education of all MSU students by offering a variety of courses for undergraduate and graduate students. These courses increase the cultural awareness of our students and helps them fulfill the necessary graduation requirements. The department provides excellence in theatre and language instruction through classroom and production events; serves as an outlet for our regional community to experience excellent theatre productions and strong linguistic support; and provides innovative approaches to promote life-long, creative ventures for our students after graduation. Students will be offered opportunities to study abroad; pursue research; increase their knowledge in languages through an array of cultural events (film, folklore, literature, mythology, theatre, TV); and, be prepared for language examinations for entrance into graduate school.

The study of languages and theatre opens the door to a cosmopolitan world and gives the student significant practical advantages for employment while magnifying humanistic insight which is necessary in today's world for successful living. The language major is designed to train students to communicate effectively with native speakers of the language studied; read and appreciate the cultural and historical significance of important works of native literature; and understand fundamental cultural characteristics of another part of the world. The theatre major is a liberal arts-based training program that prepares theatre practitioners for employment or graduate study in the entertainment fields, as well as other opportunities requiring strong oral and written communication skills, teamwork, and a goal-oriented approach to work.

Creativity, flexibility, and individual attention characterize its programs. The department's facilities include modern offices and classrooms; the Language and Culture Resource Center (a multi-media lab providing students with computer-assisted learning tools as well as e-mail and Internet access); a dance/acting studio and, two performance spaces (Robert E. Johnson Theatre with 344 seats and the Actor's Studio Theatre with 55 seats).

The department of Global Languages and Theatre Arts strongly recommends that all majors and minors study abroad. Murray State University offers programs in a number of countries. Through MSU signature study abroad events, the Kentucky Institute for International Studies (KIIS), The Cooperative Center for Study Abroad (CCSA), and other programs available to students, the department works with the Institute for International Studies on the MSU campus to fulfill student's goals in study abroad.

Students may participate in several organizations in the department including Alpha Mu Gamma (national honorary language society), Alpha Psi Omega (national honorary dramatic society), and Sock and Buskin (theatre student organization).

Placement

All students new to the language programs at Murray State are required to take a placement exam to determine at which level of their language they should begin (102, 201, 202, 301, etc.). This exam will be required of all students with prior language experience,

including native speakers. The Placement Exam can be taken on-line by accessing the Department of Global Languages and Theatre Arts webpage.

If a student has previously acquired knowledge of the languages taught at MSU, a maximum of 12 college credits, up to and including the level of 301, may be awarded. The awarding of credit will be based on the applicant's success in any of the following: The Departmental Challenge Process; The CLEP Examination; or, The Advanced Placement (AP) Examination.

To enable theatre students to acquire the necessary skills, each theatre major is required to participate in no less than 12 faculty-directed productions prior to graduation. Enrollment in THD 106 as required by every theatre major and minor to track their participation.

Scholarships

Scholarships are available to qualified students who major in global languages or theatre. For additional information, contact the department chair.

MAJOR:

French

Bachelor of Arts

CIP 16.0901

University Studies Requirements 41-44 hrs
(See *Academic Degrees and Programs*.)

University Studies selections must include:

• **University Studies Elective**

CSC 199 Introduction to Information Technology

Note: Intermediate level modern language courses completed as part of the major or minor also satisfy modern language requirements for the B.A. All majors and minors, including those who score at or above the 301 level on the Placement Exam, will be required to take FRE 301 and 331. FRE 301 and 331 serve as gateway courses to the upper level culture and literature courses. A minimum grade of C is required in FRE 301 and 331. MLA 400 is required for the major; passing scores on the third year proficiency exams are required for entry into MLA 400.

Required Courses 19 hrs

- MLA 100T Transitions
- FRE 201 Intercultural Communications in French
- FRE 202 Practical Applications in French
- or*
- FRE 203 French for the Working World
- FRE 301 Social Issues in French Texts
- FRE 323 French Culture and Civilization
- or*
- FRE 324 Contemporary French Culture and Civilization
- FRE 331 Advanced Language Practice
- MLA 400 Senior Seminar

Note: Credit for FRE 101 and 102 may not be used for the major but will be counted for graduation.

Limited Electives..... 6 hrs

Select from the following literature courses:

- FRE 401 Survey of French Literature I
- FRE 402 Survey of French Literature II
- FRE 419 European Cinema
- FRE 421 Topics in French Literature
- FRE 441 Topics in French Cultural Studies
- FRE 450 Literary Masterpieces in French
- FRE 460 Studies in a Genre
- FRE 501 Middle Ages Literature
- FRE 503 Seventeenth- and Eighteenth-Century Literature
- FRE 505 Nineteenth-Century Literature
- FRE 507 Twentieth-Century Literature
- FRE 521 Topics in French Literature

Approved Electives in French 9-12 hrs
Select from FRE courses beyond FRE 203.

Required Support Courses French Major..... 3-6 hrs
One related course selected from the approved list obtained from the department. **Note:** The department strongly recommends that majors study abroad for at least one summer.

Required Minor 21-24 hrs

Electives 12-18 hrs

Total Curriculum Requirements 120 hrs¹

¹Each student must submit a senior research project.

AREA:

French/Teaching Certification (P-12)

Bachelor of Arts

CIP 16.0901

University Studies Requirements 41-44 hrs
(See *Academic Degrees and Programs*.)

University Studies selections must include:

• **University Studies Elective**

CSC 199 Introduction to Information Technology¹

Note: Certification requires a grade of B or better in one English composition course and a B or better in a University Studies math course, public speaking, and EDU 103 or equivalent course. Additional requirements for admission to teacher education and student teaching must be met. See advisor and/or Office of Teacher Education Services for details. All majors and minors, including those who score at or above the 301 level on the Placement Exam, will be required to take FRE 301 and 331. FRE 301 and 331 serve as gateway courses to the culture and literature courses. A minimum grade of C is required in FRE 301 and 331. MLA 400 is required for the major; passing scores on the third year proficiency exams are required for entry into MLA 400.

Intermediate level foreign language courses completed as part of the major or minor also satisfy foreign language requirements for the B.A.

Required Courses 22 hrs

- MLA 100T Transitions
- FRE 201 Intercultural Communications in French
- FRE 202 Practical Applications in French
- or*
- FRE 203 French for the Working World
- FRE 301 Social Issues in French Texts¹
- FRE 323 French Culture and Civilization
- or*
- FRE 324 Contemporary French Culture and Civilization
- FRE 331 Advanced Language Practice¹
- MLA 400 Senior Seminar
- MLA 514 Methods of Teaching Foreign Languages

Note: Credit for FRE 101 and 102 may not be used for the major but will be counted for graduation.

Limited Electives..... 6 hrs

Select from the following literature courses:

- FRE 401 Survey of French Literature I
- FRE 402 Survey of French Literature II
- FRE 419 European Cinema
- FRE 421 Topics in French Literature
- FRE 441 Topics in French Cultural Studies
- FRE 450 Literary Masterpieces in French
- FRE 460 Studies in a Genre
- FRE 501 Middle Ages Literature
- FRE 503 Seventeenth- and Eighteenth-Century Literature
- FRE 505 Nineteenth-Century Literature

FRE 507 Twentieth-Century Literature
 FRE 521 Topics in French Literature

Approved Electives in French..... 6-9 hrs

Select from FRE courses beyond FRE 203.

Required Support Course..... 3-6 hrs

One related course selected from the approved list obtained from the department. **Note:** The department strongly recommends that majors study abroad for at least one summer.

Required for Teaching Certification 38 hrs

EDP 260 Psychology of Human Development²
 EDU 103 Issues and Practices of American Education
 EDU 303 Strategies of Teaching
 EDU 403 Structures and Foundations of Education
 EDU 405 Evaluation and Measurement in Education³
 SEC 420 Practicum in Secondary Schools³
 SEC 421 Student Teaching in the Secondary School
 SEC 422 Extended Practicum⁴
 SED 300 Educating Students with Disabilities

Electives 0-1 hrs

Total Curriculum Requirements 120-122 hrs⁵

¹With a grade of C or better.

²May be counted as a University Studies social science elective.

³EDU 405 and SEC 420 must be taken together and taken two semesters before student teaching.

⁴Must be taken one semester before student teaching.

⁵Each student must submit a senior research project.

MAJOR:

German

Bachelor of Arts

CIP 16.0501

University Studies Requirements 41-44 hrs

(See *Academic Degrees and Programs.*)

University Studies selections must include:

• **University Studies Elective**

CSC 199 Introduction to Information Technology

Note: Intermediate level modern language courses completed as part of the major or minor also satisfy modern language requirements for the B.A. All majors and minors, including those who score at or above the 301 level on the Placement Exam, will be required to take GER 301 and 331. GER 301 and 331 serve as gateway courses to the upper level culture and literature courses. A minimum grade of C is required in GER 301 and 331. MLA 400 is required for the major; passing scores on the third year proficiency exams are required for entry into MLA 400.

Required Courses 19 hrs

MLA 100T Transitions
 GER 201 Intercultural Communications in German
 GER 202 Practical Applications in German
 or
 GER 203 German for the Working World
 GER 301 Social Issues in German Texts
 GER 323 German Culture and Civilization
 or
 GER 324 Contemporary German Culture and Civilization
 GER 331 Advanced Language Practice
 MLA 400 Senior Seminar

Note: Credit for GER 101 and 102 may not be used for the major but will be counted for graduation.

Limited Electives..... 6 hrs

Select from the following literature courses:

GER 401 Survey of German Literature I
 GER 402 Survey of German Literature II
 GER 419 European Cinema
 GER 421 Topics in German Literature
 GER 441 Topics in German Cultural Studies
 GER 450 Literary Masterpieces in German
 GER 460 Studies in a Genre
 GER 501 Literature before 1600
 GER 503 Seventeenth- and Eighteenth-Century Literature
 GER 505 Nineteenth-Century German Literature
 GER 507 Twentieth-Century Literature
 GER 521 Topics in German Literature

Approved Electives in German..... 9-12 hrs

Select from GER courses beyond GER 203.

Required Support Course..... 3-6 hrs

One related course selected from the approved list obtained from the department.

Note: The department strongly recommends that majors study abroad for at least one summer.

Required Minor 21-24 hrs

Electives 12-18 hrs

Total Curriculum Requirements 120 hrs¹

¹Each student must submit a senior research project.

AREA:

German/Teaching Certification (P-12)

Bachelor of Arts

CIP 16.0501

University Studies Requirements 41-44 hrs

(See *Academic Degrees and Programs.*)

University Studies selections must include:

• **University Studies Elective**

CSC 199 Introduction to Information Technology¹

Note: Certification requires a grade of B or better in one English composition course and a B or better in a University Studies math course, public speaking, and EDU 103 or equivalent course. Additional requirements for admission to teacher education and student teaching must be met. See advisor and/or Office of Teacher Education Services for details. All majors and minors, including those who score at or above the 301 level on the Placement Exam, will be required to take GER 301 and 331. GER 301 and 331 serve as gateway courses to the culture and literature courses. A minimum grade of C is required in GER 301 and 331. MLA 400 is required for the major; passing scores on the third year proficiency exams are required for entry into MLA 400.

Intermediate level foreign language courses completed as part of the major or minor also satisfy foreign language requirements for the B.A.

Required Courses 22 hrs

MLA 100T Transitions
 GER 201 Intercultural Communications in German
 GER 202 Practical Applications in German
 or
 GER 203 German for the Working World
 GER 301 Social Issues in German Texts¹
 GER 323 German Culture and Civilization
 or
 GER 324 Contemporary German Culture and Civilization
 GER 331 Advanced Language Practice¹
 MLA 400 Senior Seminar

MLA 514 Methods of Teaching Foreign Languages
Note: Credit for GER 101 and 102 may not be used for the major but will be counted for graduation.

Limited Electives..... 6 hrs

Select from the following literature courses:

- GER 401 Survey of German Literature I
- GER 402 Survey of German Literature II
- GER 419 European Cinema
- GER 421 Topics in German Literature
- GER 441 Topics in German Cultural Studies
- GER 450 Literary Masterpieces in German
- GER 460 Studies in a Genre
- GER 501 Literature before 1600
- GER 503 Seventeenth- and Eighteenth-Century Literature
- GER 505 Nineteenth-Century German Literature
- GER 507 Twentieth-Century Literature
- GER 521 Topics in German Literature

Approved Electives in German..... 9-12 hrs

Select from GER courses beyond GER 203.

Required Support Course..... 3-6 hrs

One related course selected from the approved list obtained from the department. **Note:** The department strongly recommends that majors study abroad for at least one summer.

Required for Teaching Certification 38 hrs

- EDP 260 Psychology of Human Development²
- EDU 103 Issues and Practices of American Education
- EDU 303 Strategies of Teaching
- EDU 403 Structures and Foundations of Education
- EDU 405 Evaluation and Measurement in Education³
- SEC 420 Practicum in Secondary Schools³
- SEC 421 Student Teaching in the Secondary School
- SEC 422 Extended Practicum⁴
- SED 300 Educating Students with Disabilities

Electives 0-1 hrs

Total Curriculum Requirements 120-122 hrs⁵

¹With a grade of C or better.

²May be counted as a University Studies social science elective.

³EDU 405 and SEC 420 must be taken together and taken two semesters before student teaching.

⁴Must be taken one semester before student teaching.

⁵Each student must submit a senior research project.

MAJOR:

Japanese

Bachelor of Arts

CIP 16.0302

University Studies Requirements 41-44 hrs

(See *Academic Degrees and Programs*.)

University Studies selections must include:

• **University Studies Elective**

CSC 199 Introduction to Information Technology

Note: Intermediate level modern language courses completed as part of the major or minor also satisfy modern language requirements for the B.A. All majors and minors, including those who score at or above the 301 level on the Placement Exam, will be required to take JPN 301. JPN 301 serves as a gateway course to the upper level culture and literature courses. A minimum grade of C is required in JPN 301 and 302. MLA 400 (with research project) is required for the major; passing scores on the third year proficiency exams are required for entry into MLA 400.

Required Courses 22 hrs

- MLA 100T Transitions
- JPN 201 Intermediate Japanese I
- JPN 202 Intermediate Japanese II
- JPN 301 Conversation and Composition I
- JPN 302 Conversation and Composition II
- JPN 401 Advanced Japanese I
- JPN 402 Advanced Japanese II
- MLA 400 Senior Seminar¹

Note: Credit for JPN 101 and 102 may not be used for the major but will be counted for graduation.

Approved Electives in Japanese 6-9 hrs

Select two from the following:

- JPN 306 Introduction to Japanese Literature
- JPN 315 Global Cinema in Japanese
- JPN 323 Japanese Culture and Civilization
- JPN 324 Contemporary Japanese Culture and Civilization
- JPN 331 Advanced Language Practice
- JPN 350 Modern Japanese Literature in Translation

Limited Electives..... 6 hrs

Select two from the following upper-level courses:

- JPN 421 Topics in Japanese Literature
- JPN 441 Topics in Japanese Cultural Studies
- JPN 460 Studies in a Genre

Required Support Course..... 3-6 hrs

Select one from the following:

- ART 425 Art of Asia
- HIS 340 Modern East Asia
- HIS 475 Modern Japan
- POL 454 Government and Politics of Asia

Note: The department strongly recommends that majors study abroad for at least one summer.

Required Minor 21-24 hrs

Electives 12-18 hrs

Total Curriculum Requirements 120 hrs¹

¹Each student must submit a senior research project.

AREA:

Japanese/Teaching Certification (P-12)

Bachelor of Arts

CIP 16.0302

University Studies Requirements 41-44 hrs

(See *Academic Degrees and Programs*.)

University Studies selections must include:

• **University Studies Elective**

CSC 199 Introduction to Information Technology¹

Note: Certification requires a grade of B or better in one English composition course and a B or better in a University Studies math course, public speaking, and EDU 103 or equivalent course. Additional requirements for admission to teacher education and student teaching must be met. See advisor and/or Office of Teacher Education Services for details. All majors and minors, including those who score at or above the 301 level on the Placement Exam, will be required to take JPN 301 and 331. JPN 301 and 331 serve as gateway courses to the culture and literature courses. A minimum grade of C is required in JPN 301 and 331. MLA 400 is required for the major; passing scores on the third year proficiency exams are required for entry into MLA 400.

Intermediate level foreign language courses completed as part of the major or minor also satisfy foreign language requirements for the B.A.

Required Courses 25 hrs

MLA	100T	Transitions
JPN	201	Intermediate Japanese I
JPN	202	Intermediate Japanese II
JPN	301	Conversation and Composition I ¹
JPN	302	Conversation and Composition II
JPN	331	Advanced Language Practice
JPN	401	Advanced Japanese I
MLA	400	Senior Seminar ¹
MLA	514	Methods of Teaching Foreign Languages

Note: Credit for JPN 101 and 102 may not be used for the major but will be counted for graduation.

Approved Electives in Japanese 6-9 hrs

Select two from the following:

JPN	306	Introduction to Japanese Literature
JPN	315	Global Cinema in Japanese
JPN	323	Japanese Culture and Civilization
JPN	324	Contemporary Japanese Culture and Civilization
JPN	350	Modern Japanese Literature in Translation
JPN	402	Advanced Japanese II
JPN	421	Topics in Japanese Literature
JPN	441	Topics in Japanese Cultural Studies
JPN	460	Studies in a Genre

Limited Electives..... 6 hrs

Select two from the following upper-level courses:²

JPN	421	Topics in Japanese Literature
JPN	441	Topics in Japanese Cultural Studies
JPN	460	Studies in a Genre

Required Support Courses 6-9 hrs

Select two from the following:

ART	425	Art of Asia
HIS	340	Modern East Asia
HIS	475	Modern Japan
POL	454	Government and Politics of Asia

Note: The department strongly recommends that majors study abroad for at least one summer.

Required for Teaching Certification 38 hrs

EDP	260	Psychology of Human Development ³
EDU	103	Issues and Practices of American Education ³
EDU	303	Strategies of Teaching
EDU	403	Structures and Foundations of Education
EDU	405	Evaluation and Measurement in Education ⁴
SEC	420	Practicum in Secondary Schools ⁴
SEC	421	Student Teaching in the Secondary School
SEC	422	Extended Practicum ⁵
SED	300	Educating Students with Disabilities

Total Curriculum Requirements 125-128 hrs⁶

¹With a grade of C or better.

²Select courses not taken as approved electives.

³May be counted as a University Studies social science elective.

⁴EDU 405 and SEC 420 must be taken together and taken two semesters before student teaching.

⁵Must be taken one semester before student teaching.

⁶Each student must submit a senior research project.

MAJOR:**Spanish**

Bachelor of Arts

CIP 16.0905

University Studies Requirements 41-44 hrs

(See *Academic Degrees and Programs*.)

University Studies selections must include:

•University Studies Elective

CSC 199 Introduction to Information Technology

Note: Intermediate level modern language courses completed as part of the major or minor also satisfy modern language requirements for the B.A. All majors and minors, including those who score above the 301 level on the Placement Exam, will be required to take SPA 302. SPA 302 serves as a gateway course to the upper-level culture and literature courses. A minimum grade of C is required in SPA 301 and 302. MLA 400 is required for the major; passing scores on the third year proficiency exams are required for entry into MLA 400.

Required Courses 16 hrs

MLA	100T	Transitions
SPA	201	Intercultural Communications in Spanish
SPA	202	Practical Applications in Spanish
		or
SPA	203	Spanish for the Working World
SPA	301	Conversation and Composition I
SPA	302	Conversation and Composition II
MLA	400	Senior Seminar

Note: Credit for SPA 101 and 102 may not be used for the major but will be counted for graduation.

Limited Electives..... 6 hrs

Select from the following literature courses:

SPA	401	Survey of Spanish Literature
SPA	402	Golden Age Literature
SPA	403	Survey of Spanish-American Literature
SPA	404	Don Quixote
SPA	411	Spanish-American Short Story
SPA	419	European Cinema
SPA	421	Topics in Spanish Literature
SPA	422	Topics in Spanish American Literature
SPA	441	Topics in Spanish Cultural Studies
SPA	450	Literary Masterpieces in Spanish
SPA	460	Studies in a Genre
SPA	505	Nineteenth-Century Spanish Literature
SPA	507	Twentieth-Century Spanish Literature
SPA	512	Spanish-American Novel
SPA	521	Topics in Spanish Literature
SPA	522	Topics in Spanish-American Literature

Approved Electives in Spanish 12-15 hrs

Select from SPA courses beyond SPA 203.

Required Support Course..... 3-6 hrs

One related course selected from the approved list obtained from the department.

Note: The department strongly recommends that majors study abroad for at least one summer.

Required Minor 21-24 hrs**Electives 12-18 hrs****Total Curriculum Requirements 120 hrs¹**

¹Each student must submit a senior research project.

AREA:

Spanish/Teaching Certification (P-12)

Bachelor of Arts

CIP 16.0905

University Studies Requirements 41-44 hrs
(See *Academic Degrees and Programs.*)

University Studies selections must include:

• **University Studies Elective**

CSC 199 Introduction to Information Technology¹

Note: Certification requires a grade of *B* or better in one English composition course and a *B* or better in a University Studies math course, public speaking, and EDU 103 or equivalent course. Additional requirements for admission to teacher education and student teaching must be met. See advisor and/or Office of Teacher Education Services for details. All majors and minors, including those who score above the 301 level on the Placement Exam, will be required to take SPA 302. SPA 302 serves as a gateway course to the upper-level culture and literature courses. A minimum grade of *C* is required in SPA 301 and 302. MLA 400 is required for the major; passing scores on the third year proficiency exams are required for entry into MLA 400.

Intermediate level modern language courses completed as part of the major or minor also satisfy modern language requirements for the B.A.

Required Courses 25 hrs

MLA 100T Transitions

SPA 201 Intercultural Communications in Spanish

SPA 202 Practical Applications in Spanish

or

SPA 203 Spanish for the Working World

SPA 301 Conversation and Composition I

SPA 302 Conversation and Composition II

SPA 323 Spanish Culture and Civilization

or

SPA 325 Spanish-American Culture

SPA 331 Advanced Language Practice

MLA 400 Senior Seminar

MLA 514 Methods of Teaching Foreign Languages

Note: Credit for SPA 101 and 102 may not be used for the major but will be counted for graduation.

Limited Electives..... 6 hrs

Select two from the following literature courses:

SPA 401 Survey of Spanish Literature

SPA 402 Golden Age Literature

SPA 403 Survey of Spanish-American Literature

SPA 404 Don Quixote

SPA 411 Spanish-American Short Story

SPA 419 European Cinema

SPA 421 Topics in Spanish Literature

SPA 422 Topics in Spanish American Literature

SPA 441 Topics in Spanish Cultural Studies

SPA 450 Literacy Masterpieces in Spanish

SPA 460 Studies in a Genre

SPA 505 Nineteenth-Century Spanish Literature

SPA 507 Twentieth-Century Spanish Literature

SPA 512 Spanish-American Novel

SPA 521 Topics in Spanish Literature

SPA 522 Topics in Spanish-American Literature

Approved Electives in Spanish 6-9 hrs

Select from SPA courses beyond SPA 203.

Required Support Course..... 3-6 hrs

One related course outside of the Department of Modern Languages, selected from the approved list obtained from the department. **Note:** The department strongly recommends that majors study abroad for at least one summer.

Required for Teaching Certification 38 hrs

EDP 260 Psychology of Human Development²

EDU 103 Issues and Practices of American Education

EDU 303 Strategies of Teaching

EDU 403 Structures and Foundations of Education

EDU 405 Evaluation and Measurement in Education³

SEC 420 Practicum in Secondary Schools³

SEC 421 Student Teaching in the Secondary School

SEC 422 Extended Practicum⁴

SED 300 Educating Students with Disabilities

Total Curriculum Requirements 122-125 hrs⁵

¹With a grade of *C* or better.

²May be counted as a University Studies social science elective.

³EDU 405 and SEC 420 must be taken together and taken two semesters before student teaching.

⁴Must be taken one semester before student teaching.

⁵Each student must submit a senior research project.

Chinese Studies Minor..... 21 hrs

CHN 201, 202 or 210, 305, 340, (a minimum grade of *C* required in 202/210, 305, and 340), and nine hours of approved electives from the following: CHN 310, 314, 451, 460; ART 425; HIS 340, 472, 474; or POL 459. Six hours must be completed in residence at Murray State University. Due to the nature of this minor, CHN 451 and 460 will not be offered in the same semester. The department strongly recommends that minors study abroad for at least one summer.

French Minor..... 21 hrs

FRE 201, 202 or 203, 301, 331 (a minimum grade of *C* required in 301 and 331), and nine hours of approved electives beyond FRE 331. Six hours must be completed in residence at Murray State University. The department strongly recommends that minors study abroad for at least one summer.

German Minor..... 21 hrs

GER 201, 202 or 203, 301, 331 (a minimum grade of *C* required in 301 and 331), and nine hours of approved electives beyond GER 331. Six hours must be completed in residence at Murray State University. The department strongly recommends that minors study abroad for at least one summer.

Japanese Minor 21 hrs

JPN 201, 202, 301, 331 (a minimum grade of *C* required in 301 and 331), and nine hours of approved upper-level electives. Six hours must be completed in residence at Murray State University. The department strongly recommends that minors study abroad for at least one summer.

Spanish Minor 21 hrs

SPA 201, 202 or 203, 301, 302 (a minimum grade of *C* required in 302), and nine hours of approved electives beyond SPA 302. Six hours must be completed in residence at Murray State University. The department strongly recommends that minors study abroad for at least one summer.

Graduate Program

**Master of Arts in Education
Secondary Teacher Leader with French, German or
Spanish Concentration**

CIP 13.1205

The Department of Modern Languages provides instruction in support of the M.A.Ed. in Secondary Teacher Leader with a concentration in French, German or Spanish. Prospective students should contact the graduate coordinator in the academic subject depart-

ment and the College of Education and Human Services for details on advising and graduate program design.

Foreign Language Examination

Students who are required by their departments to demonstrate proficiency in a foreign language may satisfy the requirement in one of the following ways:

- by completion of two years of college-level study in one language with an average grade of C or better; or
- by earning an appropriate score on the CLEP exam. See www.collegeboard.com/testing and refer to CLEP.

The native language of a foreign student may be accepted to meet the graduate language requirements if recommended by the student's advisor and approved by the graduate coordinator of the student's college.

For those disciplines which permit the substitution of statistics, computer science, or a combination thereof for a foreign language, the requirement may be met by the satisfactory completion of two semesters of the permitted substitute courses with grades of C or better. These courses are in addition to the total number of hours required for the degree. A proficiency examination administered by the appropriate department may be accepted in lieu of the required course work.

MAJOR:

Theatre

Bachelor of Arts/Bachelor of Science CIP 50.0501

ACCREDITED BY: National Association of Schools of Theatre (NAST)

University Studies Requirements 38-44 hrs
(See *Academic Degrees and Programs.*)

Core Courses 44 hrs

- THD 100T Transitions
 - THD 103 Theatre Foundations
 - THD 106 Theatre Attendance and Assembly
 - THD 110 Movement for the Actor
 - THD 111 Acting I
 - THD 120 Play Analysis
 - THD 140 Stagecraft
 - THD 142 Costume Construction
 - THD 210 Voice and Diction
 - THD 221 Performance Theory
 - THD 250 Basic Theatre Design
 - THD 263 Theatre History and Literature I
 - THD 264 Theatre History and Literature II
 - THD 430 Directing I
- and one course chosen from the following:*
- THD 350 Scene Design
 - THD 351 Lighting Design
 - THD 352 Costume Design

Required THD Electives..... 11-17 hrs

Choose from the following courses. No more than three hours from the 200-level courses will be counted towards graduation. Courses not chosen from THD 350, 351, or 352 above as Core Courses are eligible for use as THD electives.

- THD 220 Creative Drama
- THD 225 Children's Theatre Touring Company
- THD 230 Stage Management
- THD 241 Theatrical Makeup
- THD 260 Music Theatre Dance I
- THD 262 Jazz Dance I
- THD 270 Stage Combat

- THD 310 Acting II
- THD 312 Advanced Movement for Actors
- THD 320 Playwriting
- THD 322 International Studies in Theatre
- THD 330 Theatre Management and Leadership
- THD 341 Advanced Theatrical Makeup
- THD 346 Acting Shakespeare
- THD 358 Sound Design for the Theatre
- THD 360 Music Theatre Dance II
- THD 362 Jazz Dance II
- THD 392 Professional Engagement
- THD 400 Special Topics
- THD 410 Acting III
- THD 422 Contemporary Theatre
- THD 465 Directing II
- THD 466 Theatre Literature
- THD 590 Directed Independent Study in Theatre Arts

Required Minor 21 hrs

Total Curriculum Requirements 120 hrs

Other Degree Requirements

Each theatre major is required to work in or on 12 faculty-directed productions prior to graduation. Enrollment in THD 106 as required by the major and/or minor evaluates this production requirement. At least one study abroad experience is highly encouraged for all theatre majors and minors. The department faculty participates in study abroad courses to facilitate this activity.

Theatre Minor 21 hrs

THD 106 (three semesters), 111, and 120; THD 140 or 142; THD 263 or 264; THD 430 and one of the following: THD 350, 351, or 352. Six hours must be upper-level courses.

Theatre Design/Technical Minor 21 hrs

THD 120, 140, 142, 230, 250, and two courses chosen from THD 350, 351, or 352. Six hours must be upper-level courses.

Theatre Performance Minor 21 hrs

THD 106 (three semesters), 111, 120, 241, 260, 310, and 410. Six hours must be upper-level courses.

Music Theatre Minor 24 hrs

MUS 107, 109, 110, 124, 125, 127, 128; THD 111, 360, 389; and MUS 164/364 (two semesters) or THD 106 (two semesters). Six hours must be upper-level courses.

Department of History

6B Faculty Hall
270-809-2231

Chair: Kathy Callahan. **Faculty:** Beahan, Belue, Bolin, Callahan, Clardy, Heern, Hilton, Humphreys, Irvin, Mulligan, Pizzo, Rashid, Schell.

Department of History course offerings support University Studies requirements, provide concentrations in American, European, and global history for a major or minor, and prepare students for secondary certification.

The department contributes substantially to the world civilizations and culture courses and offers electives, the American Experience and Modern Europe, which meet University Studies requirements in several categories. These University Studies courses encourage students to appreciate the diverse paths humans have

taken to the present as well as their own distinctive cultural heritage.

Specialized instruction for undergraduate majors and minors in history is intended to develop knowledge of the past and the skills of critical inquiry necessary for careers in teaching, the professions, government and business. Many students are currently combining a major in history with a major in other fields. The department also serves as a home for the Religious Studies minor.

The Master of Arts in History provides excellent preparation for doctoral work in history, for law school, or for other professional and graduate education. The history M.A. is also excellent preparation for careers in government, public and private agencies concerned with history, and any career requiring research, analytical and writing skills. It also enables teachers to meet Rank II certification in Kentucky public schools.

**MAJOR:
History**

Bachelor of Arts/Bachelor of Science CIP 54.0101

University Studies Requirements 41-47 hrs
(See *Academic Degrees and Programs.*)

University Studies selections must include:

- CIV 201 World Civilizations I
- and*
- CIV 202 World Civilizations II

Required Courses 16 hrs

HIS 100T Transitions

Three of the following four courses:

- HIS 201 Modern Europe
- HIS 202 Understanding Global History
- HIS 221 American Experience to 1865
- HIS 222 American Experience Since 1865
- and*
- HIS 300 Introduction to Historical Studies
- HIS 400 Professional Engagement Senior Seminar¹

Required Limited Electives..... 18 hrs

Upper-level courses (not including HIS 361); at least two must be at the 400-level, to include the following:

Global History Electives (6 hrs)

HIS 301, 305, 309, 316, 325, 331, 340, 350, 352, 354, 355, 356, 357, 359, 360, 362, 370, 407, 418, 449, 450, 451, 456, 459, 472, 474, 475, 476, 478, 479, 481.

U.S. History Electives (3 hrs)

HIS 315, 320, 322, 323, 326, 327, 329, 330, 333, 334, 416, 417, 421, 422, 424, 425, 430, 431, 433, 434, 435, 436, 441, 442, 445, 446, 491.

European History Electives (3 hrs)

HIS 301, 302, 303, 304, 306, 307, 310, 324, 363, 364, 401, 402, 403, 406, 408, 409, 410, 411, 412, 413, 414, 419, 425. Depending on topic, these courses will be acceptable under an above group with advisor approval: HIS 390, 415, 477, 490.

Elective hours of choice (6 hrs)

Required Minor 21 hrs

Electives³ 18-24 hrs

Total Curriculum Requirements 120 hrs

¹A grade of C or better is required.

AREA:

History/Social Studies Certification (Grades 8-12)

Bachelor of Arts/Bachelor of Science

CIP 54.0101

Note: Certification requires a grade of B or better in one English composition course and a grade of B or better in a University Studies math course, COM 161, and EDU 103 or equivalent course. Additional requirements for admission to teacher education and student teaching must be met. See advisor and/or Office of Teacher Education Services for details.

University Studies Requirements 38-44 hrs
(See *Academic Degrees and Programs.*)

•Social and Self-Awareness and Responsible Citizenship

EDU 103 Issues and Practices of American Education¹

•University Studies Elective

CSC 199 Introduction to Information Technology²

Required Courses 19 hrs

- HIS 100T Transitions
- HIS 300 Introduction to Historical Studies
- HIS 361 Teaching History
- HIS 400 Professional Engagement Senior Seminar²
- Three of the following:*
- HIS 201 Modern Europe
- HIS 202 Understanding Global History
- HIS 221 American Experience to 1865
- HIS 222 American Experience Since 1865

Required Social Science Courses 12 hrs

- ECO 231 Microeconomics
- GSC 110 World Geography
- POL 140 American National Government
- SOC 133 Introduction to Sociology

Required Limited History Electives..... 18 hrs

Upper-level courses (not including HIS 361), at least two must be at the 400-level, to include the following:

Global History Electives (6 hrs)

HIS 301, 305, 309, 316, 325, 331, 340, 350, 352, 354, 355, 356, 357, 359, 360, 362, 370, 407, 418, 449, 450, 451, 456, 459, 472, 474, 475, 476, 478, 479, 481.

U.S. History Electives (3 hrs)

HIS 315, 320, 322, 323, 326, 327, 329, 330, 333, 334, 416, 417, 421, 422, 424, 425, 430, 431, 433, 434, 435, 436, 441, 442, 445, 446, 491.

European History Electives (3 hrs)

HIS 301, 302, 303, 304, 306, 307, 310, 324, 363, 364, 401, 402, 403, 406, 408, 409, 410, 411, 412, 413, 414, 419, 425. Depending on topic, these courses will be acceptable under an above group with advisor approval: HIS 390, 415, 477, 490.

Elective hours of choice (6 hrs)

Required for Secondary Certification 32 hrs

[CSC 199 and EDU 103 should be taken as University Studies courses.]

- CSC 199 Introduction to Information Technology²
- EDP 260 Psychology of Human Development
- EDU 103 Issues and Practices of American Education¹
- EDU 403 Structures and Foundations of Education
- EDU 405 Evaluation and Measurement in Education³
- SEC 420 Practicum in Secondary Schools³
- SEC 421 Student Teaching in the Secondary School
- SEC 422 Extended Practicum⁴
- SED 300 Educating Students with Disabilities

Unrestricted Elective 0-1 hrs

Total Curriculum Requirements 120-125 hrs

¹A grade of B or better is required.

²A grade of C or better is required.

³Taken two semesters before student teaching.

⁴Taken semester before student teaching.

History Minor 21 hrs

Three of the following: HIS 201, 202, 221, 222, plus 12 hours of upper-level electives (excluding HIS 361), at least one at the 400-level. Six hours must be upper-level courses.

Religious Studies Minor 21 hrs

RGS 200 and 309 and/or 321; 12-15 hours from the following to include at least one course from each category; concentrations can be developed according to student interest and course availability.

Category A: RGS 317, 350, 354, 355, 356, 395, 410, 425. **Category B:** RGS 300, 301, 302, 306, 316, 322, 350, 400, 410, 417, 420. Other courses may be substituted as approved by the religious studies coordinator. Six hours must be upper-level courses.

Graduate Program

Graduate Coordinator - David Pizzo

The Master of Arts program in history offers advanced study to qualified students in American, European, and global history. The course of study emphasizes the development of a coherent view of the past, the effective communication of ideas, and familiarity with a variety of historical schools of interpretation.

The department has three offerings leading to the Master of Arts degree. The thesis track concentration is a general program of advanced study that requires a thesis; the two non-thesis tracks replace the thesis with additional training in the major/minor areas.

The department's principal graduate course offerings are in American and modern European history, complemented by course offerings in global history.

The history department awards a limited number of assistantships each academic year. Applications for assistantships should be made directly to the history graduate coordinator. Applications are due by April 1 for the forthcoming academic year.

Admission applications for the upcoming fall term should be received by June 1 of the same calendar year, and mid-academic year admissions should be received by October 15 for the following calendar year. The Department of History does not review any graduate applications until all materials—the graduate application, Graduate Record Examination (GRE) scores, letters of recommendation, writing sample, and official transcript—have been received by the graduate coordinator. The department reserves the right to review transfer credit viability.

The graduate application and GRE scores should be sent to Graduate Admissions and Records, Murray State University, Sparks Hall, Murray, KY 42071. All other materials should be sent to Graduate Coordinator, Department of History, Murray State University, 6B Faculty Hall, Murray, KY 42071-3341.

Requirements for Admission

Applicants must meet the Murray State University requirements (see *Graduate Admissions*). For non-native speakers of English, a TOEFL score of 22 for each section of the iBT, or an IELTS score of 7.0 with no band lower than 6.5, or a previous degree earned from an accredited U.S. institution subject to departmental standards. Additional requirements are as follows.

Unconditional

- An undergraduate major or minor in history.
- GPA of 3.0 or better in history courses.
- GRE score of at least 900 (V+Q) or the equivalent on the new scoring system.
- 3-5 page (minimum) sample of historical writing.
- Two letters of recommendation that addresses candidate's ability to do graduate work in history.
- For non-native speakers of English, a TOEFL score of 22 for each section of the iBT, or an IELTS score of 7.0 with no band lower than 6.5 or a previous degree earned from an accredited U.S. institution subject to departmental approval.

Conditional

Students will have their skills in reading and writing assessed by the departmental graduate coordinator prior to enrollment in graduate courses. A student with a GRE score of less than 900 (V+Q), or the equivalent on the new scoring system, may be admitted conditionally to the history M.A. program, but the student must upon completing nine hours of graduate work, have a 3.0 grade point average.

Master of Arts

History

CIP 54.0101

Students admitted to history graduate study should consult with the department graduate coordinator to declare a course of study which meets the requirements of the thesis and non-thesis concentrations.

THESIS REQUIREMENTS

Total Course Requirements 36 hours

HIS	600	Development of Historical Thinking ^{PT}
HIS	602	Readings in European History ^L
		<i>or</i>
HIS	622	Readings in United States History
HIS	605	Seminar in European History ^R
		<i>or</i>
HIS	631	Seminar in United States History to 1865
		<i>or</i>
HIS	633	Seminar in United States History since 1865
		HIS electives in major area (12 hrs)
		HIS electives in minor area (9 hrs)
HIS	698-699	Thesis

Other Degree Requirements

- A comprehensive examination of major and minor fields of study.
- Oral defense of thesis.
- Competency in an approved foreign language,
 - or*
- Equivalent tool of research or special field of study (approval by graduate committee and department chair required; approval will be granted only when proposed alternative is demonstrably necessary to the student's academic needs).

UNITED STATES HISTORY NON-THESIS REQUIREMENTS

Total Course Requirements 36 hours

HIS	600	Development of Historical Thinking
HIS	622	Readings in United States History
HIS	631	Seminar in United States History to 1865
HIS	633	Seminar in United States History since 1865
		HIS electives in major area (9 hrs)
		HIS electives in minor area* (15 hrs)

*The minor area is considered to be a combination of electives in European and/or global history.

Students may, on occasion, substitute graduate-level, non-history courses for electives in their major and/or minor fields. Such substitutions, however, require the consent of the graduate coordinator for the Department of History.

Other Degree Requirements

Comprehensive written and oral examinations in major and minor areas.

**EUROPEAN HISTORY
NON-THESIS REQUIREMENTS**

Total Course Requirements..... 36 hours

HIS 600 Development of Historical Thinking

HIS 602 Readings in European History

HIS 605 Seminar in European History

HIS electives in major area (12 hrs)

HIS electives in minor area* (15 hrs)

*The minor area is considered to be a combination of electives in United States and/or global history.

Students may, on occasion, substitute graduate-level, non-history courses for electives in their major and/or minor fields. Such substitutions, however, require the consent of the graduate coordinator for the Department of History.

Other Degree Requirements

Comprehensive written and oral examinations in major and minor areas.

**Master of Arts in Education
Secondary Teacher Leader with History Concentration**
CIP 13.1205

The Department of History provides instruction in support of the M.A.Ed. in Secondary Teacher Leader with a concentration in history. Prospective students should contact the graduate coordinator in the academic subject department and the College of Education and Human Services for details on advising and graduate program design.

Department of Music
504 Price Doyle Fine Arts Center
270-809-4288

Chair: Lucia Unrau. **Faculty:** Almquist, Black, Conklin, Crawford, D'Ambrosio, Dressler, Erickson, Fannin, Field, Gianforte, J. Hill, T. Hill, Johnson, Kane, Kupinski, Mitchell, M. Park, S. Park, Rea, Swisher, Unrau, Webster, Weimer.

The Department of Music at Murray State University is dedicated to maintaining a tradition of excellence in the programs it offers, the performances it presents, and the music professionals it graduates. The department seeks to enrich and engage the campus, community, and region through its performances and educational programs.

The department strives to provide educational opportunities that prepare students to make meaningful contributions in the world as performers, composers, teachers, scholars, and leaders in the music profession; to nurture and develop its students' musical and intellectual abilities; to expand the understanding and impact of the art of music by promoting performance, composition, and research; to build professional leadership and entrepreneurship skills in its music majors; to educate the university student population about music's intrinsic value as a part of the human experience and its central role in human culture by providing courses and performance opportunities for all MSU students; to be

a musical resource for area children and adults, including teachers and other professionals; and to be a visible and active center for the arts, enriching the cultural life of the campus and the region.

Undergraduate degrees offered in the department are the Bachelor of Arts, Bachelor of Science, and the Bachelor of Music. The Bachelor of Music degree program offers tracks in composition, performance, and music education. The Bachelor of Science is offered in music and music business. Academic minors in music and in music theatre are also available.

In addition to admission to the University, prospective music major and minor students must be admitted to Department of Music academic programs through a qualifying audition in their performance area. Contact the Department of Music for further information.

Note: Performance proficiencies in applied music must be passed after the second and fourth semesters of study to remain in the program and to progress to the next level of applied lessons. A grade of C or better is required for graduation in all music courses, including ensembles, specifically required by the music degree being pursued.

The degree programs reflect a core of basic musicianship and general study needs common to all musicians. The attendant specialized courses help students develop and refine competencies toward careers in teaching and performing as well as other specific interests.

The general college student (non-music major) is encouraged to continue or develop music interests and involvements through participation in performance groups, attendance at performances, and by taking a wide variety of courses open to the non-major.

Music facilities in the Price Doyle Fine Arts Center include recital halls, rehearsal halls, computer-lab and digital synthesis, keyboard laboratories, practice rooms, repair facilities, recording studio, specially equipped classrooms, and storage facilities.

Accreditation

The Department of Music has been an institutional member of the National Association of Schools of Music since 1936. Degree programs are arranged in conformity with the requirements of the National Association of Schools of Music.

Scholarships

Grants-in-aid and scholarships are available to the music major and, in some cases, for non-major music participation.

Graduate Degree

The Department of Music offers the Master of Music Education (M.M.E.) degree. The M.M.E. degree seeks to serve the region's teachers with opportunities to continue their professional growth, refining and extending their skills and knowledge beyond the baccalaureate level. The program provides leadership, enrichment, and resources for the region's music professionals in an atmosphere of musical activity.

AREA:**Music**

Bachelor of Arts/Bachelor of Science

CIP 50.0999

ACCREDITED BY: National Association of Schools of Music (NASM)

University Studies Requirements 38-44 hrs
(See *Academic Degrees and Programs*.)**Required Music Courses 51-55 hrs**

- MUS 100T Transitions
 MUS 101 Recital Attendance and Assembly¹
 MUS 114-119 Applied Lesson
(two semesters at two credits per semester)²
 MUS 170 Theory I
 MUS 171 Aural Skills I
 MUS 172 Functional Keyboard I³
 MUS 173 Theory II
 MUS 174 Aural Skills II
 MUS 175 Functional Keyboard II³
 MUS 214-219 Applied Lesson
(two semesters at two credits per semester)²
 MUS 270 Theory III
 MUS 271 Aural Skills III
 MUS 273 Theory IV
 MUS 274 Aural Skills IV
 MUS 314-319 Applied Lesson
(two semesters at one or two credits per semester)^{4,5}
 MUS 323 Basic Conducting
 MUS 381 Music History and Literature I
 MUS 382 Music History and Literature II
 MUS 383 Music History and Literature III
 MUS 392 Professional Engagement
 MUS 414-419 Applied Lesson
(two semesters at one or two credits per semester)^{4,5}
 MUS 497 Final Project⁴
 or
 MUS 498 Senior Recital⁵

Ensembles: Students are required to participate in a major ensemble involving their primary instrument concurrent with every semester of applied music study. Major ensembles include Symphonic Band, Wind Ensemble, University Orchestra, Concert Band, University Chorale, Concert Choir, Women's Chorus, and Racer Men's Chorus. Some performance areas have more specific requirements. Students should consult their advisors and applied lesson teachers for detailed requirements.

Electives 21-31 hrs**Total Curriculum Requirements 120 hrs**

¹Six successful semesters of MUS 101 are required. To successfully complete the course each semester the student must gain credit for 10 approved recitals and have no more than one absence from required assembly programs.

²Applied music is studied for four semesters at two credit hours per semester and four additional semesters at one or two credit hours per semester. Voice majors must register for MUS 225 and MUS 226.

³Non-keyboard majors must study piano or take the appropriate functional keyboard class for two semesters. All keyboard majors must pass the Functional Keyboard IV competency exam. Keyboard majors who have fulfilled the functional keyboard requirement may elect to study another instrument (e.g., organ, harpsichord, voice, etc.) with the approval of the academic advisor.

⁴**Research track.** The student more interested in research than applied music has the option of taking applied music instruction for two credit hours each semester for four semesters and then taking one credit hour of instruction for an additional four semesters. The student in the research track will take four credit hours of course work related to his/her area of research with the presentation of a final project (MUS 497) as the culmination of this study.

Research project. In lieu of a recital, the student may propose a scholarly document. The proposal may be presented as early as the beginning of the fifth semester of study and no later than after the sixth semester of study.

The proposal is prepared under the guidance of the student's advisor and submitted to a three-member committee.

⁵**Performance track.** The student interested in performance has the option of taking applied music instruction for two credit hours each semester for eight semesters. The culmination of study will be the senior recital (MUS 498).

Recital. The student, in consultation with the applied teacher and the academic advisor, makes a preliminary decision at the end of the fourth semester of study toward either the performance or research track. The final decision must be made by the end of the sixth semester of study. If the performance track is chosen, a half-recital will be performed.

AREA:**Music/Music Business Track**

Bachelor of Arts/Bachelor of Science

CIP 50.0999

ACCREDITED BY: National Association of Schools of Music (NASM)

University Studies Requirements 38-44 hrs
(See *Academic Degrees and Programs*.)

University Studies selections must include:

• **Social and Self-Awareness and Responsible Citizenship**

ECO 231 Principles of Microeconomics

• **Recommended University Studies Elective**

CSC 199 Introduction to Information Technology

ECO 230 Principles of Macroeconomics

Required Music Courses 51 hrs

- MUS 101 Recital Attendance and Assembly¹
 MUS 100T Transitions
 MUS 114-119 Applied Lesson
(two semesters at two credits per semester)
 MUS 170 Theory I
 MUS 171 Aural Skills I
 MUS 172 Functional Keyboard I
 MUS 173 Theory II
 MUS 174 Aural Skills II
 MUS 175 Functional Keyboard II
 MUS 214-219 Applied Lesson
(two semesters at two credits per semester)
 MUS 270 Theory III
 MUS 271 Aural Skills III
 MUS 273 Theory IV
 MUS 274 Aural Skills IV
 MUS 323 Basic Conducting
 MUS 381 Music History and Literature I
 MUS 382 Music History and Literature II
 MUS 383 Music History and Literature III
 300-level and above electives (9 hrs)

Ensembles *(four semesters at one credit per semester)*

Ensembles: Students are required to participate in a major ensemble involving their primary instrument concurrent with every semester of applied music study. Major ensembles include Symphonic Band, Wind Ensemble, University Orchestra, Concert Band, University Chorale, Concert Choir, Women's Chorus, and Racer Men's Chorus. Some performance areas have more specific requirements. Students should consult their advisors and applied lesson teachers for detailed requirements.

Music Business Courses 31 hrs²

- ACC 200 Principles of Financial Accounting
 JMC 391 Public Relations Principles
 JMC 394 Introduction to Advertising
 MGT 350 Fundamentals of Management
 MKT 360 Principles of Marketing
 MUS 230 Introduction to Music Industry
 MUS 440 Entrepreneurship in Music Business

- MUS 488 Cooperative Education/Internship³
 MUS 489 Cooperative Education/Internship³
Choose two of the following:
 MUS 332 Marketing in the Music Business
 MUS 333 Live Performance and Concert Production
 MUS 334 Artist Management and Development
 MUS 335 Copyright Law and Legal Issues in the Music Business

Total Curriculum Requirements 120-126 hrs

¹Six successful semesters of MUS101 are required. To successfully complete the course each semester the student must gain credit for 10 approved recitals and have no more than one absence from required assembly programs.

²It is recommended that ACC 201 also be taken.

³Two internships for a total of four credit hours are required. May be repeated for a maximum of six hours from any 488/489 course.

AREA:

Music/Keyboard Studies Track

Bachelor of Arts/Bachelor of Science CIP 50.0999

ACCREDITED BY: National Association of Schools of Music (NASM)

University Studies Requirements 38-44 hrs
 (See *Academic Degrees and Programs.*)

Required Music Courses 67 hrs

- MUS 101 Recital Attendance and Assembly¹
 MUS 100T Transitions
 MUS 116 Organ Level I
(two semesters at two credits per semester if organ is the major instrument)
 or
 MUS 117 Piano Level I
(two semesters at two credits per semester if piano is the major instrument)
 MUS 170 Theory I
 MUS 171 Aural Skills I
 MUS 172 Functional Keyboard I²
 MUS 173 Theory II
 MUS 174 Aural Skills II
 MUS 175 Functional Keyboard II²
 MUS 216 Organ Level II
(two semesters at one credit per semester)
 MUS 217 Piano Level II
(two semesters at one credit per semester)
 MUS 270 Theory III
 MUS 271 Aural Skills III
 MUS 272 Functional Keyboard III²
 MUS 273 Theory IV
 MUS 274 Aural Skills IV
 MUS 275 Functional Keyboard IV²
 MUS 313 Introduction to Music Synthesis
(two semesters at one credit per semester)
 MUS 316 Organ Level III
(two semesters at one credit per semester)
 MUS 317 Piano Level III
(two semesters at one credit per semester)
 MUS 323 Basic Conducting
 MUS 381 Music History and Literature I
 MUS 382 Music History and Literature II
 MUS 383 Music History and Literature III
 MUS 392 Professional Engagement
 MUS 396 Repertoire/Pedagogy
 MUS 416 Organ Level IV
(two semesters at two credits per semester if organ is the major instrument)

- or
 MUS 417 Piano Level IV
(two semesters at two credits per semester if piano is the major instrument)

- MUS 439 Harpsichord
 MUS 496 Repertoire/Pedagogy
 MUS 497 Final Project³

- or
 MUS 498 Senior Recital⁴

Ensembles: Students are required to participate in a major ensemble involving their primary instrument concurrent with every semester of applied music study. Major ensembles include Symphonic Band, Wind Ensemble, University Orchestra, Concert Band, University Chorale, Concert Choir, Women's Chorus, and Racer Men's Chorus. Some performance areas have more specific requirements. Students should consult their advisors and applied lesson teachers for detailed requirements.

Electives 9-15 hrs

Total Curriculum Requirements 120 hrs

¹Six successful semesters of MUS 101 are required. To successfully complete the course each semester the student must gain credit for 10 approved recitals and have no more than one absence from required assembly programs.

²All keyboard studies majors are expected to fulfill the functional keyboard requirement of completing Keyboard Level IV.

³**Research track.** The student more interested in research than applied music has the Track of taking applied music instruction for two credit hours each semester for four semesters and then taking one credit hour of instruction on the major instrument for an additional four semesters. The student in the research track will take four credit hours of course work related to his/her area of research with the presentation of a final project (MUS 497) as the culmination of this study.

Research project. In lieu of a recital, the student may propose a scholarly document. The proposal may be presented as early as the beginning of the fifth semester of study and no later than after the sixth semester of study. The proposal is prepared under the guidance of the student's advisor and a three-member committee.

⁴**Performance track.** The student interested in performance has the Track of taking applied music instruction each semester for eight semesters. The culmination of study will be MUS 498.

Recital. The student, in consultation with the applied teacher and the academic advisor, makes a preliminary decision at the end of the fourth semester of study toward either the performance or research track. The final decision must be made by the end of the sixth semester of study. If the performance track is chosen, a half-recital will be performed.

AREA:

Music/Composition Track

Bachelor of Music CIP 50.0901

ACCREDITED BY: National Association of Schools of Music (NASM)

University Studies Requirements 35 hrs
 (See *Academic Degrees and Programs.*)

University Studies selections must include:

•Global Awareness, Cultural Diversity and the World's Artistic Traditions

One of the following:

- ART 105 Studio Art for Non-Majors
 ART 121 Art Appreciation
 ART 211 Ancient and Medieval Art
 ART 212 Art from the Renaissance to the Present

Required Music Courses 75 hrs

- MUS 101 Recital Attendance and Assembly¹
 MUS 100T Transitions
 MUS 114-119 Applied Lesson²
(two semesters at two credits per semester)
 MUS 170 Theory I

- MUS 171 Aural Skills I
- MUS 172 Functional Keyboard I
- MUS 173 Theory II
- MUS 174 Aural Skills II
- MUS 175 Functional Keyboard II
- MUS 214-219 Applied Lesson
(two semesters at two credits per semester)
- MUS 240 Introduction to Composition
- MUS 241 Composition Level I
(two semesters at three credits per semester)
- MUS 270 Theory III
- MUS 271 Aural Skills III
- MUS 272 Functional Keyboard III
- MUS 273 Theory IV
- MUS 274 Aural Skills IV
- MUS 275 Functional Keyboard IV
- MUS 323 Basic Conducting
- MUS 327 Arranging Techniques
- MUS 341 Composition Level II
(two semesters at three credits per semester)
- MUS 381 Music History and Literature I
- MUS 382 Music History and Literature II
- MUS 383 Music History and Literature III
- MUS 392 Professional Engagement
- MUS 427 Advanced Arranging and Orchestration
- MUS 441 Composition Level III
(two semesters at three credits per semester)
- MUS 498 Senior Recital
- MUS 511 Analysis of Contemporary Music
- MUS 512 Counterpoint
- MUS 513 Form and Analysis

Ensembles 4 hrs

Students are required to participate in a major ensemble involving their primary instrument concurrent with every semester of applied music study. Major ensembles include Symphonic Band, Wind Ensemble, University Orchestra, Concert Band, University Chorale, Concert Choir, Women's Chorus, and Racer Men's Chorus. Some performance areas have more specific requirements. Students should consult their advisors and applied lesson teachers for detailed requirements.

Electives 6 hrs

Choose from the following:

- MUS 131 Percussion Methods
- MUS 132 Woodwind Methods
- MUS 133 String Methods
- MUS 134 Voice Methods
- MUS 135 Brass Methods
- MUS 313 Introduction to Music Synthesis
- MUS 423 Instrumental Conducting
- MUS 424 Choral Conducting
- MUS 510 Pedagogy of Theory

Total Curriculum Requirements 120 hrs

¹Six successful semesters of MUS 101 are required. To successfully complete the course each semester the student must gain credit for 10 approved recitals and have no more than one absence from required assembly programs.

²A minimum of four consecutive semester of specified study in applied music is required.

AREA:

Music/Performance Track

Bachelor of Music

CIP 50.0901

ACCREDITED BY: National Association of Schools of Music (NASM)

University Studies Requirements 35 hrs
(See Academic Degrees and Programs.)

Required Music Courses¹ 70-72 hrs

- MUS 101 Recital Attendance and Assembly²
- MUS 100T Transitions
- MUS 114-119 Applied Lesson
(two semesters at two or three credits per semester)³
- MUS 114-119 Applied Lesson
(two semesters at one credit per semester)⁴
- MUS 170 Theory I
- MUS 171 Aural Skills I
- MUS 172 Functional Keyboard I⁵
- MUS 173 Theory II
- MUS 174 Aural Skills II
- MUS 175 Functional Keyboard II
- MUS 214-219 Applied Lesson
(two semesters at three credits per semester)³
- MUS 270 Theory III
- MUS 271 Aural Skills III
- MUS 272 Functional Keyboard III⁵
- MUS 273 Theory IV
- MUS 274 Aural Skills IV
- MUS 275 Functional Keyboard IV⁵
- MUS 314-319 Applied Lesson
(two semesters at three credits per semester)³
- MUS 323 Basic Conducting
- MUS 381 Music History and Literature I
- MUS 382 Music History and Literature II
- MUS 383 Music History and Literature III
- MUS 392 Professional Engagement
- MUS 396 Repertoire/Pedagogy
- MUS 398 Junior Recital
- MUS 414-419 Applied Lesson
(two semesters at three credits per semester)³
- MUS 496 Repertoire/Pedagogy
- MUS 498 Senior Recital
- MUS 499 Concerto Performance
- MUS 511 Analysis of Contemporary Music
- MUS 512 Counterpoint
- MUS 513 Form and Analysis

Ensembles 8 hrs

Students are required to participate in a major ensemble involving their primary instrument concurrent with every semester of applied music study. Major ensembles include Symphonic Band, Wind Ensemble, University Orchestra, Concert Band, University Chorale, Concert Choir, Women's Chorus, and Racer Men's Chorus. Some performance areas have more specific requirements. Students should consult their advisors and applied lesson teachers for detailed requirements.

Electives 5-7 hrs

Choose from the following:

- MUS 225 English and German Diction for Singers
- MUS 226 French and Italian Diction for Singers
- MUS 240 Introduction to Composition
- MUS 241 Composition Level I
- MUS 313 Introduction to Music Synthesis
- MUS 327 Arranging Techniques
- MUS 423 Instrumental Conducting
- MUS 424 Choral Conducting

- MUS 431 Special Topics I
- MUS 459 Advanced Music History and Literature
- MUS 530 Special Topics

Total Curriculum Requirements 120 hrs

¹Admission to this degree program is conditional for first year. Continuation in the program is dependent upon advice of applied teacher and departmental chair after assessment of performance talent, achievement and general musicianship.

²Six successful semesters of MUS 101 are required. To successfully complete the course each semester the student must gain credit for 10 approved recitals and have no more than one absence from required assembly programs.

³Applied music is studied at two or three credits in the first two semesters and three credits in semesters three through eight. Periodic jury and proficiency examinations are required. A half-recital (MUS 398) is required in the junior year and a full recital (MUS 498) is required in the senior year. A solo appearance with a performing ensemble approved by the applied teacher and department chair is required (MUS 499).

⁴Vocal majors must complete the additional two credit hours in applied piano. Instrumental majors may complete the additional two credit hours on a secondary instrument in any applied area. If piano or organ is chosen as the secondary instrument, study will begin after the completion of MUS 275.

⁵All students in the performance Track of the B.M. degree must pass the Functional Keyboard IV competency exam followed by two credit hours of applied secondary study. Students are advised into the correct section of Functional Keyboard according to demonstrated ability and achievement.

AREA:

Music/Music Education P-12 Certification Track Instrumental
Bachelor of Music CIP 50.0901

ACCREDITED BY: National Association of Schools of Music (NASM)

University Studies Requirements 35 hrs
(See *Academic Degrees and Programs.*)

University Studies selections must include:

•Global Awareness, Cultural Diversity and the World's Artistic Traditions

One of the following:

- ART 105 Studio Art for Non-Majors
- ART 121 Art Appreciation
- ART 211 Ancient and Medieval Art
- ART 212 Art from the Renaissance to the Present

•Social and Self-Awareness and Responsible Citizenship

- EDP 260 Psychology of Human Development

Note: Certification requires a grade of *B* or better in one English composition course and a *B* or better in a University Studies math course, public speaking, and MUS 123. Additional requirements for admission to teacher education and student teaching must be met. See advisor and/or Office of Teacher Education Services for details.

Required Music/Music Education Courses 71 hrs

- MUS 101 Recital Attendance and Assembly¹
- MUS 100T Transitions
- MUS 114-118 Applied Lesson²
(two semesters at two credits per semester)
- MUS 123 Introduction to Music Education
- MUS 131 Percussion Methods³
- MUS 132 Woodwind Methods
- MUS 133 String Methods
- MUS 134 Voice Methods
- MUS 135 Brass Methods
- MUS 170 Theory I
- MUS 171 Aural Skills I
- MUS 172 Functional Keyboard I
- MUS 173 Theory II

- MUS 174 Aural Skills II
- MUS 175 Functional Keyboard II
- MUS 214-218 Applied Lesson
(two semesters at two credits per semester)
- MUS 270 Theory III
- MUS 271 Aural Skills III
- MUS 272 Functional Keyboard III
- MUS 273 Theory IV
- MUS 274 Aural Skills IV
- MUS 275 Functional Keyboard IV
- MUS 301 General Music Methods
- MUS 302 Choral Methods
- MUS 303 Instrumental Methods: Elementary and Middle School
- MUS 304 Advanced Instrumental Methods
- MUS 314-318 Applied Lesson
(two semesters at two credits per semester)
- MUS 323 Basic Conducting
- MUS 327 Arranging Techniques
- MUS 381 Music History and Literature I
- MUS 382 Music History and Literature II
- MUS 383 Music History and Literature III
- MUS 392 Professional Engagement
- MUS 414-418 Applied Lesson
- MUS 423 Instrumental Conducting
- MUS 498 Senior Recital
- MUS 513 Form and Analysis

Ensembles 7 hrs

Students are required to participate in a major ensemble involving their primary instrument concurrent with every semester of applied music study. Major ensembles for this degree include Symphonic Band, Wind Ensemble, University Orchestra, and Concert Band. Wind, brass, percussion, keyboard, and guitar students pursuing the instrumental emphasis must complete no fewer than two semesters of marching band. Up to two semesters of marching band may be substituted for a major ensemble for those students. Some performance areas have more specific requirements. Students should consult their advisors and applied lesson teachers for detailed requirements

Required for Teacher Certification 26 hrs

- EDU 403 Structures and Foundations of Education
- ELE 421 Student Teaching Elementary P-5, IECE
- SEC 420 Practicum in Secondary Schools⁴
- SEC 421 Student Teaching in the Secondary School
- SEC 422 Extended Practicum⁵
- SED 300 Educating Students with Disabilities

Total Curriculum Requirements 139 hrs

¹Six successful semesters of MUS 101 are required. To successfully complete the course each semester the student must gain credit for 10 approved recital attendances and have no more than one absence from required assembly programs. Attendance may be required at designated departmental recitals and/or events.

²A minimum of seven semesters of specified study to equal 14 hours in applied music is required as are periodic jury and proficiency examinations. A half-recital must be given in the final semester of study. Recital must be completed prior to the semester of student teaching.

³Students may be exempted from one of the technique classes upon satisfactory demonstration of teaching proficiency as determined by the instructor of the course.

⁴SEC 420 must be taken two semesters before student teaching.

⁵Must be taken one semester before student teaching.

AREA:**Music/Music Education P-12 Certification Track Vocal**

Bachelor of Music

CIP 50.0901

ACCREDITED BY: National Association of Schools of Music (NASM)

University Studies Requirements 35 hrs
(See *Academic Degrees and Programs*.)

University Studies selections must include:

•Global Awareness, Cultural Diversity and the World's Artistic Traditions*One of the following:*

- ART 105 Studio Art for Non-Majors
 ART 121 Art Appreciation
 ART 211 Ancient and Medieval Art
 ART 212 Art from the Renaissance to the Present

•Social and Self-Awareness and Responsible Citizenship

- EDP 260 Psychology of Human Development

Note: Certification requires a grade of *B* or better in one English composition course and a *B* or better in a University Studies math course, public speaking, and MUS 123. Additional requirements for admission to teacher education and student teaching must be met. See advisor and/or Office of Teacher Education Services for details.

Required Music/Music Education Courses 70 hrs

- MUS 101 Recital Attendance and Assembly¹
 MUS 100T Transitions
 MUS 116, 117, or 119 Applied Lesson²
(two semesters at two credits per semester)
 MUS 123 Introduction to Music Education
 MUS 170 Theory I
 MUS 171 Aural Skills I
 MUS 172 Functional Keyboard I
 MUS 173 Theory II
 MUS 174 Aural Skills II
 MUS 175 Functional Keyboard II
 MUS 216, 217, or 219 Applied Lesson
(two semesters at two credits per semester)
 MUS 225 English and German Diction for Singers
 MUS 226 French and Italian Diction for Singers
 MUS 270 Theory III
 MUS 271 Aural Skills III
 MUS 272 Functional Keyboard III
 MUS 273 Theory IV
 MUS 274 Aural Skills IV
 MUS 275 Functional Keyboard IV
 MUS 301 General Music Methods
 MUS 302 Choral Methods
 MUS 303 Instrumental Methods: Elementary and Middle School
 MUS 316, 317, or 319 Applied Lesson
(two semesters at two credits per semester)
 MUS 320 Vocal Pedagogy for the Music Educator
 MUS 321 Choral Repertoire
 MUS 323 Basic Conducting
 MUS 327 Arranging Techniques
 MUS 381 Music History and Literature I
 MUS 382 Music History and Literature II
 MUS 383 Music History and Literature III
 MUS 392 Professional Engagement
 MUS 416, 417, or 419 Applied Lesson
 MUS 424 Choral Conducting
 MUS 498 Senior Recital
 MUS 513 Form and Analysis

Ensembles 7 hrs

Students are required to participate in a major ensemble involving their primary instrument concurrent with every semester of applied music study. Major ensembles for this degree include University Chorale Concert Choir, Women's Chorus, and Racer Men's Chorus. Some performance areas have more specific requirements. Students should consult their advisors and applied lesson teachers for detailed requirements.

Required for Teacher Certification 26 hrs

- EDU 403 Structures and Foundations of Education
 ELE 421 Student Teaching Elementary P-5, IECE
 SEC 420 Practicum in Secondary Schools³
 SEC 421 Student Teaching in the Secondary School
 SEC 422 Extended Practicum⁴
 SED 300 Educating Students with Disabilities

Total Curriculum Requirements 138 hrs

¹Six successful semesters of MUS 101 are required. To successfully complete the course each semester the student must gain credit for 10 approved recital attendances and have no more than one absence from required assembly programs. Attendance may be required at designated departmental recitals and/or events.

²A minimum of seven semesters of specified study to equal 14 hours in applied music is required as are periodic jury and proficiency examinations. A half-recital must be given in the final semester of study. Recital must be completed prior to the semester of student teaching.

³SEC 420 must be taken two semesters before student teaching.

⁴Must be taken one semester before student teaching.

Requirements for Admission

Students wishing to pursue the Music Business degree will be admitted initially to the degree program when they have taken MUS 109 and MUS 230 and have a *B* or better in each, plus at least a 2.5 overall GPA. To be admitted to candidacy (400-level Music Business courses including internships), students must have at least a 2.5 GPA overall and must have successfully completed MUS 332 and 333.

MAJOR:**Music Business**

Bachelor of Science

CIP 50.1003

University Studies Requirements 38-43 hrs
(See *Academic Degrees and Programs*.)

University Studies selections must include:

•Global Awareness, Cultural Diversity and the World's Artistic Traditions

- MUS 105 Introduction to Music History

•Social and Self-Awareness and Responsible Citizenship

- ECO 230 Principles of Macroeconomics

or

- ECO 231 Principles of Microeconomics

•University Studies Electives

- ECO 230 Principles of Macroeconomics

or

- ECO 231 Principles of Microeconomics

One of the following:

- MUS 104 Introduction to Jazz History
 MUS 106 Music in Film
 MUS 107 Introduction to American Musical Theatre
 MUS 108 Introduction to World Music

Required Music Courses 58 hrs

- MUS 101 Recital Attendance and Assembly¹
 MUS 100T Transitions
 MUS 109 Musicianship I: Music Fundamentals

MUS 110	Musician'ship II	
MUS 114-119	Applied Lesson ²	(two semesters at one credit per semester)
MUS 120-121	Beginning and Intermediate Guitar ²	or
MUS 127-128	Class Voice I and II	
MUS 124	Beginning Class Piano I	
MUS 125	Beginning Class Piano II	
MUS 150-164	Music Ensembles ³	
MUS 209	Musician'ship III	
MUS 210	Musician'ship IV	
MUS 230	Introduction to Music Industry	
MUS 332	Marketing in Music Business ⁴	
MUS 333	Live Performance and Concert Promotion ⁴	
MUS 334	Artist Management and Development ⁴	
MUS 335	Copyright Law and Legal Issues in the Music Business ⁴	
MUS 350-364	Music Ensembles ³	
MUS 433	History of the Music Industry ⁴	
MUS 434	Digital Revolution and the Music Industry ⁴	
MUS 440	Entrepreneurship in Music Business ⁵	
MUS 488	Cooperative Education/Internship ⁵	
MUS 489	Cooperative Education/Internship ⁵	
MUS elective	(3 hrs)	

Co-Requirements for Music Business Major18 hrs

ACC 200	Principles of Financial Accounting
CSC 199	Introduction to Information Technology
JMC 391	Public Relations Principles
JMC 394	Introduction to Advertising
MGT 350	Fundamentals of Management
MKT 360	Principles of Marketing

Business Administration Minor⁶..... 6 hrs

ACC 201	Principles of Managerial Accounting
FIN 330	Principles of Finance

Total Curriculum Requirements 120-125 hrs

¹Four successful semesters of MUS 101 are required.
²Music Business students must take and pass four consecutive semesters of study on one instrument at one credit per semester. Students have two options to satisfy this requirement. They may take and pass two semesters of group/class instrumental or vocal study, when available, followed by two semesters of 100-level lessons, or, with the consent of the applied instructor, may take and pass two semesters of 100-level lessons followed by two semesters of 200-level lessons to fulfill this requirement.
³Music Business majors take four semesters of ensembles, two at the 100-level and two at the 300-level. Additional semesters of applied study require participation in an ensemble concurrent with each extra semester of applied study.
⁴MUS 440, MUS 488, and MUS 489 require admission to candidacy in the program.
⁵These courses are offered on a two-year rotation. Please consult with the program director for the sequence.
⁶Corequirements may apply toward the requirements for a minor in Business Administration.

Business Administration Minor..... 24 hrs

ACC 200, 201; CSC 199; ECO 230, 231; FIN 330; MGT 350; and MKT 360. Six hours must be upper-level courses.

Music Minor 25 hrs

MUS 105, 114-119, 170, 171, 172, 173, 174, 175, 214-219, and four hours of MUS electives chosen from any 300- or 400-level MUS course (prerequisites and/or instructor permission will apply). 300-level applied study may be taken once the 200-level proficiency has been passed. Students must meet course prerequisites or have permission of the instructor if there is a prerequisite. Elective applied study is dependent upon studio space. At least six hours must be upper-level

courses completed at Murray State. Students must earn the grade of C or better to progress in all sequence courses. **Applied Lessons:** Students study for four consecutive semesters with concurrent appropriate ensemble participation. Enrollment in MUS 170 at the earliest offering of the course or prior to completion of MUS 170 is required for enrollment in applied music study. Piano students with keyboard background may challenge one or both of the functional keyboarding classes. **Ensembles:** Students are required to participate in an ensemble involving their primary instrument concurrent with every semester of applied music study. Four semesters is the minimum requirement for a minor. Students should take two semesters of ensembles at the 100-level and two semesters of ensembles at the 300-level. Some performance areas have more specific requirements. Students should consult their advisors and applied lesson teachers for detailed requirements.

Music Theatre Minor 24 hrs
MUS 107, 109, 110, 124, 125, 127, 128; THD 111, 360, 389; and MUS 164/364 (two semesters) or THD 106 (two semesters). Six hours must be upper-level courses.

Graduate Program

The Master of Music Education (M.M.E.) curriculum is planned to:

- promote depth in critical thinking and analysis, resulting in the formulation of a personal philosophy of music education and an arts advocacy position;
- provide awareness of current issues in music, education, and the profession of teaching music at all levels;
- prepare students to assume leadership in music program administration through curriculum development aligned with state and national standards in the arts;
- refine and extend knowledge and skills in music: its history, composition, performance, pedagogy, and cultural values;
- provide opportunities for students to explore and apply technology as a tool for teaching music; and
- create networks among music professionals and assist the transition from intern teacher to mentor teacher and cooperating teacher.

Requirements for Admission

Applicants must meet the Murray State University requirements (see *Graduate Admissions*). For non-native speakers of English, a TOEFL score of 20 for each section of the iBT, an IELTS score of 6.5 with no band lower than 6.0, or a previous degree earned from an accredited U.S. institution. Each student who wishes to be considered for unconditional admission to graduate study leading to the Master of Music Education degree must have the following additional qualifications:

- an undergraduate music major, or the equivalent, with teacher certification.

Additional Requirements

During the first semester of course work the student, in consultation with the graduate advisor, must list chosen courses from the 30-hour curriculum on the Graduate Program form supplied by Graduate Admissions and Records. Thereafter, any changes in this program must be accompanied by a Change of Program form in consultation with the graduate advisor.

Master of Music Education

CIP 13.1312

ACCREDITED BY: National Association of Schools of Music (NASM).

Each candidate's program is individually arranged with approval of the graduate coordinator in the Department of Music. The program is in accord with requirements for the Kentucky Certificate for Teaching Music Grades K-12 and includes a 12-semester-hour specialization component. The program may be completed in four semesters. Two summer terms are required.

THESIS REQUIREMENTS

Total Course Requirements..... 30 hours

Professional Education Courses 12 hrs

- MUS 600 Historical and Philosophical Foundations
of Music Education^L
MUS 601 Psychological Foundations of Music Education
MUS 602 Curriculum and Assessment in Music
MUS 639 Methods of Research in Music Education^R

Specialization Component 12 hrs

Music Theory

- MUS 610 Advanced Music Theory and Analysis

Music History

- MUS 659 Advanced Music History and Literature

Music Education

- MUS 629 Contemporary Instructional Practices
in Music Education^{PT}
MUS 642 Seminar in Music Teaching

Thesis..... 6 hrs

- MUS 698 Music Thesis I
MUS 699 Music Thesis II

NON-THESIS REQUIREMENTS

Total Course Requirements..... 30 hours

Same as above, with the following substitution for thesis:
Approved MUS electives, 600-level (6 hrs)

Other Degree Requirements

Written comprehensive examinations over all music and music education course work will be administered upon completion of all music course work and at least 24 hours of total course work. The student must complete the Application for Comprehensive Examination form and pay all required fees before the comprehensive examination is administered.

**Department of Political Science
and Sociology**

5A Faculty Hall

270-809-2661

government@murraystate.edu

Chair: Choong-Nam Kang. **Faculty:** Alkhatib, Clinger, Foote, Hendley, McCutchen, Morelock, Morrison, Nititham, Oliver, Polizzi, Rose, Rosenberger, Seib, Yang.

Curricula of the department afford enough specialization and career education to prepare students for enrollment in professional and graduate programs, or for participation in various occupational classifications immediately upon graduation. Students completing baccalaureate programs in the department will be granted either the Bachelor of Arts or the Bachelor of Science degree. Major programs are offered in political science, international studies, and sociology. Minor programs are offered in political science, international studies, legal studies, social science, and sociology.

The Master of Public Administration program provides education and training for professional careers in government agencies and non-profit organizations. Graduates of the program are now successfully pursuing careers as city managers, public works directors, regulatory officials, criminal justice professionals, public human resource administrators, and military and diplomatic officers, as well as other professions. Classes are offered at a variety of locations and through a variety of formats. Some courses are offered on-line as well as through an interactive television (ITV) format that reaches the MSU campuses in Paducah, Henderson, Madisonville, Fort Campbell, and Hopkinsville.

The Department of Political Science and Sociology provides several avenues to professional and academic competence. Besides specific courses preparing students for a broad variety of occupational choices in international studies, politics and public administration, and legal studies, University Studies classes furnish an opportunity for students to become more familiar with the international environment and the American political system. The department functions in close harmony with other academic units across campus and draws from other programs to complement its offerings. Pre-law advising and law school placement services are coordinated by the legal studies component within the department.

Graduates of the programs must demonstrate oral and written communication skills which follow the conventions of standard English usage and meet the criteria for clarity, organization, development and thoughtfulness; must have acquired basic understanding of research methodologies, i.e. the use of statistical analysis and computer applications; and should have acquired an understanding of the basic concepts, systems and problems of their discipline in particular and liberal arts education in general.

MAJOR:

Political Science

Bachelor of Arts/Bachelor of Science CIP 45.1001

University Studies Requirements39-43 hrs
(See *Academic Degrees and Programs.*)

University Studies selections must include:

•**Scientific Inquiry, Methodologies, and Quantitative Skills**

STA 135 Introduction to Probability and Statistics

Note: See required courses below before selecting University Studies elective courses. A minimum grade of C is required in ENG 105 and POL 140 from freshmen and transfer students majoring or minoring in political science.

Required Courses 25 hrs

- POL 100T Transitions
- POL 140 American National Government
- POL 240 State and Local Politics
- POL 250 Introduction to International Relations
- POL 252 Introduction to Comparative Politics
- POL 261 Introduction to Political Theory
- POL 359 Writing and Inquiry in the Social Sciences
- POL 360 Research Methods
- POL 499 Senior Seminar in Political Science

Required Limited Electives..... 15 hrs

Chosen from any POL course numbered between 300-499.

Note: Only six hours of credit toward the major may be received for POL 488, 489, or 495.

Required Minor 21-24 hrs

Unrestricted Electives 13-20 hrs

Total Curriculum Requirements 120 hrs

AREA:

Political Science/Pre-Professional Legal Studies Track

Bachelor of Arts/Bachelor of Science CIP 45.1001

University Studies Requirements39-43 hrs
(See *Academic Degrees and Programs.*)

University Studies selections must include:

•**Scientific Inquiry, Methodologies, and Quantitative Skills**

STA 135 Introduction to Probability and Statistics

•**World's Historical, Literary, and Philosophical Traditions**

POL 261 Introduction to Political Theory

Note: See required courses below before selecting University Studies elective courses. A minimum grade of C is required in ENG 105 and POL 140 from freshmen and transfer students majoring or minoring in political science.

Required Courses 19 hrs

- POL 100T Transitions
- POL 140 American National Government
- POL 240 State and Local Politics
- POL 250 Introduction to International Relations
- or
- POL 252 Introduction to Comparative Politics
- POL 359 Writing and Inquiry in the Social Sciences
- POL 360 Research Methods
- POL 499 Senior Seminar in Political Science

Pre-Professional Legal Studies Courses 30 hrs

- CRJ 140 Introduction to Criminal Justice
- COM 261 Debate and Advocacy
- LST 240 Legal Environment of Business
- LST 300 Introduction to Legal Research
- LST 310 Legal Analysis and Writing
- LST 446 Criminal Law
- POL 441 Legislative Process
- POL 444 Judicial Process
- POL 445 Constitutional Law I
- POL 447 Constitutional Law II

Required Limited Electives..... 18 hrs

Note: At least 12 hours must be at the 300-level or above.

Select from the following:

- COM 367 Communication and Critical Thought
- CRJ 544 Constitutional and Legal Issues in Criminal Justice
- ENG 226 Argument and Discourse
- ENG 370 Law and Literature
- HIS 176 History of the U.S. Constitution
- LST 242 Real Estate Law
- LST 250 Mock Trial
- LST 400 Litigation and Trial Practice
- PHI 103 Critical Thinking
- or
- PHI 203 Symbolic Logic
- PSY 245 Law and Psychology
- POL 442 Government and Business
- POL 457 International Law and Organizations
- POL 476 Law in Public Administration
- POL 488 Cooperative Education/Internship
- or
- POL 489 Cooperative Education/Internship
- SOC 442 Law and Society
- SOC 445 Media and Crime

Unrestricted Electives 10-14 hrs

Total Curriculum Requirements 120 hrs

AREA:

Political Science/Social Studies Certification (Grades 8-12)

Bachelor of Arts/Bachelor of Science CIP 45.1001

University Studies Requirements 39-44 hrs
(See *Academic Degrees and Programs.*)

University Studies selections must include:

•**Scientific Inquiry, Methodologies, and Quantitative Skills**

STA 135 Introduction to Probability and Statistics

•**Social and Self-Awareness and Responsible Citizenship**

EDP 260 Psychology of Human Development

• **University Studies Approved Electives**

SOC 133 Introduction to Sociology

Note: B.A. degree is required unless specifically exempted by department chair. Certification requires a grade of B or better in one English composition course and in a University Studies math course, COM 161, and EDU 103 or equivalent course. Additional requirements for admission to teacher education and student teaching must be met. See advisor and/or Office of Teacher Education Services for details.

Required Course 25 hrs

- POL 100T Transitions
- POL 140 American National Government
- POL 240 State and Local Politics

POL 250	Introduction to International Relations
POL 252	Introduction to Comparative Politics
POL 261	Introduction to Political Theory
POL 359	Writing and Inquiry in the Social Sciences
POL 360	Research Methods
POL 499	Senior Seminar in Political Science

Required Limited Electives..... 15 hrs

ECO 231	Principles of Microeconomics
GSC 110	World Geography
HIS 361	Teaching History
HIS 221	American Experience to 1865
<i>or</i>	
HIS 222	American Experience since 1865
HIS 201	Modern Europe
<i>or</i>	
CIV 201	or 202

(Whichever was not taken as a University Studies requirement.)

Required POL Electives 9 hrs*At least nine hours must be at the 300-400 level.***Required for Secondary Certification 32 hrs**

EDU 103	Issues and Practices of American Education
EDU 403	Structures and Foundations of Education
EDU 405	Evaluation and Measurement in Education ¹
SEC 420	Practicum in Secondary Schools ¹
SEC 421	Student Teaching in the Secondary School
SEC 422	Extended Practicum ²
SED 300	Educating Students with Disabilities

Total Curriculum Requirements 120-125 hrs¹EDU 405 and SEC 420 must be taken together and two semesters before student teaching.²Must be taken one semester before student teaching.**Legal Studies Minor 21 hrs**

LST 240, 300, and 310; and 12 hours of LST electives. Only three hours of credit allowed from LST 250, 488, 489, or 495. Six hours must be upper-level courses. Computer knowledge and a minimum grade of C in ENG 105 are required of all students (including transfers) pursuing this minor. No substitutions and/or alterations in the above curriculum shall be made without written approval of department chair.

Political Science Minor 24 hrs

POL 140, 250, 252, 261; and 12 hours of POL electives. Electives may be chosen from any POL courses numbered between 300-499. Only three hours are allowed from POL 488, 489, 495. Six hours must be upper-level courses. A minimum grade of C in ENG 105 and POL 140 is required of all students minoring in political science. No substitutions shall be made in the minor without written approval of the department chair.

Social Science Minor..... 24 hrs

Open only to majors in economics, history, or political science who seek secondary certification in social studies. ECO 231, GSC 110, HIS 221, 222, POL 140, SOC 133; and six hours of upper level courses (300 or above) from the social science disciplines with approval of advisor. Courses required for a major may not be counted toward the minor; substitutions must be from a social science discipline other than the major and be approved by the advisor; and requirements for certification for teaching secondary school social studies, grades 8 through 12 through the College of Education and Human Services must also be met.

Graduate Program

The Master of Public Administration (M.P.A.) degree program prepares students for careers as administrators in public service organizations. The program provides in-service personnel an opportunity to refine their administrative skills; it also provides individuals seeking positions (pre-service) an opportunity to develop administrative skills.

The program has two components: a) 21 hours or seven required core courses that provide a general foundation in public administration and b) 12 hours or four elective courses that may be selected to develop an area of specialization. The graduate courses taught by the Department of Political Science and Sociology support other graduate programs at Murray State University.

Requirements for Admission

Applicants must meet Murray State University requirements (see *Graduate Admissions*). Additional requirements for unconditional and conditional admission are as follows.

Unconditional

To qualify for unconditional admission, an applicant must have:

- an undergraduate major in political science, other social science or business, **or** substantial background in relevant disciplines;
- a grade point average of 2.75 (on a 4.00 scale);
- students whose native language is not English must present a minimum TOEFL score of 550 on the paper based test or an overall score of 79 on the internet-based test (iBT), with no score on the writing, listening, and reading sections below 16, or an overall score of 6.0 on the IELTS, with no score on any band below 5.0.

Conditional

For conditional admission, an applicant may have:

- a grade point average between 2.25 and 2.74 (on a 4.00 scale) **or**
- an overall grade point average of 2.0 to 2.24 **if** the student's experience is evaluated by the director and faculty of the M.P.A. program as indicating the likelihood of success;
- students whose native language is not English must present a minimum TOEFL score of 550 on the paper based test or an overall score of 79 on the internet-based test (iBT), with no score on the writing, listening, and reading sections below 16, or an overall score of 6.0 on the IELTS, with no score on any band below 5.0.

Master of Public Administration

CIP 44.0401

NON THESIS ONLY**Total Course Requirements..... 33 hours**

POL 660	Research Methods ^R
POL 670	Foundations of Public Administration ^L
POL 671	Public Policy Analysis
POL 673	Public Budgeting and Finance
POL 674	Public Organizations
POL 681	Public Sector Human Resource Management
POL 685	Public Administration Capstone ^{PT}
Graduate Electives (12 hrs)	

A student may take 12 hours of graduate electives from outside the Department of Political Science and Sociology to fulfill a specialized concentration or area of interest with the approval of the M.P.A. director. **NOTE:** A maximum of 12 hours of relevant graduate courses with a grade of B or better may be transferred from a regionally accredited university for credit in the M.P.A. program. No more than

nine hours of comparable courses may be transferred into the core as evaluated by the M.P.A. director. Official transferral of this credit shall take place after successful completion of nine hours of graduate work at Murray State.

International Studies

Global awareness and cross-cultural skills are increasingly important in a variety of careers. Educational, social service, business, governmental and non-governmental organizations recognize that these skills are important for solving complex problems in a culturally diverse context. The major in international studies and the minor in international studies allow students in a variety of disciplines to acquire these skills in support of expertise in their chosen fields.

**MAJOR:
International Studies**

Bachelor of Arts CIP 45.0901

University Studies Requirements 42-43 hrs
(See *Academic Degrees and Programs.*)

University Studies selections must include:

•**Global Awareness, Cultural Diversity, and the World's Artistic Traditions**

POL 252 Introduction to Comparative Politics

•**Scientific Inquiry, Methodologies, and Quantitative Skills**

STA 135 Introduction to Probability and Statistics

•**Social and Self-Awareness and Responsible Citizenship**

ECO 230 Principles of Macroeconomics

•**World's Historical, Literary, and Philosophical Traditions**

CIV 201 World Civilizations I

CIV 202 World Civilizations II

•**University Studies Elective**

CSC 199 Introduction to Information Technology

Required Courses 25 hrs

ECO 310 Issues in Global Economy

POL 100T Transitions

POL 250 Introduction to International Relations

POL 359 Writing and Inquiry in the Social Sciences

POL 360 Research Methods

POL 499 Senior Seminar in Political Science

One of the following:

HIS 305 The Irish Diaspora

HIS 309 Survey of World Religions

HIS 316 Women and Gender in World History

HIS 352 20th Century World

HIS 407 Modern Imperialism and Colonialism

HIS 415 Women in History

HIS 451 Slavery and Africa

HIS 459 Genocide in World History

HIS 476 The World Since 1945

HIS 478 Comparative Civilizations After 1500

One of the following:

POL 456 American Foreign Policy

POL 457 International Law and Organizations

One of the following:

BUS 396 International Business Seminar

BUS 515 Communicating in International Business Environment

MGT 350 Fundamentals of Management

MKT 360 Principles of Marketing

SOC 250 Global Sociology

SOC 455 Environmental Sociology

SOC 465 Globalization

Thematic Cluster Courses 15 hrs
Choose one theme and courses with approval of advisor. Required courses in the major or minor cannot be applied to a thematic cluster.

I. International Development

V. Latin America

II. Africa and Middle East

VI. Comparative Studies

III. Asia

VII. Human Rights

IV. Europe

Required Minor 21-24 hrs
Courses taken for the major will not count towards the minor.

Electives 13-17 hrs
International education experience or equivalent is required. English counts as second language for international students whose native language is not English.

Total Curriculum Requirements 120 hrs

International Studies Minor 24 hrs
ECO 310 or 315 or 410; GSC 110; POL 250, 252, 499 and nine hours from one of the thematic clusters listed under the major. At least six hours of the cluster must be upper-level courses at Murray State University. Twelve hours of a foreign language and international education experience or equivalency is required

Sociology

The sociology program is oriented toward increasing students' understanding of human society, the groups and institutions of which it is composed, and its impact on human beings. Sociology provides many distinctive ways of looking at the world so as to generate new ideas and assess the old. Too, sociology offers a range of research techniques which can be applied in more specific areas whether one's concern is with crime, provision of health care, or problems of poverty and social inequality. Students find employment in a variety of fields including case and group work, probation and parole, or human rights advocacy, to name a few. The sociology program will provide students with a solid foundation for their chosen careers upon graduation or for more specialized education in such fields as law, public health, or a number of other professional fields.

MAJOR:

Sociology

Bachelor of Arts/Bachelor of Science

CIP 45.1101

University Studies Requirements 38-44 hrs
(See *Academic Degrees and Programs.*)

Required Courses 18-19 hrs

PSY 300 Principles and Methods of Statistical Analysis

or

STA 135 Introduction to Probability and Statistics

SOC 100T Transitions

SOC 133 Introduction to Sociology

SOC 300 Social Theory

SOC 359 Writing and Inquiry in the Social Sciences

SOC 360 Research Methods

SOC 400 Senior Seminar

Required Electives 18 hrs

Electives may be chosen from any SOC courses numbered between 200-499. A minimum of 12 hours must be upper-division courses (300-level or above).

Required Minor	21-24 hrs
Unrestricted Electives	15-25 hrs
Total Curriculum Requirements	120 hrs
Sociology Minor	21 hrs

SOC 133, 300, plus 15 hours of electives. Six hours must be upper-level courses.

Department of Psychology

Chair - Paula Waddill
212A Wells Hall
270-809-2851

Chair: Paula Waddill. **Faculty:** Anderson, Bordieri, Brown, Cushen, Hackathorn, Joyce, Karlsson, Liljequist, Long, Rife, Wann.

The Department of Psychology provides a liberal arts oriented program of studies that covers the many topics of the broad discipline of psychology and leads to either the Bachelor of Arts or the Bachelor of Science degree. The curriculum is designed to enable students who major in psychology to (1) become knowledgeable about the basic principles of behavior, (2) acquire research and problem-solving skills, and (3) learn how psychological knowledge can be applied in service settings to promote human welfare. The department also provides a flexible minor which can be combined with majors in other fields to provide students in those fields an appropriate background in psychology.

Completion of the psychology major prepares the student for a variety of activities in occupations in which an understanding of human behavior is important (*e.g.* public relations, personnel management, social welfare, mental health and child care). Professional careers in psychology normally require graduate training and the undergraduate major constitutes excellent preparation for entry into graduate programs in psychology. This major also serves as a good background for entry into graduate study in a number of other professional fields which have a strong psychological dimension or require a knowledge of behavioral science research techniques.

The Department of Psychology offers either the Master of Arts or the Master of Science degree in general experimental psychology and in clinical psychology. A joint objective of both graduate programs is to provide graduate study whereby the student can seek career opportunities in governmental agencies, teach in two-year colleges, or pursue doctoral level study in psychology or related fields. An additional objective of the program in clinical psychology is to train the student in the areas of psychodiagnostics and psychotherapeutic techniques where these skills can be utilized in a community setting to include comprehensive care centers, schools, and mental hospitals.

The department's physical facilities include laboratories which are equipped for research and a computer laboratory. In addition, the Psychological Center, operated by the department, serves as a training facility for graduate students and as a mental health resource for referrals from university and community agencies. The center, located in Wells Hall, has facilities for psychological testing and therapy.

MAJOR: Psychology

Bachelor of Arts/Bachelor of Science

CIP 42.2799

University Studies Requirements **38-43 hrs**
(See *Academic Degrees and Programs.*)

University Studies selections must include:

•**Scientific Inquiry, Methodologies, and Quantitative Skills**

- BIO 101 Biological Concepts
or
- BIO 221 Zoology: Animal Form and Function

Required Courses **31 hrs**

- PSY 100T Transitions
- PSY 180 General Psychology
- PSY 205 Introduction to Writing in the Psychological Sciences
- PSY 260 Lifespan Development
- PSY 300 Principles and Methods of Statistical Analysis
- PSY 301 Principles and Methods of Psychological Research
- PSY 303 Social Psychology
- PSY 307 Abnormal Psychology
- PSY 414 Psychology of Learning and Memory
- PSY 415 Physiological Psychology

One of the following:

- PSY 402 Senior Seminar in Psychology
- PSY 403 History and Systems of Psychology
- PSY 408 Applied Research Design and Analysis
- PSY 460 Directed Individual Study II
- PSY 499 Senior Thesis

Required Limited Electives..... **9 hrs**

Chosen from PSY 199, 210, 221, 222, 223, 245, 261, 262, 264, 265, 302, 310, 321, 322, 325, 326, 327, 360, 373, 390, 402¹, 403¹, 404, 405, 406, 408¹, or 471; or as approved by advisor.

Required Minor **21-24 hrs**

Unrestricted Electives..... **13-21 hrs**

Total Curriculum Requirements **120 hrs**

¹If not taken as a Required Choice.

Psychology Minor **21 hrs**

PSY 180 and 18 hours of PSY electives. A minimum of 12 hours must be upper-division courses (300-level or above).

Graduate Programs

The curriculum in the psychology graduate program has been developed to provide exposure to the breadth of psychology as well as intensive study of those areas which are currently of greatest concern in the field. In addition, work in statistics and research design is provided and participation in research is encouraged. The program in clinical psychology is approved by the Master's in Psychology and Counseling Accreditation Council (MPCAC).

Psychology graduate courses are offered on a regularly scheduled rotation. Assuming no undergraduate course deficiencies, it is possible for a student to complete either degree program in two years.

Requirements for Admission

The deadline for submission of applications is March 15. Early submission of applications is encouraged, as admission is competi-

tive. Applications arriving after March 15 will be considered only if space is available. Applicants must meet the Murray State University requirements (see *Graduate Admissions*). Additional requirements for unconditional and conditional admission are as follows.

For non-native speakers of English, a minimum IELTS score of 6.5, paper-based TOEFL score of 550, an internet-based TOEFL score of 88, or a previous degree earned from an accredited United States institution is required.

Unconditional

- A minimum of 15 undergraduate credit hours in psychology, including courses in research methods and statistics or their equivalent.
- A grade point average of 3.0 or higher overall and in psychology courses.
- Official score report of the Graduate Record Examination.
- Three letters of recommendation.
- A written statement of purpose for entering graduate work in psychology.
- For the general experimental program, a statement of personal research interests.

Conditional

The Department of Psychology does not normally admit students who fail to meet the university requirements for unconditional admission (see *Graduate Admissions*). However, students who otherwise meet those standards but lack the prerequisite undergraduate courses in psychology are encouraged to enroll in those classes as irregular or unclassified students. Such students should contact the department chairperson.

In some cases, students lacking only one or two undergraduate prerequisite courses may be admitted with the understanding that they must complete those undergraduate courses along with their graduate courses.

Note: Admission into Department of Psychology graduate programs obligates students to adhere to the ethical standards of the American Psychological Association as well as the academic conduct principles and the interpersonal skills policies of the department. Any violation of these is cause for dismissal from the program. In the case of the clinical program, the department reserves the right to deny admission to or discontinue the training of any student who in the judgment of the department’s graduate training committee would not be able to function competently in the profession of clinical psychology.

Additional Degree Requirements

The Department of Psychology has set the following additional requirements for academic performance by students in its graduate programs; these requirements are separate from the minimum university regulations for scholastic probation governing graduate students.

A graduate student will be placed on probation with his/her graduate program if he/she has completed nine or more semester hours of graduate coursework with a grade point average of less than 3.00 or he/she has earned a grade of C or lower in a required graduate course.

A graduate student who is placed on probation in his/her graduate program must show the following improvements during the fall or spring term immediately following the term in which the student was placed on program probation: he/she must earn grades of B or above in all graduate courses and must improve his/her cumulative grade point average. A graduate student who has been placed on probation in his/her graduate program and who fails to achieve both of these criteria for improvement will be dismissed from the program. A graduate student who has been dismissed from his/her program for failure to meet these requirements may appeal in writing to the Psychology Department Graduate Training Committee for readmission.

**Master of Arts or Master of Science
General Experimental Psychology**

CIP 42.2704

THESIS REQUIREMENTS

Total Course Requirements..... 31 hours

Foundations of Behavior

- PSY 610 Graduate Seminar in General Experimental Psychology
- PSY 621 Biological Bases of Behavior
- PSY 622 Cognitive Bases of Behavior
- PSY 623 Social Bases of Behavior
- PSY 624 Developmental Bases of Behavior^L

Research Foundations

- PSY 651 Correlational Research Design and Statistics
- PSY 652 Univariate Research Design and Statistics
- 600-level PSY courses approved by graduate training committee (6 hrs)
- PSY 698 Thesis^R
- PSY 699 Thesis^R

Other Degree Requirements

Oral defense and examination of the thesis.
Competency in an approved foreign language (M.A. only).

**Master of Arts or Master of Science
Clinical Psychology**

CIP 42.2801

ACCREDITED BY: Master’s in Psychology and Counseling Accreditation Council (MPCAC)

THESIS REQUIREMENTS

Total Course Requirements..... 49 hours

Foundations of Behavior

- PSY 620 Graduate Seminar in Professional and Ethical Issues
- PSY 621 Biological Bases of Behavior
- PSY 622 Cognitive Bases of Behavior
- PSY 623 Social Bases of Behavior
- PSY 624 Developmental Bases of Behavior^L

Clinical Foundations

- PSY 645 Clinical Measurement and Evaluation I
 - PSY 664 Psychopathology
 - PSY 665 Clinical Measurement and Evaluation II
 - PSY 667 Practicum in Psychology (6 hrs)^{PT}
 - PSY 670 Psychotherapeutic Procedures
- Two of the following courses:*
- PSY 671 Behavior Modification
 - PSY 672 Family Therapy
 - PSY 682 Child Clinical Psychology
 - PSY 686 Group Psychotherapy Techniques

Research Foundations

- PSY 651 Correlational Research Design and Statistics
- PSY 652 Univariate Research Design and Statistics
- PSY 698 Thesis^R
- PSY 699 Thesis^R

Other Degree Requirements

- Comprehensive examination over the clinical coursework.
- Oral defense and examination of the thesis.
- Competency in an approved foreign language (M.A. only).
- Attendance at case conference (PSY 666) for four semesters.

Dual Degree Program

Dual master's degrees in General Experimental Psychology (GEP-
SY) and Nonprofit Leadership Studies (NLS) may be earned through
a five-semester or six-semester sequence of courses leading to two
degrees – a master's degree in GEP-
SY and a master's degree in NLS.
Students are required to comply with the specific policies set up by
the dual master's degree in which they have been admitted.

Application and Admission

Applicants must hold a bachelor's degree from an accredited
institution of higher education and must declare at the time of ap-
plication the intention to pursue a dual degree in GEP-
SY/NLS.

Applicants must be accepted for unconditional admission by the
GEP-
SY program as well as accepted for admission by the NLS pro-
gram. The normal criteria for admission to each program apply. If
a student only meets the admission criteria of one program, the
applicant must apply separately to that single degree program and
is then required to meet the graduation requirements of that pro-
gram.

Academic standing

Grade point averages (GPA) in the two programs are computed
separately. To continue with the dual GEP-
SY/NLS degrees, students
must meet the academic standards in each program. Students fail-
ing in one program but meeting academic standards in the other
may reapply for admission to the degree program in which the stu-
dent is able to meet the academic standards and may transfer in
completed course work that is applicable to that program.

Course Progression

Students are required to work consistently toward both degrees.
Students will be assigned one advisor from each program to support
students' successful course progression, and students are expected
to meet with each advisor at least once each semester to ensure
both programs are being completed in a timely manner.

Graduation Criteria

Students in the GEP-
SY/NLS program must complete the the-
sis required for the GEP-
SY program. The thesis committee will be
chaired by a member of the graduate faculty from the psychology
department. One member of the thesis committee will be from
the graduate faculty of the NLS program. The choice of thesis topic
should be a collaborative decision between the student and the
thesis committee and should be a topic relevant to both psychology
and nonprofit leadership. Successful completion of the GEP-
SY the-
sis will fulfill the comprehensive examination requirement for the
NLS degree. The degrees in GEP-
SY and NLS must be awarded at the
same time.

MS in Nonprofit Leadership Studies and MA/MS in General Experimental Psychology

Total Course Requirements..... 51 hours

General Experimental Psychology Core Courses..... 27 hours Foundations of Behavior

PSY	610	Graduate Seminar in General Experimental Psychology
PSY	621	Biological Bases of Behavior
PSY	622	Cognitive Bases of Behavior
PSY	623	Social Bases of Behavior
PSY	624	Developmental Bases of Behavior ¹

Research Foundations

PSY	651	Correlational Research Design and Statistics
PSY	652	Univariate Research Design and Statistics

Thesis

PSY	698	Thesis ^R
PSY	699	Thesis ^R

Other Degree Requirements

Oral defense and examination of the thesis.
Competency in an approved foreign language (M.A. only).

Nonprofit Leadership Core Courses..... 24 hours

NLS	600	The Nonprofit Sector and Civil Society
NLS	601	Seminar on Nonprofit Organizations
NLS	602	Financial Resource Management and Development for Nonprofit Organizations
NLS	625	Nonprofit Organization Development, Management, and Leadership
NLS	665	Policy, Legal Issues, and Advocacy for Social Change in Nonprofit Organizations
NLS	675	Social Entrepreneurship
NLS	685	Seminar on Leadership Development
ADM	630	Methods of Research

CERTIFICATE:

Research Design and Analysis

CIP 42.2799

The Certificate in Research Design and Analysis is designed to
complement traditional, disciplinary graduate and professional
degree programs. The certificate program will enable students and
professionals in fields like psychology, business, education, health,
science, government, and technology to enhance their skills in col-
lecting and analyzing data, interpreting and making decisions based
on statistical methods and techniques, and applying data analysis
tools to solving problems in a variety of areas.

Requirements for Admission

Persons who hold an undergraduate degree, graduate degree, or
professional degree or are currently enrolled in a graduate or pro-
fessional degree program may apply for the Certificate in Research
Design and Analysis program.

Applicants must comply with the Murray State University require-
ments (see *Graduate Admissions*).

Total Course Requirements..... 12-13 hours

PSY	651	Correlational Research Design and Statistics
PSY	652	Univariate Research Design and Statistics
PSY	684	Directed Individual Study

and one course chosen from the following:

CIS	643	Advanced Business Analytics with SAS
ECO	680	Quantitative Methods of Economics and Business
ECO	685	Econometrics
GSC	612	Remote Sensing
GSC	621	Geographic Information Systems
MAT	667	Introduction to Time Series Analysis
OSH	637	Biostatistics and Probability
OSH	658	Introduction to Occupational Epidemiology
PSY	608	Applied Research Design and Analysis
PSY	655	Topical Seminar in Research Design and Analysis
PSY	688	Multivariate Research Design and Statistics



Jesse D. Jones College of Science, Engineering and Technology

10

Steve Cobb, Dean
201A Collins Center for Industry and Technology
(270) 809-2888

DEPARTMENTS

Biological Sciences	172	Mathematics and Statistics	204
Chemistry	182	Occupational Safety and Health	208
Geosciences	186		
Institute of Engineering	193		

PROGRAMS

UNDERGRADUATE

Associate

Civil Engineering Technology
Industrial Technology

Baccalaureate

Applied Physics
Biology
Chemistry
Civil Engineering Technology
Electromechanical Engineering Technology
Engineering Graphics and Design
Engineering Physics
Geosciences
Manufacturing Engineering Technology
Mathematics
Occupational Safety and Health
Physics
Telecommunications Systems Management
Wildlife and Conservation Biology

Minor

Actuarial Science	Industrial and Engineering Technology
Anthropology	Technology
Applied Statistics	Mathematical Biology
Archaeology	Mathematics
Astronomy	Occupational Safety and Health
Biology	Physics
Chemistry	Social Science
Earth Science	Sustainability Studies
Engineering Science	Telecommunications Systems Management
Environmental Geology	
Environmental Technology	
Geographic Information Science	

Certificate

Geographic Information Science

GRADUATE

Master's

Applied Engineering and Technology Management
Biology
Chemistry
Geosciences
Mathematics
Occupational Safety and Health
Sustainability Science
Telecommunications Systems Management

Certificate

Geospatial Data Science

Jesse D. Jones College of Science, Engineering and Technology

The departments in the Jesse D. Jones College of Science, Engineering and Technology have a proud history of preparing students for careers in biology, chemistry, engineering, engineering technology, geosciences, industrial technology, mathematics, occupational safety and health, physics, statistics, sustainability science, and telecommunications.

The college's faculty are talented educators who make quality instruction a priority. They make themselves accessible to students and help them achieve their academic, professional, and career goals. Faculty continuously refine the curriculum which ensures that our degree programs are current and timely in addressing the needs and expectations of our students. The faculty are also recognized scholars who carry out interesting research projects with funding from a variety of national, state, and private agencies. Like some of the finest liberal arts colleges in the country, we use our research program to enhance the learning environment for our undergraduate and graduate students. Many Murray State students have the opportunity to work side-by-side with faculty trying to solve some of the most interesting questions facing the scientific community today. Our students, both undergraduate and graduate, have published the results of their research in national journals and presented their work at regional and national conferences. In addition, students at Murray State have the opportunity to gain valuable hands-on experience through our co-op and internship programs. These kinds of experiences give our graduates the edge they need when applying for graduate school, professional school, or when entering the job market.

Our students study in comfortable, modern facilities, including the new Gene W. Ray science campus. The departments of biology and chemistry are housed in two beautiful state-of-the-art buildings, the Biology Building and Jesse D. Jones Hall. A third building housing the engineering and physics programs completes this attractive campus. The college also enjoys excellent facilities in the Collins Center for Industry and Technology, Faculty Hall, and Blackburn Science Building.

Murray State's designation as a Commonwealth Center of Excellence for Reservoir Research and the Program of Distinction in Telecommunication Systems Management adds to our distinctiveness both in the state and in the national and international academic communities.

Your academic experience in our college will be different from that found at many universities. The student-centered faculty, excellent facilities, and attractive curricular tracks offered here will provide you with an education that you will value throughout your life and career.

Programs and Facilities

Program of Distinction in Telecommunication Systems Management. The telecommunications field, which incorporates networks of leading-edge technologies such as fiber optic systems, satellites, wireless, telephony and cable, is rapidly changing and growing. The changes taking place in this field are dramatically influencing how individuals and institutions communicate and how they conduct business. Technological advances in the telecommunications area have profoundly affected government, retail, finance, health care, education, industry and entertainment sectors. Murray State's exciting program in telecommunications systems management is helping prepare our graduates to become the leaders in this important emerging field.

Watershed Studies Institute. Murray State University hosts one of the five designated Centers of Excellence in the Commonwealth of Kentucky. With funding support from agencies like the National Science Foundation, Department of Energy, Environmental Protection Agency, Tennessee Valley Authority and the Kentucky Department for Natural Resources, Murray State's research program in ecosystem sciences is both nationally and internationally recognized.

The Watershed Studies Institute provides outstanding research opportunities for scientists from around the world to study the region's unique environment. The Institute also provides Murray State University undergraduate and graduate students with an opportunity to engage in hands-on research with faculty who are at the vanguard of ecosystem science.

Three distinct components make up the Institute: the Hancock Biological Station (HBS), the Mid-America Remote Sensing Center (MARC), and the Chemical Services Laboratory (CSL). The Institute's primary mission is to provide the infrastructure, support, and intellect for education and research of watershed ecosystems.

• **Mid-America Remote Sensing Center.** Since the late 1970s when Murray State was declared the Commonwealth's technology transfer agent for NASA's Landsat satellite, MARC has distinguished itself in the area of remote sensing and Geographic Information Systems (GIS). Students from around the world have received classroom instruction and have been mentored in research by the MARC Associates, a group of faculty and staff with expertise in a wide variety of application areas, many of which are focused on natural and cultural resource areas including land cover mapping, archaeological site analysis, mineral exploration, water quality and wildlife habitat mapping, emergency preparedness, and demographic modeling. Research projects have been conducted for local, state, and federal agencies, the private sector, and the university. MARC provides training in remote sensing and GIS and acts as a resource center for those within and beyond the university. MARC is one component of the Watershed Studies Institute and, as such, maintains a GIS for the lower reaches of the Kentucky Lake drainage basin.

• **Hancock Biological Station.** A year-round research and teaching facility located on beautiful Kentucky Lake, the HBS is one of the finest centers of its kind in the Midwest. HBS acts as the field research focal point for the Watershed Studies Institute and for the Ecological Consortium of Mid-America. The facilities, which include both faculty and student housing, are available year-round to all scientists interested in ecosystem research. Hancock Biological Station contains state-of-the-art laboratories for aquatic chemistry, scanning electron microscopy, ecology, wildlife and fisheries. A full-time technical staff operates the facilities. Field-oriented classes at the station attract students from around the nation. A wide variety of formal classes are offered each summer. These may include ecology, ornithology, limnology, field botany, stream ecology, reservoir ecology, scanning electron microscopy and vertebrate ecology. Independent research topics provide opportunities for individualized instruction and close interactions with researchers. Classes are open to undergraduates, graduate students, teachers and others interested in enhancing their knowledge of ecology, ecosystems and the natural environment.

• **Chemical Services Laboratory.** The Chemical Services Laboratory offers analytical laboratory services for industries and institutions in the west Kentucky and greater Ohio Valley region. Services include analyses for environmental chemistry, ecotoxicology, trace element, and acid-deposition studies. In addition to serving the needs of the region, this laboratory offers an opportunity for instruction and training at both the undergraduate and graduate levels.

Note: L=literature; R=research; PT=professional training. See page 58.

Sustainability Studies Minor

The Sustainability Studies minor is an interdisciplinary exploration of sustainability issues focusing on the environment and/or sustainable development. Integrating knowledge and experiences from the sciences, engineering, agriculture, business, humanities, and arts, the minor is designed to complement any major area of study by focusing on ecological health, sustainable agriculture, and economic sustainability.

MINOR: Sustainability Studies

Total Minor Requirements 22-24 hrs

Required Courses 10 hrs

BIO 103 Saving Planet Earth
 ENG 371 Literature and the Environment
 IDC 150 Issues in Sustainability Studies
 PHI 376 Environmental Ethics

Restricted Electives..... 6 hrs

Choose two of the following:

AGR 353 World Food, Agriculture and Society
 CET 284 Sustainable Design and Construction
 REC 450 Recreational Use of Natural Resources

Unrestricted Electives..... 6-8 hrs

Chosen from the following with program coordinator approval:
 AGR 345, 378, 455; ANT 320; ARC 314; BIO 112, 330, 506, 578; CHE 502, 513; ECO 345, 410; ENT 286; GSC 424, 507; PSY 373; SOC 325, 380, 455.

Note: Six hours of the minor must be upper-level courses.

Sustainability Science

Graduate Coordinator - Howard Whiteman
 (270) 809-6753

The Sustainability Science program is an interdisciplinary master's program within the Jones College of Science, Engineering, and Technology designed to prepare students for careers in sustainability or closely related fields that have sustainability needs. The course of study allows specialization in one of four tracks: Agricultural Sustainability, Environmental Sustainability, Industrial and Technical Sustainability, and Sustainability Education. All students must complete a core curriculum, two restricted electives, and advanced courses in their area of interest.

Requirements for Admission

Applicants must meet all Murray State University requirements (see *Graduate Admissions*). Additional requirements for unconditional and conditional admission are listed below.

Unconditional

- Baccalaureate degree in science-related field.
- At least a 3.0 undergraduate GPA.
- Composite GRE score of at least 297 (148 verbal + 149 quantitative).
- International students: TOEFL score of at least 527; iBT TOEFL of 71; or IELTS score of 6.0.

Conditional

Recommendation of the advisory committee; international students must meet minimum testing scores described above.

Master of Science Sustainability Science

CIP 30.3301

Total Course Requirements 30-32 hours

Core Requirements..... 17 hrs

CET 687 Sustainable Environmental Technology
 GSC 601 Understanding Scientific Communication
 GSC 607 Land Use Planning
 WSC 601 Seminar in Sustainability Science
 WSC 693 Sustainability Practicum I¹
 WSC 694 Sustainability Practicum II¹

Restricted Electives..... 6-7 hrs

Choose two of the following:

AGR 643 Sustainable Agriculture
 ARC 615 Environmental Archaeology
 BIO 665 Biogeochemistry
 STA 665 Applied Statistics I

Unrestricted Electives..... 6-9 hrs

Choose elective hours from one of the following emphasis areas:

Agricultural Sustainability

AGR 636 Seminar in International Agriculture Systems
 AGR 649 Weeds and Their Control
 AGR 652 Agricultural Policy
 AGR 655 Advanced Soil Fertility
 AGR 661 Sustainable Agriculture
 AGR 662 Principles of Agroecology
 AGR 671 Advanced Precision Agriculture
 AGR 674 Agricultural Irrigation and Water Systems
 CHE 604 Fundamentals of Toxicology
 CHE 613 Environmental Chemistry
 GSC 612 Remote Sensing
 GSC 621 Geographic Information Systems

Environmental Sustainability

AGR 662 Principles of Agroecology
 ARC 610 Landscape Archaeology
 ARC 615 Environmental Archaeology
 BIO 635 Biogeography
 BIO 642 Watershed Ecology
 BIO 665 Biogeochemistry
 BIO 675 Invasion Ecology
 BIO 678 Conservation Biology
 BIO 685 Restoration Ecology
 BIO 690 Disturbance Ecology
 CHE 604 Fundamentals of Toxicology
 CHE 613 Environmental Chemistry
 GSC 612 Remote Sensing
 GSC 621 Geographic Information Systems

Industrial and Technical Sustainability

CET 655 Environmental Regulatory Affairs
 CET 681 Pollution Assessment and Control
 CET 682 Industrial Ecology
 CET 686 Environmental Assessment and Remediation
 CET 687 Sustainable Environmental Technology
 CET 688 Waste Minimization and Pollution Prevention
 CHE 600 Chemistry of Fuels
 CHE 604 Fundamentals of Toxicology
 CHE 613 Environmental Chemistry
 IET 619 Industrial Energy Management

- OSH 622 Toxicology of Industrial Materials
- OSH 646 Fundamentals of Risk Control
- OSH 687 Wastewater Treatment
- OSH 689 Solid and Hazardous Waste Treatment

Sustainability Education

- EDU 615 Introduction to Environmental Education
- EDU 664 Techniques of Teaching Environmental Education
- EDU 665 Field Experiences in Environmental Education
- EDU 667 International Environmental Education
- EDU 668 Agriculture and the Environment in the Classroom

Department of Biological Sciences

2112 Biology Building
270-809-2786

Chair: Claire Fuller. **Faculty:** Arkov, Beckers, Canning, Derting, Flinn, Gagnon, He, Nakamura, Saar, Spier, Sullivan-Beckers, Trzepacz, Weinberger, White, Whiteman, Wright, ZeRuth.

The Department of Biological Sciences offers baccalaureate programs with a major in biology (pre-medicine, pre-dentistry, pre-optometry, pre-physical therapy, pre-physician assistant, molecular biology, fisheries, aquatic biology, secondary certification, and watershed science tracks are available) or an area of concentration in wildlife and conservation biology. These programs are designed to prepare students for professional or graduate work in the life sciences, such as the M.S. in biology offered by the department. Curricula provide students with a basic core of science courses plus advanced biology courses in their particular field of interest. The department also offers a two-year, pre-professional program in pharmacy and a minor in biology.

The department has offices, classrooms, laboratories, and research facilities in the Biology Building and on the second floor of the newly constructed Engineering and Physics Building. The department also has two off-campus resources which are utilized in field-oriented teaching and research programs. One of these, Murphy's Pond, is a 300-acre preserve in Hickman County with one of the few remaining cypress swamps in western Kentucky. The other, Hancock Biological Station, is a modern classroom/laboratory complex located on the western shore of Kentucky Lake, 17 miles from the main campus. The station is ideally located in an area of diverse aquatic habitats and is the focal point for the reservoir research on Kentucky Lake and Lake Barkley.

MAJOR:

Biology

Bachelor of Science/Bachelor of Arts CIP 26.0101

University Studies Requirements¹..... 38-44 hrs
(See *Academic Degrees and Programs.*)

University Studies selections must include:

•Scientific Inquiry, Methodologies, and Quantitative Skills

- CHE 201 General College Chemistry
- CHE 202 General Chemistry and Qualitative Analysis
- MAT 150 Algebra and Trigonometry
- or*
- MAT 250 Calculus and Analytic Geometry I

•University Studies Electives

- PHY 130 General Physics I
- PHY 131 General Physics I Laboratory

- or*
- PHY 235 Mechanics, Heat and Wave Motion
- PHY 236 Mechanics, Heat and Wave Motion Laboratory

Required Courses 41 hrs

- BIO 100T Transitions
- BIO 115 The Cellular Basis of Life
- BIO 216 Biological Inquiry and Analysis¹
- BIO 221 Zoology: Animal Form and Function¹
- BIO 222 Botany: Plant Form and Function¹
- BIO 305 Introduction to Evolutionary Principles
- BIO 330 Principles of Ecology
- BIO 333 Genetics
- BIO 499 Senior Biology Seminar
- BIO electives, 300-level or above (13 hrs)²

Co-Requirements for Biology Major..... 7-8 hrs

Group 1:

- CHE 312 Organic Chemistry I
- CHE 320 Organic Chemistry II

or Group 2:

- CHE 210 Brief Organic Chemistry^{1,3}
- CHE 215 Chemistry Laboratory^{1,3}
- CHE 330 Basic Biochemistry

Required Minor⁴ 3-21 hrs

Unrestricted Electives..... 17-28 hrs

Total Curriculum Requirements 120 hrs

¹May be used to fulfill University Studies requirements.
²A maximum of three hours total from BIO 483, 484 and BIO 491, 492, 493, 494 may be used. BIO 488 and 489 will not count here.
³This course does not apply toward the chemistry minor.
⁴Chemistry co-requirements may apply toward the requirements for a minor in chemistry.

AREA:

Biology/Biomedical Sciences Track¹

Bachelor of Science/Bachelor of Arts CIP 26.0101

University Studies Requirements 42-43 hrs
(See *Academic Degrees and Programs.*)

University Studies selections must include:

•Scientific Inquiry, Methodologies, and Quantitative Skills

- CHE 201 General College Chemistry
- MAT 250 Calculus and Analytic Geometry I
- PHY 130 General Physics I²
- PHY 131 General Physics I Laboratory²

•University Studies Electives

- CHE 202 General Chemistry and Qualitative Analysis²

Required Courses 47 hrs

- BIO 100T Transitions
- BIO 115 The Cellular Basis of Life
- BIO 216 Biological Inquiry and Analysis³
- BIO 221 Zoology: Animal Form and Function^{2,3}
- or*
- BIO 222 Botany: Plant Form and Function³
- BIO 290 Biomedical Research I
- BIO 300 Introductory Microbiology
- BIO 321 Cell Biology: Mechanisms⁴
- or*
- BIO 323 Cell Biology: Systems⁴
- BIO 322 Animal Physiology

BIO 333	Genetics
BIO 388	Biomedical Research II
BIO 389	Biomedical Research III
BIO 438	Biomedical Research IV
BIO 439	Biomedical Research V
BIO 499	Senior Biology Seminar
BIO 533	Molecular Genetics

Co-Requirements for Area 18 hrs

CHE 312	Organic Chemistry I
CHE 320	Organic Chemistry II
CHE 530	Fundamentals of Biochemistry I
CHE 540	Fundamentals of Biochemistry II
PHY 132	General Physics II ^{2,3}
PHY 133	General Physics II Laboratory ^{2,3}

Restricted Electives..... 15 hrs

Choose from the following:

BIO 308	Ethics in Biology ³
BIO 320	Comparative Vertebrate Anatomy
BIO 321	Cell Biology: Mechanisms ⁴
<i>or</i>	
BIO 323	Cell Biology: Systems ⁴
BIO 421	Vertebrate Histology
BIO 501	Immunology
BIO 504	Medical Cell Biology
BIO 521	Cell Biology Laboratory
BIO 528	Neurobiology
BIO 534	Molecular Genetics Laboratory
BIO 597	Topics in Advanced Molecular Biology
CHE 305	Analytical Chemistry
CHE 325	Organic Chemistry II Laboratory
CHE 403	Basic Physical Chemistry
PHY 370	Introduction to Modern Physics

Total Curriculum Requirements 120 hrs

¹A freshman must have a math ACT score of 25 or higher to declare a major in Biomedical Sciences. However, any student may apply to the program and must have completed 32 credit hours with a GPA of 3.0, and must have taken BIO 115, 216, CHE 201, 202 and MAT 250 with grades of B or better. Any student wishing to seek this degree (whether declared as a freshman or not) must apply to the Biomedical Sciences committee for admission into the program.

²Required for area if not taken as a University Studies elective.

³May be used to fulfill University Studies requirements.

⁴Required for area as either Core choice or as a Restricted Elective.

MAJOR:

Biology/Molecular Biology Track

Bachelor of Science/Bachelor of Arts CIP 26.0101

University Studies Requirements 42-43 hrs
(See *Academic Degrees and Programs.*)

University Studies selections must include:

•Scientific Inquiry, Methodologies, and Quantitative Skills

CHE 201	General College Chemistry
MAT 250	Calculus and Analytic Geometry I
PHY 130	General Physics I
PHY 131	General Physics I Laboratory
<i>or</i>	
PHY 235	Mechanics, Heat and Wave Motion <i>and</i>
PHY 236	Mechanics, Heat and Wave Motion Laboratory

•University Studies Electives

CHE 202	General Chemistry and Qualitative Analysis
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Required Courses 37 hrs

BIO 100T	Transitions
BIO 115	The Cellular Basis of Life
BIO 216	Biological Inquiry and Analysis ¹
BIO 221	Zoology: Animal Form and Function ¹
BIO 222	Botany: Plant Form and Function ¹
BIO 300	Introductory Microbiology
BIO 321	Cell Biology: Mechanisms
<i>or</i>	
BIO 323	Cell Biology: Systems
BIO 333	Genetics
BIO 499	Senior Biology Seminar
BIO 533	Molecular Genetics
BIO 534	Molecular Genetics Laboratory
BIO 597	Topics in Advanced Molecular Biology

Co-Requirements for Biology Major²..... 21 hrs

CHE 312	Organic Chemistry I
CHE 320	Organic Chemistry II
CHE 530	Fundamentals of Biochemistry I
CHE 540	Fundamentals of Biochemistry II
PHY 132	General Physics II ¹
PHY 133	General Physics II Laboratory ¹
<i>or</i>	
PHY 255	Electricity, Magnetism and Light ¹ <i>and</i>
PHY 256	Electricity, Magnetism and Light Laboratory ¹
STA 554	Statistical Methods

Required Minor² 0-21 hrs

Unrestricted Electives 11-20 hrs

Total Curriculum Requirements 120 hrs

¹May be used to fulfill University Studies requirements.

²Chemistry co-requirements may apply toward chemistry minor.

MAJOR:

Biology/Pre-Medical/Pre-Dental Track

Bachelor of Science/Bachelor of Arts CIP 26.0101

University Studies Requirements 42-43 hrs
(See *Academic Degrees and Programs.*)

University Studies selections must include:

•Scientific Inquiry, Methodologies, and Quantitative Skills

CHE 201	General College Chemistry
MAT 150	Algebra and Trigonometry
<i>or</i>	
MAT 250	Calculus and Analytic Geometry I
PHY 130	General Physics I
PHY 131	General Physics I Laboratory
<i>or</i>	
PHY 235	Mechanics, Heat and Wave Motion <i>and</i>
PHY 236	Mechanics, Heat and Wave Motion Laboratory

•Social and Self-Awareness and Responsible Citizenship

PSY 180	General Psychology (<i>recommended</i>)
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•University Studies Electives

CHE 202	General Chemistry and Qualitative Analysis
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Required Courses 40 hrs

BIO 100T	Transitions
BIO 115	The Cellular Basis of Life
BIO 216	Biological Inquiry and Analysis ¹
BIO 221	Zoology: Animal Form and Function ¹
BIO 222	Botany: Plant Form and Function ¹

- BIO 321 Cell Biology: Mechanisms
or
- BIO 323 Cell Biology: Systems
- BIO 322 Animal Physiology
- BIO 333 Genetics
- BIO 499 Senior Biology Seminar
- BIO electives, 300-level or above (12 hrs)²

Co-Requirements for Biology Major..... 12 hrs

- CHE 312 Organic Chemistry I
- CHE 320 Organic Chemistry II
- PHY 132 General Physics II¹
- PHY 133 General Physics II Laboratory¹
or
- PHY 255 Electricity, Magnetism and Light¹ *and*
- PHY 256 Electricity, Magnetism and Light Laboratory¹

Required Minor³ 3-21 hrs

Unrestricted Electives⁴ 8-21 hrs

Total Curriculum Requirements 120 hrs

- ¹May be used to fulfill University Studies requirements.
- ²A maximum of three hours total from BIO 483, 484 and BIO 491, 492, 493, 494 may be used. BIO 488 and 489 will not count here.
- ³Chemistry co-requirements may apply toward chemistry minor.
- ⁴ENG 204 strongly recommended. Electives other than ENG 204 must be at the 300-level or above.

MAJOR:

Biology/Pre-Optometry Track

Bachelor of Science/Bachelor of Arts CIP 26.0101

University Studies Requirements 41-42 hrs

(See *Academic Degrees and Programs*.)

University Studies selections must include:

•Scientific Inquiry, Methodologies, and Quantitative Skills

- MAT 250 Calculus and Analytic Geometry I
- PHY 130 General Physics I
- PHY 131 General Physics I Laboratory
and
- PHY 132 General Physics II
- PHY 133 General Physics II Laboratory
or
- PHY 235 Mechanics, Heat and Wave Motion
- PHY 236 Mechanics, Heat and Wave Motion Laboratory
and
- PHY 255 Electricity, Magnetism and Light
- PHY 256 Electricity, Magnetism and Light Laboratory

•Social and Self-Awareness and Responsible Citizenship

PSY 180 General Psychology

•University Studies Electives

CHE 201 General College Chemistry

Required Courses 41 hrs

- BIO 100T Transitions
- BIO 115 The Cellular Basis of Life
- BIO 216 Biological Inquiry and Analysis¹
- BIO 221 Zoology: Animal Form and Function¹
- BIO 222 Botany: Plant Form and Function¹
- BIO 300 Introductory Microbiology
- BIO 322 Animal Physiology
- BIO 333 Genetics
- BIO 499 Senior Biology Seminar
- BIO electives, 300-level or above (12 hrs)²

Co-Requirements for Biology Major..... 23 hrs

- CHE 202 General Chemistry and Qualitative Analysis¹
- CHE 312 Organic Chemistry I
- CHE 320 Organic Chemistry II
- CHE 330 Basic Biochemistry
or
- CHE 530 Fundamentals of Biochemistry I
- ENG 204 Advanced Expository Writing¹
- STA 135 Introduction to Probability and Statistics¹

Required Minor³ 0-21 hrs

Unrestricted Electives 0-15 hrs

Total Curriculum Requirements 120 hrs

- ¹May be used to fulfill University Studies requirements.
- ²A maximum of three hours total from BIO 483, 484 and BIO 491, 492, 493, 494 may be used. BIO 488 and 489 will not count here.
- ³Chemistry co-requirements may apply toward chemistry minor.

MAJOR:

Biology/Pre-Physical Therapy Track

Bachelor of Science/Bachelor of Arts CIP 26.0101

University Studies Requirements 42-43 hrs

(See *Academic Degrees and Programs*.)

University Studies selections must include:

•Scientific Inquiry, Methodologies, and Quantitative Skills

- CHE 201 General College Chemistry
- MAT 150 Algebra and Trigonometry
or
- MAT 250 Calculus and Analytic Geometry I
- PHY 130 General Physics I
- PHY 131 General Physics I Laboratory

•Social and Self-Awareness and Responsible Citizenship

PSY 180 General Psychology

•University Studies Electives

CHE 202 General Chemistry and Qualitative Analysis

Required Courses 39-44 hrs

- BIO 100T Transitions
- BIO 115 The Cellular Basis of Life
- BIO 216 Biological Inquiry and Analysis¹
- BIO 120 Scientific Etymology
- BIO 221 Zoology: Animal Form and Function¹
- BIO 222 Botany: Plant Form and Function¹
- BIO 220 Clinical Terminology
- BIO 300 Introductory Microbiology
or
- BIO 321 Cell Biology: Mechanisms
- BIO 320 Comparative Vertebrate Anatomy
or
- BIO 227 Human Anatomy
and
- BIO 228 Human Anatomy Laboratory
- BIO 322 Animal Physiology
- BIO 333 Genetics
- BIO 499 Senior Biology Seminar
- BIO electives, approved by advisor, 300-level or above (9 hrs)²
(If BIO 320 is taken, only four hours of 300-level or above.)

Co-Requirements for Biology Major..... 24-25 hrs

- BIO 450 Exercise Physiology
- CHE 312 Organic Chemistry I
- CHE 320 Organic Chemistry II
- PSY 300 Principles and Methods of Statistical Analysis
- or*
- STA 135 Introduction to Probability and Statistics¹
- PHY 132 General Physics II¹
- PHY 133 General Physics II Laboratory¹
- PSY 260 Lifespan Development
- SOC 133 Introduction to Sociology¹

Required Minor³ 3-21 hrs

Unrestricted Electives..... 0-12 hrs

Total Curriculum Requirements 120 hrs

- ¹May be used to fulfill University Studies requirements.
- ²A maximum of three hours total from BIO 483, 484 and BIO 491, 492, 493, 494 may be used. BIO 488 and 489 will not count here.
- ³Chemistry co-requirements may apply toward chemistry minor.

MAJOR:

Biology/Pre-Physician Assistant Track

Bachelor of Science/Bachelor of Arts CIP 26.0101

University Studies Requirements 42 hrs

(See *Academic Degrees and Programs.*)

University Studies selections must include:

•Scientific Inquiry, Methodologies, and Quantitative Skills

- CHE 201 General College Chemistry
- MAT 150 Algebra and Trigonometry
- or*
- MAT 250 Calculus and Analytic Geometry I
- PHY 130 General Physics I
- PHY 131 General Physics I Laboratory

•Social and Self-Awareness and Responsible Citizenship

- PSY 180 General Psychology
- SOC 133 Introduction to Sociology
- or*
- SOC 231 Social Problems

•University Studies Electives

- CHE 202 General Chemistry and Qualitative Analysis

Required Courses 40 hrs

- BIO 100T Transitions
- BIO 115 The Cellular Basis of Life
- BIO 120 Scientific Etymology
- BIO 216 Biological Inquiry and Analysis¹
- BIO 220 Clinical Terminology
- BIO 221 Zoology: Animal Form and Function¹
- BIO 222 Botany: Plant Form and Function¹
- BIO 300 Introductory Microbiology
- BIO 321 Cell Biology: Mechanisms
- or*
- BIO 323 Cell Biology: Systems
- BIO 333 Genetics
- BIO 499 Senior Biology Seminar
- BIO electives, 300-level or above (10 hrs)² [*BIO 488 and 489 will not count here*]

Co-Requirements for Biology Major..... 18-20 hrs

- BIO 227 Human Anatomy
- BIO 228 Human Anatomy Laboratory

- BIO 229 Human Physiology
- BIO 230 Human Physiology Laboratory
- CHE 210 Brief Organic Chemistry
- and*
- CHE 215 Organic Chemistry Laboratory
- or*
- CHE 312 Organic Chemistry I
- PSY 300 Principles and Methods of Statistical Analysis
- or*
- STA 135 Introduction to Probability and Statistics¹
- PSY 260 Lifespan Development

Required Minor³ 6-21 hrs

Unrestricted Electives..... 0-14 hrs

Total Curriculum Requirements 120 hrs

- ¹May be used to fulfill University Studies requirements.
- ²A maximum of three hours total from BIO 483, 484 and BIO 491, 492, 493, 494 may be used. BIO 488 and 489 will not count here.
- ³Chemistry co-requirements may apply toward chemistry minor.

AREA:

Biology/Fisheries and Aquatic Biology Track¹

Bachelor of Science/Bachelor of Arts CIP 26.0101

University Studies Requirements 43 hrs

(See *Academic Degrees and Programs.*)

University Studies selections must include:

•Scientific Inquiry, Methodologies, and Quantitative Skills

- CHE 201 General College Chemistry
- MAT 150 Algebra and Trigonometry
- or*
- MAT 250 Calculus and Analytic Geometry I
- PHY 130 General Physics I
- PHY 131 General Physics I Laboratory

•Social and Self-Awareness and Responsible Citizenship

One of the following:

- BIO 103 Saving Planet Earth
- BIO 308 Ethics in Biology
- COM 260 Communication Ethics
- PHI 202 Ethics
- POL 140 American National Government

•University Studies Electives

- STA 135 Introduction to Probability and Statistics
- and one of the following:*
- COM 131 Interpersonal Communication
- ENG 224 Writing in the Professions

Required Courses 71-79 hrs

- BIO 100T Transitions
- BIO 115 The Cellular Basis of Life¹
- BIO 216 Biological Inquiry and Analysis
- BIO 221 Zoology: Animal Form and Function
- BIO 222 Botany: Plant Form and Function
- BIO 240 Biological Applications of GIS
- or*
- GSC 202 Introduction to GIS
- BIO 330 Principles of Ecology
- BIO 333 Genetics
- BIO 499 Senior Biology Seminar
- BIO 549 Fisheries Techniques
- BIO 570 Ichthyology

- BIO 578 Conservation Biology
or
- BIO 584 Wildlife Policy and Administration
- BIO 582 Fisheries Management
- BIO 586 Limnology
or
- BIO 588 Reservoir Ecology
- CHE 202 General Chemistry and Qualitative Analysis
- CHE 210 Brief Organic Chemistry
- CHE 215 Brief Organic Chemistry Laboratory

and four of the following not selected previously:

- BIO 305 Introduction to Evolutionary Principles
- BIO 467 Parasitology
- BIO 493 Undergraduate Research III
- BIO 542 Watershed Ecology
- BIO 546 Stream Ecology
- BIO 561 Freshwater Invertebrates
- BIO 563 Aquatic Entomology
- BIO 568 Wetland Ecology
- BIO 572 Herpetology
- BIO 573 Ornithology
- BIO 574 Mammalogy
- BIO 578 Conservation Biology
- BIO 584 Wildlife Policy and Administration
- BIO 586 Limnology
- BIO 587 Freshwater Biology
- BIO 588 Reservoir Ecology
- BIO 595 Internship

and 3-5 credits from the following:

- AGR 328 Statistics for Food and Agriculture
- AGR 345 Soil Science
and
- AGR 346 Soil Science Lab
- CHE 330 Biochemistry
- CSC 101 Introduction to Problem Solving using Computers
- GSC 125 Weather and Climate
- GSC 199 Earth Science
- GSC 200 Introduction to Oceanography
- GSC 210 Hydrology
- GSC 303 Introduction to Water Science
- GSC 305 Introduction to Cartography
- GSC 312 Introduction to Remote Sensing
- GSC 314 Sediments and Soils
- GSC 424 Conservation and Environmental Geosciences
- GSC 512 Remote Sensing
- GSC 521 Geographic Information Systems
- MAT 250 Calculus and Analytic Geometry I¹
- PHY 235 Mechanics, Heat and Wave Motion
- PHY 255 Electricity, Magnetism, and Light
- PSY 300 Principles and Methods of Statistical Analysis
- STA 235 Introduction to Probability and Statistics

Unrestricted Electives..... 0-6 hrs

Total Curriculum Requirements 120 hrs

¹Upon completion of the Fisheries and Aquatic Biology track, students can be certified by the American Fisheries Society (if MAT 250 is taken as part of the program.)

MAJOR:

Biology/Secondary Certification (Grades 8-12) Track

Bachelor of Science/Bachelor of Arts

CIP 26.0101

University Studies Requirements 43-44 hrs
(See *Academic Degrees and Programs.*)

University Studies selections must include:

•Scientific Inquiry, Methodologies, and Quantitative Skills

- CHE 201 General College Chemistry
- CHE 202 General Chemistry and Qualitative Analysis
- MAT 150 Algebra and Trigonometry

•Social and Self-Awareness and Responsible Citizenship

- EDP 260 Psychology of Human Development

•University Studies Electives

- EDU 103 Issues and Practices of American Education¹
- PHY 130 General Physics I²
- PHY 131 General Physics I Laboratory²

Note: Certification requires a grade of *B* or better in one English composition course and a *B* or better in a University Studies math course, public speaking, and EDU 103 or equivalent course. Additional requirements for admission to teacher education and student teaching must be met. See advisor and/or Office of Teacher Education Services for details.

Required Courses 38 hrs

- BIO 100T Transitions
- BIO 115 The Cellular Basis of Life
- BIO 216 Biological Inquiry and Analysis
- BIO 221 Zoology: Animal Form and Function
- BIO 222 Botany: Plant Form and Function
- BIO 300 Introductory Microbiology
- BIO 320 Comparative Vertebrate Anatomy
- BIO 322 Animal Physiology
- BIO 330 Principles of Ecology
- BIO 333 Genetics
- BIO 499 Senior Biology Seminar

Co-Requirements for Biology Major 11-12 hrs

Chemistry Requirement

Group 1:

- CHE 312 Organic Chemistry I
- CHE 320 Organic Chemistry II

or Group 2:

- CHE 210 Brief Organic Chemistry^{3,4}
- CHE 215 Brief Organic Chemistry Laboratory^{3,4}
- CHE 330 Basic Biochemistry

Physics Requirement

- PHY 132 General Physics II⁵
- PHY 133 General Physics II Laboratory⁵

Required for Secondary Certification⁶ 33 hrs

- EDU 303 Strategies of Teaching
- EDU 403 Structures and Foundations of Education
- EDU 405 Evaluation and Measurement in Education⁷
- REA 427 Teaching Content Area Literacy in the Secondary School
- SEC 420 Practicum in Secondary Schools⁷
- SEC 421 Student Teaching in the Secondary School
- SEC 422 Extended Practicum⁸
- SED 300 Educating Students with Disabilities

Required Minor⁹ 3-21 hrs

Total Curriculum Requirements 123-148 hrs⁹

¹With a grade of B or better.

²PHY 235 and 236 will also meet this requirement.

³May be used to fulfill University Studies requirements.

⁴This course does not apply toward the chemistry minor.

⁵PHY 255 and 256 will also meet this requirement.

⁶PRAXIS Exam required during last semester before student teaching. Certification requires a grade of B or better in one English composition course and a grade of B or better in a University Studies math course, public speaking, and EDU 103 or equivalent course. Additional requirements for admission to teacher education and student teaching must be met. See advisor and/or Office of Teacher Education Services for details.

⁷EDU 405 and SEC 420 must be taken together and two semesters before student teaching.

⁸Must be taken one semester before student teaching.

⁹Chemistry co-requirements may apply toward chemistry minor.

AREA:

**Wildlife and Conservation Biology/
Conservation Biology Track**

Bachelor of Science/Bachelor of Arts

CIP 03.0601

University Studies Requirements 42-43 hrs

(See *Academic Degrees and Programs*.)

University Studies selections must include:

•Global Awareness, Cultural Diversity, and the World's Artistic Traditions

POL 250 Introduction to International Relations

•Scientific Inquiry, Methodologies, and Quantitative Skills

STA 135 Introduction to Probability and Statistics

CHE 105 Introductory Chemistry

or

CHE 201 General College Chemistry

MAT 150 Algebra and Trigonometry

or

MAT 250 Calculus and Analytical Geometry I

•Social and Self-Awareness and Responsible Citizenship

ECO 231 Principles of Microeconomics

•University Studies Electives

BIO 216 Biological Inquiry and Analysis

ENG 224 Writing for the Professions

Core Courses¹ 62-65 hrs

BIO 100T Transitions

BIO 115 The Cellular Basis of Life

BIO 149 Introduction to Wildlife and Conservation Biology

BIO 221 Zoology: Animal Form and Function

BIO 222 Botany: Plant Form and Function

BIO 310 Vertebrate Natural History

BIO 330 Principles of Ecology

BIO 333 Genetics

BIO 380 Wildlife Techniques

BIO 499 Senior Biology Seminar

BIO 578 Conservation Biology

BIO 580 Principles of Wildlife Management

BIO 584 Wildlife Policy and Administration

BIO 554 Dendrology and Forest Conservation

and

BIO 350 Systematic Botany

or

BIO 553 Field Botany

and one of the following:

BIO 382 Scientific Communication for the Biologist

ENG 324 Technical Writing

and one of the following:

BIO 572 Herpetology

BIO 573 Ornithology

BIO 574 Mammalogy

and two of the following:

AGR 345 Soil Science

AGR 350 Soil Survey

AGR 455 Soil Management

CHE 210 Brief Organic Chemistry

and

CHE 215 Organic Chemistry Laboratory

GSC 199 Earth Science

GSC 314 Sediments and Soils

PHY 130 General Physics I

and

PHY 131 General Physics I Laboratory

Conservation Biology Track..... 17 hrs

GSC 202 Introduction to Geographical Information Science

and one of the following:

ECO 310 Issues in the Global Economy

ECO 345 Environmental Economics

and a minimum of ten hours from the following:²

ANT 320 Human Ecology

BIO 240 Biological Applications in GIS

BIO 300 Introductory Microbiology

BIO 308 Ethics in Biology

BIO 525 Biogeography

BIO 548 Principles of Managing Diseases in Wildlife

BIO 568 Wetland Ecology

BIO 570 Ichthyology

BIO 572 Herpetology

BIO 573 Ornithology

BIO 574 Mammalogy

BIO 577 Population and Conservation Genetics

BIO 581 Applied Wildlife Economics, Policy, and Administration

BIO 590 Disturbance Ecology

GSC 312 Introduction to Remote Sensing

GSC 350 Field Techniques in Geosciences

GSC 512 Remote Sensing

GSC 521 Geographic Information Systems

PLN 507 Land Use Planning

SOC 455 Environmental Sociology

Total Curriculum Requirements 121-125 hrs

¹Meets course requirements for Associate Wildlife Biologist Certification from The Wildlife Society.

²Only one course from BIO 572, 573, and 574 (if not taken as a core course) will count toward this requirement.

AREA:

**Wildlife and Conservation Biology/
Conservation Education and Interpretation Track**

Bachelor of Science/Bachelor of Arts CIP 03.0601

University Studies Requirements 42-43 hrs
(See *Academic Degrees and Programs.*)

University Studies selections must include:

•Scientific Inquiry, Methodologies, and Quantitative Skills

STA 135 Introduction to Probability and Statistics
CHE 105 Introductory Chemistry

or

CHE 201 General College Chemistry
MAT 150 Algebra and Trigonometry

or

MAT 250 Calculus and Analytical Geometry I

•Social and Self-Awareness and Responsible Citizenship

EDP 260 Psychology of Human Development
HIS 221 American Experience to 1865

or

HIS 222 American Experience since 1865

•University Studies Electives

BIO 216 Biological Inquiry and Analysis
ENG 224 Writing for the Professions

Core Courses¹ 62-65 hrs

BIO 100T Transitions
BIO 115 The Cellular Basis of Life
BIO 149 Introduction to Wildlife and Conservation Biology
BIO 221 Zoology: Animal Form and Function
BIO 222 Botany: Plant Form and Function
BIO 310 Vertebrate Natural History
BIO 330 Principles of Ecology
BIO 333 Genetics
BIO 380 Wildlife Techniques
BIO 499 Senior Biology Seminar
BIO 578 Conservation Biology
BIO 580 Principles of Wildlife Management
BIO 584 Wildlife Policy and Administration
BIO 554 Dendrology and Forest Conservation

and

BIO 350 Systematic Botany

or

BIO 553 Field Botany

and one of the following:

BIO 382 Scientific Communication for the Biologist
ENG 324 Technical Writing

and one of the following:

BIO 572 Herpetology
BIO 573 Ornithology
BIO 574 Mammalogy

and two of the following:

AGR 345 Soil Science
AGR 350 Soil Survey
AGR 455 Soil Management
CHE 210 Brief Organic Chemistry

and

CHE 215 Organic Chemistry Laboratory
GSC 199 Earth Science
GSC 314 Sediments and Soils
PHY 130 General Physics I
and
PHY 131 General Physics I Laboratory

Conservation Education and Interpretation Track 17 hrs

EDU 404 Teaching Environmental Education
REC 202 Recreation Program Planning

and a minimum of 13 hours from the following:²

BIO 240 Biological Applications in GIS
BIO 525 Biogeography
BIO 542 Watershed Ecology
BIO 546 Stream Ecology
BIO 561 Freshwater Invertebrates
BIO 563 Aquatic Entomology
BIO 564 Entomology
BIO 568 Wetland Ecology
BIO 570 Ichthyology
BIO 572 Herpetology
BIO 573 Ornithology
BIO 574 Mammalogy
BIO 590 Disturbance Ecology
GSC 202 Introduction to Geographical Information Science
GSC 306 Landscapes of the National Parks
GSC 350 Field Techniques in Geosciences
GSC 512 Remote Sensing
GSC 521 Geographic Information Systems
PLN 507 Land Use Planning
REC 411 Curriculum Development in Adventure Education
REC 450 Recreational Use of Natural Resources
REC 465 Interpretation of Cultural and Natural Resources

Total Curriculum Requirements 121-125 hrs

¹Meets course requirements for Associate Wildlife Biologist Certification from The Wildlife Society.

²Only one course from BIO 572, 573, and 574 (if not taken as a core course) will count toward this requirement.

AREA:

**Wildlife and Conservation Biology/
Conservation Law Enforcement Track**

Bachelor of Science/Bachelor of Arts CIP 03.0601

University Studies Requirements 42-43 hrs
(See *Academic Degrees and Programs.*)

University Studies selections must include:

•Scientific Inquiry, Methodologies, and Quantitative Skills

STA 135 Introduction to Probability and Statistics
CHE 105 Introductory Chemistry

or

CHE 201 General College Chemistry
MAT 150 Algebra and Trigonometry

or

MAT 250 Calculus and Analytical Geometry I

•Social and Self-Awareness and Responsible Citizenship

CRJ 140 Introduction to Criminal Justice
PSY 180 General Psychology

•University Studies Electives

BIO 216 Biological Inquiry and Analysis
ENG 224 Writing for the Professions

Core Courses¹ 62-65 hrs

BIO 100T Transitions
BIO 115 The Cellular Basis of Life
BIO 149 Introduction to Wildlife and Conservation Biology
BIO 221 Zoology: Animal Form and Function
BIO 222 Botany: Plant Form and Function

- BIO 310 Vertebrate Natural History
- BIO 330 Principles of Ecology
- BIO 333 Genetics
- BIO 380 Wildlife Techniques
- BIO 499 Senior Biology Seminar
- BIO 578 Conservation Biology
- BIO 580 Principles of Wildlife Management
- BIO 584 Wildlife Policy and Administration
- BIO 554 Dendrology and Forest Conservation
and
- BIO 350 Systematic Botany
or
- BIO 553 Field Botany
and one of the following:
- BIO 382 Scientific Communication for the Biologist
- ENG 324 Technical Writing
and one of the following:
- BIO 572 Herpetology
- BIO 573 Ornithology
- BIO 574 Mammalogy
and two of the following:
- AGR 345 Soil Science
- AGR 350 Soil Survey
- AGR 455 Soil Management
- CHE 210 Brief Organic Chemistry
and
- CHE 215 Organic Chemistry Laboratory
- GSC 199 Earth Science
- GSC 314 Sediments and Soils
- PHY 130 General Physics I
and
- PHY 131 General Physics I Laboratory

Conservation Law Enforcement Track 17 hrs

- CRJ 220 Law Enforcement
- CRJ 300 Crime and Criminals

- and a minimum of eleven hours from the following:*²
- BIO 240 Biological Applications in GIS
 - BIO 548 Principles of Managing Diseases in Wildlife
 - BIO 570 Ichthyology
 - BIO 572 Herpetology
 - BIO 573 Ornithology
 - BIO 574 Mammalogy
 - BIO 581 Applied Wildlife Economics, Policy, and Administration
 - BIO 582 Fisheries Management
 - CRJ 240 Corrections
 - CRJ 346 Crime Investigation
 - CRJ 365 Interviewing and Interrogation
 - CRJ 445 Criminal Justice Diversity
 - GSC 202 Introduction to Geographical Information Science
 - REC 465 Interpretation of Cultural and Natural Resources

Total Curriculum Requirements 121-125 hrs

¹Meets course requirements for Associate Wildlife Biologist Certification from The Wildlife Society.

²Only one course from BIO 572, 573, and 574 (if not taken as a core course) will count toward this requirement.

AREA:
**Wildlife and Conservation Biology/
 Wildlife Biology Track**
 Bachelor of Science/Bachelor of Arts CIP 03.0601

University Studies Requirements 42-43 hrs
 (See *Academic Degrees and Programs.*)

- University Studies selections must include:
- Scientific Inquiry, Methodologies, and Quantitative Skills**
 - STA 135 Introduction to Probability and Statistics
 - CHE 105 Introductory Chemistry
or
 - CHE 201 General College Chemistry
 - MAT 150 Algebra and Trigonometry
or
 - MAT 250 Calculus and Analytical Geometry I
 - Social and Self-Awareness and Responsible Citizenship**
 - ECO 231 Principles of Microeconomics
 - University Studies Electives**
 - BIO 216 Biological Inquiry and Analysis
 - ENG 224 Writing for the Professions

- Core Courses¹ 62-65 hrs**
- BIO 100T Transitions
 - BIO 115 The Cellular Basis of Life
 - BIO 149 Introduction to Wildlife and Conservation Biology
 - BIO 221 Zoology: Animal Form and Function
 - BIO 222 Botany: Plant Form and Function
 - BIO 310 Vertebrate Natural History
 - BIO 330 Principles of Ecology
 - BIO 333 Genetics
 - BIO 380 Wildlife Techniques
 - BIO 499 Senior Biology Seminar
 - BIO 578 Conservation Biology
 - BIO 580 Principles of Wildlife Management
 - BIO 584 Wildlife Policy and Administration
 - BIO 554 Dendrology and Forest Conservation
and
 - BIO 350 Systematic Botany
or
 - BIO 553 Field Botany
and one of the following:
 - BIO 382 Scientific Communication for the Biologist
 - ENG 324 Technical Writing
and one of the following:
 - BIO 572 Herpetology
 - BIO 573 Ornithology
 - BIO 574 Mammalogy
and two of the following:
 - AGR 345 Soil Science
 - AGR 350 Soil Survey
 - AGR 455 Soil Management
 - CHE 210 Brief Organic Chemistry
and
 - CHE 215 Organic Chemistry Laboratory
 - GSC 199 Earth Science
 - GSC 314 Sediments and Soils
 - PHY 130 General Physics I
and
 - PHY 131 General Physics I Laboratory

Wildlife Biology Track 17 hrs

- GSC 202 Introduction to Geographical Information Science
*and a minimum of 13 hours from the following:*²
 AGR 240 Crop Science
 BIO 240 Biological Applications in GIS
 BIO 320 Comparative Vertebrate Anatomy
 BIO 525 Biogeography
 BIO 548 Principles of Managing Diseases in Wildlife
 BIO 568 Wetland Ecology
 BIO 570 Ichthyology
 BIO 572 Herpetology
 BIO 573 Ornithology
 BIO 574 Mammalogy
 BIO 577 Population and Conservation Genetics
 BIO 581 Applied Wildlife Economics, Policy, and Administration
 BIO 582 Fisheries Management
 EDU 404 Teaching Environmental Education
 GSC 312 Introduction to Remote Sensing
 GSC 512 Remote Sensing
 GSC 521 Geographic Information Systems
 MAT 554 Statistical Methods
 PLN 507 Urban and Regional Land Use Planning
 REC 465 Interpretation of Cultural and Natural Resources

Total Curriculum Requirements 121-125 hrs

¹Meets course requirements for Associate Wildlife Biologist Certification from The Wildlife Society.

²Only one course from BIO 570, 572, 573, and 574 (if not taken as a core course) will count toward this requirement.

AREA:

**Wildlife and Conservation Biology/
 Zoological Conservation Track**

Bachelor of Science/Bachelor of Arts CIP 03.0601

University Studies Requirements 42-43 hrs

(See *Academic Degrees and Programs.*)

University Studies selections must include:

•Scientific Inquiry, Methodologies, and Quantitative Skills

- STA 135 Introduction to Probability and Statistics
 CHE 105 Introductory Chemistry
or
 CHE 201 General College Chemistry
 MAT 150 Algebra and Trigonometry
or
 MAT 250 Calculus and Analytical Geometry I

•University Studies Electives

- BIO 216 Biological Inquiry and Analysis
 ENG 224 Writing for the Professions

Core Courses¹ 62-65 hrs

- BIO 100T Transitions
 BIO 115 The Cellular Basis of Life
 BIO 149 Introduction to Wildlife and Conservation Biology
 BIO 221 Zoology: Animal Form and Function
 BIO 222 Botany: Plant Form and Function
 BIO 310 Vertebrate Natural History
 BIO 330 Principles of Ecology
 BIO 333 Genetics
 BIO 380 Wildlife Techniques
 BIO 499 Senior Biology Seminar
 BIO 578 Conservation Biology
 BIO 580 Principles of Wildlife Management
 BIO 584 Wildlife Policy and Administration
 BIO 554 Dendrology and Forest Conservation

- and*
 BIO 350 Systematic Botany
or
 BIO 553 Field Botany
and one of the following:
 BIO 382 Scientific Communication for the Biologist
 ENG 324 Technical Writing
and one of the following:
 BIO 572 Herpetology
 BIO 573 Ornithology
 BIO 574 Mammalogy
and two of the following:
 AGR 345 Soil Science
 AGR 350 Soil Survey
 AGR 455 Soil Management
 CHE 210 Brief Organic Chemistry
and
 CHE 215 Organic Chemistry Laboratory
 GSC 199 Earth Science
 GSC 314 Sediments and Soils
 PHY 130 General Physics I
and
 PHY 131 General Physics I Laboratory

Zoological Biology Track..... 17 hrs

- AGR 300 Principles of Animal Nutrition
 AGR 310 Applications in Animal Technology
 AGR 322 Veterinary Laboratory Principles
 EDU 404 Teaching Environmental Education

*and a minimum of seven hours from the following:*²

- AGR 324 Veterinary Diagnostic Imaging
 AGR 329 Veterinary Hematology and Microbiology
 AGR 332 Veterinary Nursing
 BIO 240 Biological Applications in GIS
 BIO 300 Introductory Microbiology
 BIO 322 Animal Physiology
 BIO 467 General Parasitology
 BIO 538 Animal Behavior
 BIO 539 Animal Behavior Laboratory
 BIO 548 Principles of Managing Diseases in Wildlife
 BIO 570 Ichthyology
 BIO 572 Herpetology
 BIO 573 Ornithology
 BIO 574 Mammalogy
 BIO 577 Population and Conservation Genetics
 REC 465 Interpretation of Cultural and Natural Resources

Total Curriculum Requirements 121-125 hrs

¹Meets course requirements for Associate Wildlife Biologist Certification from The Wildlife Society.

²Only one course from BIO 572, 573, and 574 (if not taken as a core course) will count toward this requirement.

Biology Minor..... 21 hrs

Complete BIO 115, 216, and either 221 or 222 (or both). A maximum of three hours total from BIO 483, 484, 491, 492, 493, or 494 may be used. Remaining BIO hours should be chosen with advisor's approval (BIO 330 and 333 are highly recommended). BIO 101, 488, 489, and 499 will not count toward this minor. Six hours must be upper-level (300 and greater) courses.

Pre-Pharmacy Curriculum¹

Required Courses58 hrs

- BIO 221 Zoology: Animal Form and Function²
 BIO 227 Human Anatomy

BIO 228	Human Anatomy Laboratory
BIO 300	Introductory Microbiology
CHE 201	General College Chemistry ²
CHE 202	General Chemistry and Qualitative Analysis ²
CHE 312	Organic Chemistry I
CHE 320	Organic Chemistry II
CHE 325	Organic Chemistry II Laboratory
ECO 231	Principles of Microeconomics ²
ENG 105	Reading, Writing and Inquiry ²
ENG 204	Advanced Expository Writing ²
MAT 250	Calculus and Analytic Geometry I ²
PHY 130	General Physics I ²
PHY 131	General Physics I Laboratory ²
PHY 132	General Physics II ²
PHY 133	General Physics II Laboratory ²
STA 135	Introduction to Probability and Statistics ²
Elective hours:	
Cross-cultural ³ (3)	General electives (4) Humanities ⁴ (6)
Social and Self-Awareness and Responsible Citizenship (3)	

Total Curriculum Requirements 74 hrs

¹The above program is based on the current admission requirements of the College of Pharmacy, University of Kentucky. Other colleges of pharmacy will have somewhat different requirements from those listed above. The curriculum can be modified to meet the requirements of most professional programs. Pre-pharmacy students desiring a four year program to receive the B.S. degree should follow the pre-medicine track and include all the courses listed above. The pre-pharmacy advisor should be consulted.

²May be used to fulfill University Studies requirements if completing a B.A. or B.S. degree.

³A course focusing on the study of a developing or non-Western country.

⁴Must be a two-course series.

Graduate Program

Graduate Coordinator - Michael Flinn

The Department of Biological Sciences offers the Master of Science degree. The M.S. program is designed to prepare the student to assume an active career in teaching and/or research or to pursue further graduate studies.

Requirements for Admission

Applicants must meet the Murray State University requirements (see *Graduate Admissions*). A faculty member must agree to mentor the student. Additional requirements for unconditional and conditional admission are as follows.

Unconditional

- Undergraduate courses in botany, zoology, ecology, and genetics.
- Eight undergraduate hours in chemistry.
- Composite GRE score of 300 (V+Q) or higher on current scale or 1,000 (V+Q) or higher on prior scale.

Conditional

Recommendation of the advisory committee.

Master of Science

Biology CIP 26.0101

Within the guidelines, the individual's program is developed by an advisory committee to ensure proficiency in the basic areas of zoology, botany, ecology and genetics. The thesis track is strongly recommended for anyone considering further research or graduate activities.

THESIS REQUIREMENTS

Total Course Requirements 30 hours

BIO 689	Introduction to Graduate Study
BIO 696	Understanding Scientific Communication ¹
BIO 697	Seminar
BIO 698-699	Thesis ^R
BIO 600-level and above courses (9-20 hrs)	
Graduate advisor/committee approved courses in related fields (0-11 hrs)	

Other Degree Requirements

- Proficiency in quantitative methods through MAT 665 or a graduate course in bioinformatics, such as BIO 657.
- A preliminary examination will be given in the student's first semester to assess the student's understanding of principles across the diverse disciplines of biology.
- Oral defense of thesis.

NON-THESIS REQUIREMENTS

Total Course Requirements 36 hours

BIO 689	Introduction to Graduate Study
BIO 696	Understanding Scientific Communication ¹
BIO 697	Seminar
BIO 600-level and above courses (16-32 hrs)	
Graduate advisor/committee approved courses in related fields (0-16 hrs)	

Other Degree Requirements

Proficiency in quantitative methods through STA 665 or a graduate course in bioinformatics, such as BIO 657.

A preliminary examination will be given in the student's first semester to assess the student's understanding of principles across the diverse disciplines of biology.

Optional Degree Requirement

BIO 695 Biological Research (4) with prior approval of the research topic by the student's graduate committee; results to be presented while enrolled in BIO 697. Research credits can be counted toward the 36-hour requirement.

Master of Science

Biology/Watershed Science Concentration CIP 26.0101

Total Course Requirements 30 hours

Required Courses 10 hours

BIO 642	Watershed Ecology (same as GSC 642)
BIO 689	Introduction to Graduate Study
BIO 696	Understanding Scientific Communication ¹
BIO 697	Seminar
BIO 698-699	Thesis ^R

Restricted Electives 17 hours

Courses must be approved by the advisory committee and represent at least two disciplines, one of which must be BIO.

AGR 674	Agricultural Irrigation and Water Systems
BIO 625	Biogeography
BIO 630	Animal Ecology
BIO 631	Plant Ecology
BIO 632	Quantitative Ecology
BIO 646	Stream Ecology
BIO 661	Freshwater Invertebrates
BIO 663	Aquatic Entomology
BIO 668	Wetland Ecology
BIO 669	Biological Limnology

- BIO 670 Limnological Analysis Laboratory
- BIO 671 Ichthyology
- BIO 672 Herpetology
- BIO 678 Conservation Biology
- BIO 682 Waterfowl Management
- BIO 683 Fisheries Management
- BIO 686 Limnology
- BIO 687 Freshwater Biology
- BIO 688 Reservoir Ecology
- BIO 690 Disturbance Ecology
- CET 655 Environmental Regulatory Affairs
- CET 681 Pollution Assessment and Control
- CET 685 Remediation Technology
- CHE 613 Environmental Chemistry
- CHE 617 Advanced Organic Chemistry
- CHE 627 Chemical Separations
- CHE 628 Mass Spectrometry
- CHE 665 Biogeochemistry
- GSC 612 Remote Sensing
- GSC 621 Geographic Information Systems
- GSC 640 Advanced Remote Sensing
- GSC 641 Digital Image Processing Research
- GSC 662 Hydrogeology
- GSC 665 Physical/Chemical Limnology
- GSC 680 Advanced Geographic Information Systems

Other Degree Requirements

Successful completion of STA 665.

Written and oral comprehensive examinations as specified by the advisory committee in broad aspects of watershed science and area of concentration (usually taken in third semester of residence).

Defense of thesis.

**Master of Arts in Education
Secondary Teacher Leader with Biology Concentration**
CIP 13.1205

The Department of Biological Sciences provides instruction in support of the M.A.Ed. in Secondary Teacher Leader with a concentration in biology. Prospective students should contact the graduate coordinator in the College of Education and Human Services for details on advising and graduate program design.

Department of Chemistry

1201 Jesse D. Jones Hall
270-809-2584

Chair: Harry Fannin. **Faculty:** Allenbaugh, Clear, Cox, Fannin, Fawzy, Johnson, Loganathan, McCreary, Miller, Revell, Subedi, Volp, Whittaker.

The Department of Chemistry is certified by the American Chemical Society's Committee on Professional Training. The department offers an area in chemistry or a major with tracks in biochemistry, forensics, polymer and materials science, pre-medical, pre-dental, pre-pharmacy, pre-MBA, or teacher certification.

The chemistry area program is designed for students planning careers in engineering, the chemical industry, or for those who plan to pursue graduate study following the baccalaureate degree. Upon completion of this program, graduates are certified as professional chemists. Alumni with the area are well prepared to succeed in nationally recognized Ph.D. programs in chemistry.

The chemistry major program is recommended for students planning careers in medicine, dentistry, veterinary medicine, pharmacy, secondary education, toxicology, or biochemistry.

The department offers a minor in chemistry as well as a Master of Science in Chemistry.

Murray State has nationally recognized chemistry student organizations, the Student Members of the American Chemical Society, the Forensic Science Student Association, and a national chemistry honor society-Gamma Sigma Epsilon.

The department is closely aligned with the Chemical Services Laboratory (CSL), the Watershed Studies Institute (WSI), and efforts to enhance environmental and biomedical sciences at Murray State University.

An excellent undergraduate research program is maintained that allows students to become involved in research projects during their first semester at MSU or later if they so desire. Students present posters or talks each semester at local and/or national meetings.

Students interested in chemistry, should contact the chair of the Department of Chemistry, Murray State University, 1201 Jesse D. Jones Hall, Murray, KY 42071-3300, Phone: (270) 809-2584 Fax: (270) 809-6474, or visit our website at www.murraystate.edu/chemistry.

AREA:

Chemistry

Bachelor of Science/Bachelor of Arts

CIP 40.0501

ACCREDITED BY: American Chemical Society

University Studies Requirements 43-46 hrs
(See *Academic Degrees and Programs*.)

University Studies selections must include:

•Scientific Inquiry, Methodologies, and Quantitative Skills

- MAT 250 Calculus and Analytic Geometry I¹
- PHY 235 Mechanics, Heat and Wave Motion¹
- PHY 236 Mechanics, Heat and Wave Motion Lab¹
- PHY 255 Electricity, Magnetism and Light¹
- PHY 256 Electricity, Magnetism and Light Lab¹

Required Courses 65 hrs

- CHE 100T Transitions
- CHE 201 General College Chemistry
- CHE 202 General Chemistry and Qualitative Analysis
- CHE 305 Analytical Chemistry
- CHE 312 Organic Chemistry I
- CHE 320 Organic Chemistry II
- CHE 325 Organic Chemistry II Laboratory
- CHE 400 Chemical Literature
- CHE 401 Ethics for the Chemist
- CHE 410 Physical Chemistry I
- CHE 420 Physical Chemistry II
- CHE 509 Advanced Inorganic Chemistry I
- CHE 510 Inorganic Chemistry Laboratory
- CHE 519 Instrumental Analysis
- CHE 530 Fundamentals of Biochemistry I
- CHE 576 Polymer Chemistry
- CSC 235 Programming in C++²
- MAT 308 Calculus and Analytic Geometry II
- MAT 309 Calculus and Analytic Geometry III

Required Limited Electives³ 3 hrs

- CHE 488 Cooperative Education/Internship
or
- CHE 495 Senior Research

Unrestricted Electives..... 6-9 hrs

Total Curriculum Requirements 120 hrs

¹Required for area if not taken as a University Studies elective.

²CSC 232 or EGR 140 may be substituted.

³In conjunction with this program it is possible through careful course selection to obtain an M.S. degree with one additional year of study following the awarding of the B.S. degree. Students interested in this M.S. concentration should contact the graduate coordinator in the department no later than during the junior year.

**MAJOR:
Chemistry**

Bachelor of Science/Bachelor of Arts CIP 40.0501

University Studies Requirements 41-44 hrs

(See *Academic Degrees and Programs*.)

University Studies selections must include:

•Scientific Inquiry, Methodologies, and Quantitative Skills

MAT 250 Calculus and Analytic Geometry I¹

PHY 130 General Physics I¹ and

PHY 131 General Physics I Laboratory¹

PHY 132 General Physics II¹ and

PHY 133 General Physics II Laboratory¹

Required Courses 35 hrs

CHE 100T Transitions

CHE 201 General College Chemistry

CHE 202 General Chemistry and Qualitative Analysis

CHE 305 Analytical Chemistry

CHE 312 Organic Chemistry I

CHE 320 Organic Chemistry II

CHE 352 Basic Chemical Instrumentation

CHE 403 Basic Physical Chemistry

CSC 235 Programming in C++²

Required Limited Electives..... 3 hrs

CHE 488 Cooperative Education/Internship

or

CHE 495 Senior Research

Required Minor 21 hrs

Electives³..... 17-20 hrs

Total Curriculum Requirements 120 hrs

¹Required for major if not taken as a University Studies elective.

²CSC 232 or EGR 140 may be substituted.

³At least one three-hour free elective must be chosen from outside Chemistry and may not be counted as a University Studies requirement.

MAJOR:

Chemistry/Secondary Certification (Grades 8-12) Track

Bachelor of Science/Bachelor of Arts CIP 40.0501

NOTE: Requirements for teacher certification are established by the Kentucky Education Professional Standards Board. Students are cautioned that requirements may change. For current information, students should check with an advisor in the Department of Adolescent, Career and Special Education.

University Studies Requirements 41-50 hrs

(See *Academic Degrees and Programs*.)

University Studies selections must include:

•Scientific Inquiry, Methodologies, and Quantitative Skills

MAT 250 Calculus and Analytic Geometry

PHY 130 General Physics I¹ and

PHY 131 General Physics I Laboratory¹

PHY 132 General Physics II¹ and

PHY 133 General Physics II Laboratory¹

•Social and Self-Awareness and Responsible Citizenship

EDP 260 Psychology of Human Development²

•University Studies Electives

CSC 199 Introduction to Information Technology^{3,4}

EDU 103 Issues and Practices of American Education²

Note: Certification requires a grade of B or better in one English composition course and a B or better in a University Studies math course, public speaking, and EDU 103 or equivalent course. Additional requirements for admission to teacher education and student teaching must be met. See advisor and/or Office of Teacher Education Services for details.

Required Courses 30 hrs

CHE 100T Transitions

CHE 120 Chemical Laboratory Safety

CHE 201 General College Chemistry

CHE 202 General Chemistry and Qualitative Analysis

CHE 305 Analytical Chemistry

CHE 312 Organic Chemistry I

CHE 320 Organic Chemistry II

CHE 403 Basic Physical Chemistry

Required Limited Electives..... 3-4 hrs

Select from the following:

CHE 330 Basic Biochemistry

CHE 352 Basic Chemical Instrumentation

CHE 504 Fundamentals of Toxicology

CHE 513 Environmental Chemistry

Secondary Certification Courses 33 hrs

EDU 303 Strategies of Teaching

EDU 403 Structures and Foundations of Education

EDU 405 Evaluation and Measurement in Education⁵

REA 427 Teaching Content Area Literacy in the
Secondary School

SEC 420 Practicum in Secondary Schools⁵

SEC 421 Student Teaching in the Secondary School

SEC 422 Extended Practicum⁶

SED 300 Educating Students with Disabilities

Required Minor 21 hrs

Total Curriculum Requirements 128-138 hrs

¹Required for major if not taken as a University Studies elective. Students pursuing a Physics minor may substitute PHY 235/236 and 255/256 for PHY 130/131 and 132/133.

²Required for secondary certification if not taken as a University Studies elective.

³May substitute CSC 232 or EGR 140, but these will not count for University Studies electives.

⁴With a grade of C or better.

⁵EDU 405 and SEC 420 must be taken together and two semesters before student teaching.

⁶Must be taken one semester before student teaching.

Chemistry Teaching Specialization

The teaching specialization in chemistry is a path to secondary certification in chemistry, designed to accompany certification in another science content area. (All College of Education and Human Services secondary certification course requirements must be met.) The teaching specialization in chemistry meets and exceeds Murray

State University's requirements for a minor in chemistry. **Note:** Even though this program exceeds Murray State University's requirements for a chemistry minor, in order for a chemistry minor to appear on a transcript, a minor must be declared, and all residential and graduation requirements must be met.

Requirements for teacher certification are established by the Kentucky Education Professional Standards Board. Students are cautioned that changes in these requirements may occur. Therefore, for the most current information, students should check with an advisor in the College of Education and Human Services.

Chemistry Teaching Specialization 24 hrs

- CHE 120 Chemical Laboratory Safety
- CHE 201 General College Chemistry
- CHE 202 General Chemistry and Qualitative Analysis
- CHE 305 Analytical Chemistry
- CHE 312 Organic Chemistry I

Choose one elective from the following:

- CHE 320 Organic Chemistry II
- CHE 352 Basic Chemical Instrumentation
- CHE 330 Basic Biochemistry
- CHE 403 Basic Physical Chemistry

MAJOR:

Chemistry/Pre-Medical/Pre-Dental Track

Bachelor of Science/Bachelor of Arts CIP 40.0501

University Studies Requirements 41-44 hrs

(See *Academic Degrees and Programs.*)

University Studies selections must include:

•Scientific Inquiry, Methodologies, and Quantitative Skills

- MAT 250 Calculus and Analytic Geometry I¹
- PHY 130 General Physics I¹
- PHY 131 General Physics I Laboratory¹
- PHY 132 General Physics II¹
- PHY 133 General Physics II Laboratory¹

Required Courses 38 hrs

- CHE 100T Transitions
- CHE 201 General College Chemistry
- CHE 202 General Chemistry and Qualitative Analysis
- CHE 305 Analytical Chemistry
- CHE 312 Organic Chemistry I
- CHE 320 Organic Chemistry II
- CHE 352 Basic Chemical Instrumentation
- CHE 403 Basic Physical Chemistry
- CHE 530 Fundamentals of Biochemistry I
- CSC 235 Programming in C++²
- ENG 204 Advanced Expository Writing
- or*
- ENG 324 Technical Writing

Required Minor³ 21 hrs

Unrestricted Electives 17-20 hrs

Total Curriculum Requirements 120 hrs

¹Required for major if not taken as a University Studies elective.

²CSC 232 or EGR 140 may be substituted.

³Biology minor strongly recommended.

MAJOR:

Chemistry/Biochemistry Track

Bachelor of Science/Bachelor of Arts CIP 40.0501

University Studies Requirements 41-44 hrs

(See *Academic Degrees and Programs.*)

University Studies selections must include:

•Scientific Inquiry, Methodologies, and Quantitative Skills

- MAT 250 Calculus and Analytic Geometry I¹
- PHY 130 General Physics I¹ *and*
- PHY 131 General Physics I Laboratory¹
- PHY 132 General Physics II¹ *and*
- PHY 133 General Physics II Laboratory¹

Required Courses 44 hrs

- CHE 100T Transitions
- CHE 201 General College Chemistry
- CHE 202 General Chemistry and Qualitative Analysis
- CHE 305 Analytical Chemistry
- CHE 312 Organic Chemistry I
- CHE 320 Organic Chemistry II
- CHE 352 Basic Chemical Instrumentation
- CHE 403 Basic Physical Chemistry
- CHE 530 Fundamentals of Biochemistry I
- CHE 537 Experimental Biochemistry
- CHE 540 Fundamentals of Biochemistry II
- CSC 235 Programming in C++²

Required Minor³ 21 hrs

Electives 11-14 hrs

Total Curriculum Requirements 120 hrs

¹Required for major if not taken as a University Studies elective.

²CSC 232 or EGR 140 may be substituted.

³Biology minor is strongly recommended.

MAJOR:

Chemistry/Forensics Track

Bachelor of Science/Bachelor of Arts CIP 40.0501

University Studies Requirements 41-44 hrs

(See *Academic Degrees and Programs.*)

University Studies selections must include:

•Scientific Inquiry, Methodologies, and Quantitative Skills

- MAT 250 Calculus and Analytic Geometry I
- PHY 130 General Physics I¹ *and*
- PHY 131 General Physics I Laboratory¹
- PHY 132 General Physics II¹ *and*
- PHY 133 General Physics II Laboratory¹

Required Courses 34 hrs

- CHE 100T Transitions
- CHE 201 General College Chemistry
- CHE 202 General Chemistry and Qualitative Analysis
- CHE 305 Analytical Chemistry
- CHE 312 Organic Chemistry I
- CHE 320 Organic Chemistry II
- CHE 325 Organic Chemistry II Laboratory
- CHE 403 Basic Physical Chemistry I
- CSC 235 Programming in C++²

Required Limited Electives..... 10 hrs
 ARC 335 Forensic Archaeology
 CHE 330 Basic Biochemistry
 CHE 352 Basic Chemical Instrumentation

Criminal Justice Minor³ 21 hrs
 CRJ 220, 333, and 346 are required selections.

Unrestricted Electives..... 11-14 hrs

Total Curriculum Requirements 120 hrs
¹Required for major if not taken as a University Studies elective.
²CSC 232 or EGR 140 may be substituted.
³A second major in Criminal Justice can substitute for the minor.

MAJOR:
Chemistry/Polymer and Materials Science Track
 Bachelor of Science/Bachelor of Arts CIP 40.0501

University Studies Requirements 38-44 hrs
 (See *Academic Degrees and Programs*.)

University Studies selections must include:
•Scientific Inquiry, Methodologies, and Quantitative Skills
 MAT 250 Calculus and Analytic Geometry I¹
 PHY 235 Mechanics, Heat and Wave Motion¹
 PHY 236 Mechanics, Heat and Wave Motion Laboratory¹
 PHY 255 Electricity, Magnetism and Light¹
 PHY 256 Electricity, Magnetism and Light Laboratory¹

Required Courses 51 hrs
 CHE 100T Transitions
 CHE 201 General College Chemistry
 CHE 202 General Chemistry and Qualitative Analysis
 CHE 305 Analytical Chemistry
 CHE 312 Organic Chemistry I
 CHE 320 Organic Chemistry II
 CHE 352 Basic Chemical Instrumentation
 CHE 503 Industrial Chemistry
 CHE 576 Polymer Chemistry
 CSC 235 Programming in C++²
 EGR 240 Thermodynamics I
 EGR 375 Materials Science
 MAT 308 Calculus and Analytic Geometry II
 PHY 370 Introduction to Modern Physics

Required Limited Electives..... 3 hrs
 CHE 488 Cooperative Education/Internship
 or
 CHE 495 Senior Research

Required Minor³ 11-21 hrs

Unrestricted Electives..... 1-17 hrs

Total Curriculum Requirements 120 hrs
¹Required for major if not taken as a University Studies elective.
²CSC 232 or EGR 140 may be substituted.
³PHY 235, 236, 255, and 256 count toward a physics minor, with 11 additional hours remaining; otherwise, 21 hours are required to complete a minor.

MAJOR:
Chemistry/Pre-Pharmacy Track¹
 Bachelor of Science/Bachelor of Arts CIP 40.0501

University Studies Requirements 41-44 hrs
 (See *Academic Degrees and Programs*.)

University Studies selections must include:
•Scientific Inquiry, Methodologies, and Quantitative Skills
 MAT 250 Calculus and Analytic Geometry I²
 PHY 130 General Physics I²
 PHY 131 General Physics I Laboratory²
 PHY 132 General Physics II²
 PHY 133 General Physics II Laboratory²
•Social and Self-Awareness and Responsible Citizenship
 ECO 231 Principles of Microeconomics

Required Courses 46 hrs
 CHE 100T Transitions
 CHE 201 General College Chemistry
 CHE 202 General Chemistry and Qualitative Analysis
 CHE 305 Analytical Chemistry
 CHE 312 Organic Chemistry I
 CHE 320 Organic Chemistry II
 CHE 325 Organic Chemistry II Laboratory
 CHE 330 Basic Biochemistry
 CHE 352 Basic Chemical Instrumentation
 CHE 403 Basic Physical Chemistry I
 CSC 235 Programming in C++³
 STA 135 Introduction to Probability and Statistics

Required Minor⁴..... 21 hrs

Unrestricted Electives..... 9-12 hrs

Total Curriculum Requirements 120 hrs
¹Colleges of pharmacy will have somewhat different requirements from those listed above. The curriculum can be modified to meet the requirements of most professional programs.
²Required for major if not taken as a University Studies elective.
³CSC 232 or EGR 140 may be substituted.
⁴Biology minor is strongly recommended.

Chemistry Minor 21 hrs
 CHE 201, 202 and electives selected from the following chemistry courses: 305, 312, 320, 325, 352, 400, 401, 403, 410, 420, 488, 495, and 330 or 530, but not both. A maximum of three hours may be counted from CHE 488. At least 21 hours is required. Six hours must be 300-level or above courses.

Graduate Programs

Graduate Coordinator - Rachel Allenbaugh

**Master of Science
Chemistry**

CIP 40.0501

Requirements for Admission

Applicants must meet the Murray State University requirements (see *Graduate Admissions*). Additional information regarding unconditional and conditional admission is given below.

Unconditional

To qualify for unconditional admission, an applicant must have:

1. an undergraduate degree in chemistry;
2. an overall undergraduate GPA of 3.0/4.0 or higher;
3. minimum GRE scores of: 140 verbal, 150 quantitative, 2.5 analytical writing;
4. for international students, minimum scores of: TOEFL 527, iBT TOEFL 71, with no band less than 16, or IELTS 6.0 with no band less than 5.0.

If the undergraduate degree does not conform to an ACS-certified program, students may be required to correct any deficiency in their undergraduate preparation.

Conditional

In exceptional cases (such as extensive work or research experience), students falling slightly below one of the unconditional admission benchmarks may still be considered for conditional admission. Applicants with TOEFL scores between 500 and 526 may be admitted on a conditional basis, but their proficiency in English will be further evaluated upon their arrival on campus, and they may be required to undertake additional study of English prior to beginning graduate work in chemistry.

THESIS REQUIREMENTS

Total Course Requirements..... 30 hours

- CHE 601 Seminar^{L1}
- CHE 602 Seminar¹
- CHE 609 Advanced Inorganic Chemistry I
- CHE 617 Advanced Organic Chemistry
- CHE 681 Advanced Physical Chemistry

Research and Other Requirements

- CHE 698^R-699^{PT} Thesis Research
- 600-level courses (13 hrs)

(Up to six hours may be selected from courses other than CHE.)

¹Each student is required to prepare and present one seminar based on a thorough search of the chemical literature and one based on the student's thesis research.

Other Degree Requirements

- Successful completion of an advanced instrumental analysis course (CHE 619 or equivalent).
- Submission and defense of a satisfactory thesis.

NON-THESIS REQUIREMENTS

Total Course Requirements..... 36 hours¹

- CHE 601 Seminar^{L2}
- CHE 602 Seminar²
- CHE 609 Advanced Inorganic Chemistry I
- CHE 617 Advanced Organic Chemistry
- CHE 681 Advanced Physical Chemistry

600-level courses (22 hrs)

(Up to nine hours may be selected from courses other than CHE.)

¹CHE 691, 692, and 693 will not count toward completion of this degree.

²Each student is required to prepare and present two seminars based on a thorough search of the chemical literature.

Other Degree Requirements

- Successful completion of an advanced instrumental analysis course (CHE 619 or equivalent).
- CHE 600-level electives to total 36 hours.

Master of Arts in Education

Secondary Teacher Leader with Chemistry Concentration
CIP 13.1205

The Department of Chemistry provides instruction in support of the M.A.Ed. in Secondary Teacher Leader with a concentration in chemistry. Prospective students should contact the graduate coordinator in the College of Education and Human Services for details on advising and graduate program design.

Department of Geosciences

334 Blackburn Science Building
270-809-2591

Chair: Robin Zhang. **Faculty:** Benson, Busby, Casey, Cetin, El-Masri, Hong, Ortmann, Stinchcomb, Zhang.

An area in geosciences with tracks in earth science, earth science teacher certification, environmental geology, geoarchaeology, and geographic information science are provided by the department faculty. Minors are offered in anthropology, archaeology, earth science, environmental geology, and geographic information science. A certificate in geographic information science and an M.S. in Geosciences may also be earned.

In addition to the more traditional curricula, geosciences students have access to the Murray State Archaeology Lab, a summer field archaeology school, and the Mid-America Remote sensing Center (MARC), a core entity in the Murray State University Watershed Studies Institute (WSI).

Geosciences majors are encouraged to participate in internships and cooperative education experiences. Graduates have outstanding opportunities for employment as archaeologists, planners, cartographers, environmental geologists, remote sensing/GIS professionals, and other mapping science positions in business, government, and education.

AREA:

Geosciences/Earth Science Track

Bachelor of Science

CIP 40.0601

University Studies Requirements..... 38-43 hrs

(See *Academic Degrees and Programs*.)

Required Courses 47 hrs

- ARC 150 Introduction to Archaeology¹
- AST 115 Introductory Astronomy
- AST 116 Introductory Astronomy Laboratory
- GSC 100T Transitions
- GSC 101 The Earth and the Environment²
- GSC 102 Earth through Time²
- GSC 110 World Geography¹
- GSC 125 Weather and Climate²
- GSC 202 Introduction to Geographic Information Sciences
- GSC 301 Understanding Scientific Communication
- GSC 303 Introduction to Water Science
- GSC 305 Introduction to Cartography
- GSC 312 Introduction to Remote Sensing

- GSC 336 Principles of Geomorphology
- GSC 339 Field Geology
- or*
- GSC 350 Field Techniques in Geosciences

Required Limited Electives..... 11 hrs

Choose from the following approved electives:

- BIO 101 Biological Concepts
- CHE 105 Introductory Chemistry
- CHE 201 General College Chemistry
- GSC 210 Hydrology
- GSC 306 Landscapes of the National Parks
- GSC 310 Rock and Mineral Resources
- GSC 314 Sediments and Soils
- GSC 330 Economic Geography
- GSC 390 Geoarchaeology
- GSC 424 Conservation and Environmental Geosciences
- GSC 489 Cooperative Education/Internship
- GSC 507 Land Use Planning
- GSC 512 Remote Sensing
- GSC 521 Geographic Information Systems
- GSC 522 Digital Cartography
- GSC 533 Paleoecology
- GSC 536 Soils and Geomorphology
- GSC 562 Hydrogeology
- GSC 578 Terrestrial Ecosystem Modeling
- GSC 579 Remote Sensing of Vegetation
- GSC 591 Special Problems
- GSC 592 Special Problems
- GSC 593 Special Problems
- PHY 235 Mechanics, Heat and Wave Motion
- PHY 236 Mechanics, Heat and Wave Motion Laboratory

Collateral Requirement..... 7-8 hrs

- CSC 101³ Introduction to Problem Solving Using Computers
- or*
- CSC 199³ Introduction to Information Technology
- MAT 150² Algebra and Trigonometry (or above)
- or*
- STA 135² Introduction to Probability and Statistics (or above)

Unrestricted Electives..... 11-17 hrs

Total Curriculum Requirements 120 hrs

¹Will count towards University Studies Global Awareness, Cultural Diversity, and the World's Artistic Tradition requirements.

²Will count towards University Studies Scientific Inquiry, Methodologies, and Quantitative Skills requirements.

³This is a University Studies electives writing-intensive or technology-intensive course.

AREA:

Geosciences/Earth Science Secondary Certification Track (Grades 8-12)

Bachelor of Science Degree

CIP 40.0601

University Studies Requirements 44 hrs

(See *Academic Degrees and Programs.*)

University Studies selections must include:

•Scientific Inquiry, Methodologies, and Quantitative Skills

- GSC 101 The Earth and the Environment
- GSC 102 Earth through Time
- MAT 150 Algebra and Trigonometry

•Global Awareness, Cultural Diversity and the World's Artistic Traditions

- GSC 110 World Geography

•Social and Self-Awareness and Responsible Citizenship

- EDP 260 Psychology of Human Development

•University Studies Electives

- ARC 150 Introduction to Archaeology
- CSC 101 Introduction to Problem Solving Using Computers
- EDU 103 Issues and Practices of American Education

Note: Certification requires a grade of *B* or better in one English composition course and a *B* or better in a University Studies math course, public speaking, and EDU 103 or equivalent course. Additional requirements for admission to teacher education and student teaching must be met. See advisor and/or Office of Teacher Education Services for details.

Required Courses 33 hrs

- AST 115 Introductory Astronomy
- AST 116 Introductory Astronomy Laboratory
- GSC 100T Transitions
- GSC 125 Weather and Climate²
- GSC 202 Introduction to Geographic Information Sciences
- GSC 301 Understanding Scientific Communication
- GSC 303 Introduction to Water Science
- GSC 305 Introduction to Cartography
- GSC 312 Introduction to Remote Sensing
- GSC 336 Principles of Geomorphology
- GSC 339 Field Geology
- or*
- GSC 350 Field Techniques in Geosciences

Required Limited Electives..... 10 hrs

Select upper-level courses from the list of approved electives shown under the Environmental Geology Track.

Note: The National Science Teachers Association (NSTA) recommends a minimum of one course from each of the following three areas, with total of recommended supplemental science hours to include no fewer than 16 semester hours.

A. Biology

- BIO 101 Biological Concepts
- BIO 112 Field Biology
- BIO 221 Zoology: Animal Form and Function
- BIO 222 Botany: Plant Form and Function

B. Chemistry

- CHE 101 Consumer Chemistry
- CHE 105 Introductory Chemistry
- CHE 201 General College Chemistry
- CHE 202 General Chemistry and Qualitative Analysis

C. Physics

- PHY 235 Mechanics, Heat and Wave Motion
- and*
- PHY 236 Mechanics, Heat and Wave Motion Laboratory
- PHY 255 Electricity, Magnetism and Light
- and*
- PHY 256 Electricity, Magnetism and Light Laboratory

Required for Secondary Certification 33 hrs

- EDU 303 Strategies of Teaching
- EDU 403 Structures and Foundations of Education
- EDU 405 Evaluation and Measurement in Education¹
- REA 427 Teaching Content Area Literacy in the Secondary School
- SEC 420 Practicum in Secondary Schools¹
- SEC 421 Student Teaching in the Secondary School

- SEC 422 Extended Practicum²
- SED 300 Educating Students with Disabilities

Total Curriculum Requirements 120 hrs

- ¹Must be taken together and two semesters before student teaching.
- ²Must be taken one semester before student teaching.

Earth Science Teaching Specialization

The teaching specialization in earth science is a path to secondary certification in earth science designed to accompany certification in another science content area (biology/chemistry/physics). All College of Education and Human Services secondary certification course requirements must be met. **Note:** Even though this program exceeds Murray State University's requirements for an earth science minor, in order for a earth science minor to appear on a transcript, a minor must be declared, and all residential and graduation requirements must be met.

Requirements for teacher certification are established by the Kentucky Education Professional Standards Board. Students are cautioned that changes in these requirements may occur. Therefore, for the most current information, students should check with an advisor in the College of Education and Human Services.

Earth Science Teaching Specialization 30 hrs

- AST 115 Introductory Astronomy
- AST 116 Introductory Astronomy Laboratory
- GSC 101 The Earth and the Environment
- GSC 102 Earth through Time
- GSC 125 Weather and Climate
- GSC 202 Introduction to Geographic Information Sciences
- GSC 303 Introduction to Water Science
- GSC 336 Principles of Geomorphology
- GSC 339 Field Geology
- or*
- GSC 350 Field Techniques in Geosciences

AREA:

Geosciences/Environmental Geology Track

Bachelor of Science Degree CIP 40.0601

University Studies Requirements 38-43 hrs
(See *Academic Degrees and Programs.*)

Required Courses..... 46 hrs

- ARC 150 Introduction to Archaeology¹
- GSC 100T Transitions
- GSC 101 The Earth and the Environment²
- GSC 102 Earth through Time²
- GSC 110 World Geography¹
- GSC 202 Introduction to Geographic Information Sciences
- GSC 210 Hydrology
- GSC 301 Understanding Scientific Communication
- GSC 305 Introduction to Cartography
- GSC 310 Rock and Mineral Resources
- GSC 312 Introduction to Remote Sensing
- GSC 314 Sediments and Soils
- GSC 336 Principles of Geomorphology
- GSC 562 Hydrogeology

Required Limited Electives..... 12 hrs

Choose from the following approved electives:

- ARC 300 Archaeology Method and Theory
- ARC 302 Archaeological Field Work I
- ARC 304 Archaeology Laboratory Methods
- ARC 320 Human Ecology

- ARC 390 Geoarchaeology
- BIO 101 Biological Concepts
- CET 280 Plane Surveying
- CHE 105 Introductory Chemistry
- CHE 201 General College Chemistry
- CHE 202 General Chemistry and Qualitative Analysis
- GSC 200 Introduction to Oceanography
- GSC 303 Introduction to Water Science
- GSC 306 Landscapes of the National Parks
- GSC 330 Economic Geography
- GSC 339 Field Geology
- GSC 350 Field Techniques in Geosciences
- GSC 388 International Experience in the Geosciences
- GSC 424 Conservation and Environmental Geosciences
- GSC 489 Cooperative Education/Internship
- GSC 507 Land Use Planning
- GSC 512 Remote Sensing
- GSC 521 Geographic Information Systems
- GSC 522 Digital Cartography
- GSC 533 Paleocology
- GSC 534 Invertebrate Paleontology
- GSC 536 Soils and Geomorphology
- GSC 542 Watershed Ecology
- GSC 578 Terrestrial Ecosystem Modeling
- GSC 579 Remote Sensing of Vegetation
- GSC 591 Special Problems
- GSC 592 Special Problems
- GSC 593 Special Problems
- PHY 130 General Physics I
- PHY 131 General Physics I Laboratory

Collateral Requirement..... 7-8 hrs

- CSC 101³ Introduction to Problem Solving Using Computers
- or*
- CSC 199³ Introduction to Information Technology
- MAT 150² Algebra and Trigonometry (or above)
- or*
- STA 135² Introduction to Probability and Statistics (or above)

Unrestricted Electives..... 11-17 hrs

Total Curriculum Requirements 120 hrs

- ¹Will count towards University Studies Global Awareness, Cultural Diversity, and the World's Artistic Tradition requirements.
- ²Will count towards University Studies Scientific Inquiry, Methodologies, and Quantitative Skills requirements.
- ³This is a University Studies electives writing-intensive or technology-intensive course.

AREA:

Geosciences/Geoarchaeology Track

Bachelor of Science CIP 40.0601

University Studies Requirements 38-43 hrs
(See *Academic Degrees and Programs.*)

University Studies selection must include:

- Social and Self-Awareness and Responsible Citizenship**
- ANT 140 Introduction to Cultural Anthropology

Required Courses 44 hrs

- ARC 150 Introduction to Archaeology¹
- ARC 300 Archaeological Method and Theory
- ARC 304 Archaeological Laboratory Methods
- ARC 330 North American Archaeology

- ARC 390 Geoarchaeology
 - GSC 100T Transitions
 - GSC 101 The Earth and the Environment²
 - GSC 110 World Geography¹
 - GSC 202 Introduction to Geographic Information Sciences
 - GSC 301 Understanding Scientific Communication
 - GSC 305 Introduction to Cartography
 - GSC 312 Introduction to Remote Sensing
 - GSC 336 Principles of Geomorphology
- Five credit hours chosen from the following:*
- ARC 302 Archaeological Field Work I
 - ARC 402 Archaeological Field Work II
 - ARC 510 Advanced Archaeological Field Work

Required Limited Electives..... 14 hrs

Choose from the following approved electives:

- ANT 311 Anthropology of Complex Societies
- ANT 325 Biological Anthropology
- ANT 329 North American Indians
- ARC 314 Sediments and Soils
- ARC 315 Special Topics in Archaeology
- ARC 320 Human Ecology
- ARC 321 Ancient Civilizations
- ARC 335 Forensic Archaeology
- ARC 340 Archaeology of Africa
- ARC 350 Public Archaeology
- ARC 355 Pottery and People
- ARC 357 Lithic Analyses
- ARC 360 Historical Archaeology
- ARC 370 Archaeology of the Eastern Woodlands
- ARC 385 Archaeology of Eastern Asia
- ARC 389 Archaeology and Political Ecology of Empires
- ARC 395 Archaeology of Religion
- ARC 402 Archaeological Field Work II
- ARC 425 Advanced Archaeological Laboratory Methods
- ARC 488 Cooperative Education/Internship
- ARC 489 Cooperative Education/Internship
- ARC 500 Directed Studies
- ARC 510 Advanced Archaeological Field Work
- ARC 556 Geophysical Surveying
- CET 280 Plane Surveying
- GSC 306 Landscapes of the National Parks
- GSC 310 Rock and Mineral Resources
- GSC 350 Field Techniques in Geosciences
- GSC 388 International Experience in the Geosciences
- GSC 521 Geographic Information Systems

Collateral Requirement..... 7-8 hrs

- CSC 101³ Introduction to Problem Solving Using Computers
or
- CSC 199³ Introduction to Information Technology
- MAT 150² Algebra and Trigonometry (or above)
or
- STA 135² Introduction to Probability and Statistics (or above)

Unrestricted Electives..... 11-17 hrs

Total Curriculum Requirements 120 hrs

¹Will count towards University Studies Global Awareness, Cultural Diversity, and the World's Artistic Tradition requirements.

²Will count towards University Studies Scientific Inquiry, Methodologies, and Quantitative Skills requirements.

³This is a University Studies electives writing-intensive or technology-intensive course.

AREA:

Geosciences/Geographic Information Science Track

Bachelor of Science

CIP 40.0601

University Studies Requirements 38-43 hrs
(See *Academic Degrees and Programs.*)

Required Courses 44 hrs

- ARC 150 Introduction to Archaeology¹
- GSC 100T Transitions
- GSC 101 The Earth and the Environment²
- GSC 110 World Geography¹
- GSC 125 Weather and Climate²
- GSC 202 Introduction to Geographic Information Sciences
- GSC 301 Understanding Scientific Communication
- GSC 305 Introduction to Cartography
- GSC 312 Introduction to Remote Sensing
- GSC 330 Economic Geography
- GSC 336 Principles of Geomorphology
- GSC 512 Remote Sensing
- GSC 521 Geographic Information Systems

Required Limited Electives 14 hrs

Choose from the following approved electives:

- GSC 210 Hydrology
- GSC 303 Introduction to Water Science
- GSC 306 Landscapes of the National Park
- GSC 310 Rock and Mineral Resources
- GSC 314 Sediments and Soils
- GSC 350 Field Techniques in Geosciences
- GSC 390 Geoarchaeology
- GSC 424 Conservation and Environmental Geosciences
- GSC 488 Cooperative Education/Internship
- GSC 489 Cooperative Education/Internship
- GSC 507 Land Use Planning
- GSC 522 Digital Cartography
- GSC 562 Hydrogeology
- GSC 578 Terrestrial Ecosystem Modeling
- GSC 579 Remote Sensing of Vegetation
- GSC 591 Special Problems
- GSC 592 Special Problems
- GSC 593 Special Problems

Collateral Requirement..... 7-8 hrs

- CSC 101³ Introduction to Problem Solving Using Computers
or
- CSC 199³ Introduction to Information Technology
- MAT 150² Algebra and Trigonometry (or above)
or
- STA 135² Introduction to Probability and Statistics (or above)

Unrestricted Electives 11-17 hrs

Total Curriculum Requirements 120 hrs

¹Will count towards University Studies Global Awareness, Cultural Diversity, and the World's Artistic Tradition requirements.

²Will count towards University Studies Scientific Inquiry, Methodologies, and Quantitative Skills requirements.

³This is a University Studies electives writing-intensive or technology-intensive course.

Anthropology Minor 21 hrs

ANT 140, ANT 325, ARC 150, plus 12 hours of ANT 300-level or above electives. Electives may include ARC 321, 325, 330, 335, 340, 385, 389, and 395. Electives may substitute up to six hours selected from the

following as approved by advisor: HIS 309, 354, 370, 451, SOC 300, 325, 337, and 465. Six hours must be upper-level courses.

Archaeology Minor..... 21 hrs
ARC 150, 300, 302, 304, 350, plus six hours of ARC electives 300-level or above. Six hours must be upper-level courses.

Earth Science Minor 21 hrs
GSC 101, 102, 125, and 339 or 350. Six additional hours selected from the following: AST 115, 116; GSC 202, 210, 303, 310, 312, 336, 591, 592, 593. Six hours must be upper-level courses.

Environmental Geology Minor..... 21 hrs
GSC 101, 102, 202, and three additional geology courses chosen with the advice and consent of the chair of the Department of Geosciences. Six hours must be upper-level courses.

Geographic Information Science Minor..... 21 hrs
GSC 110, 125, 202, 305, and seven hours of electives selected from the following: GSC 312, 350, 507, 512, 521, 522, 591, 592, 593. Six hours must be upper-level courses.

Social Science Minor..... 24 hrs
Open only to majors in economics, geosciences, history, or political science who seek secondary certification in social studies. ECO 231, GSC 110, HIS 221, POL 140, SOC 133; and six hours of upper level courses (300 or above) from the social science disciplines with approval of advisor. Courses required for a major may not be counted toward the minor; substitutions must be from a social science discipline other than the major and be approved by the advisor; and requirements for certification for teaching secondary school social studies, grades 8 through 12 through the College of Education must also be met. Six hours must be upper-level courses.

CERTIFICATE:

Geographic Information Science CIP 45.0702

The certificate in GIScience program is designed to provide students fundamental knowledge of geographic information science necessary for today's diverse array of fields and disciplines. The certification program will provide students experience in data collection, data management methods and techniques, data visualization, data analysis and interpretation, and the principles and techniques to remote sensing. Student will gain experience using industry standard hardware and software to develop a variety of projects and explore sever GIScience applications.

Total Course Requirements..... 15 hours¹
GSC 202 Introduction to Geographic Information Science
GSC 512 Remote Sensing
GSC 521 Geographic Information Systems

One elective course from the following:

- AGR 471 Applications in Precision Agriculture
- CIS 307 Decision Support Technologies
- CIS 317 Principles of Information Systems Analysis and Design
- CSC 145 Introduction to Programming
- CSC 232 Visual Basic Programming
- CSC 310 Data Administration
- CSC 345 Data Structures
- GSC 305 Introduction to Cartography
- GSC 507 Land Use Planning
- GSC 522 Digital Cartography
- GSC 570 Computer Applications in Geosciences
- MKT 585 Integrated Business GIS

¹A grade of C or better must be earned in all courses.

Graduate Program

Graduate Coordinator - Haluk Cetin

The Department of Geosciences offers a Master of Science degree in Geosciences. Students choose the thesis or the non-thesis option. Four concentrations are offered for the thesis option: Environmental Geology, Geoarchaeology, Geoinformatics, and Watershed Sciences. Each student's program is developed in consultation with the graduate coordinator.

The **Environmental Geology Concentration** is an interdisciplinary master's program within the Jones College of Science, Engineering and Technology designed to prepare students for further graduate studies or careers in either the public or private sector. This concentration focuses on the chemical, physical, and biological aspects of environmental change both in the present and in the geologic past.

The **Geoarchaeology Concentration** is an interdisciplinary master's degree program designed to prepare students for further graduate studies or careers in the public or private sector. The geoarchaeology concentration offers students a broad range of options to develop a curriculum that matches their particular interests and needs. The geoarchaeology concentration emphasizes the relationship between human culture and the natural environment and provides opportunities to apply the principles and methods of geoscience research in an archaeological context.

The **Geoinformatics Concentration** is designed to prepare students for further graduate studies or careers in the field of geospatial information science and technology. Geospatial technology is a fast growing field with broad and multidisciplinary applications that has penetrated every aspect of our daily lives. The Geoinformatics Concentration provides students with up-to-date training on geospatial theory, application, and technology.

The **Watershed Science Concentration** is jointly sponsored between the Department of Geosciences and the Watershed Studies Institute (WSI). The Watershed Studies Institute program in Watershed Science is an interdisciplinary master's program within the Jones College of Science, Engineering and Technology designed to prepare students for careers or for further graduate studies in the broader aspects of watershed management and science. The student's program is developed in consultation with the graduate coordinator. Visit the Watershed Studies Institute site to learn more.

Geosciences is closely associated with the Mid-America Remote sensing Center (MARC) where hardware and software related to remote sensing and geographic information science are located. Students also have the opportunity to conduct research through activities of the department's Archaeology Laboratory.

Requirements for Admission

Applicants must meet the Murray State University requirements (see *Graduate Admissions*). The department requires that three letters of recommendation and GRE scores accompany application materials. A letter discussing reasons for the applicant's interest in the program should also be forwarded. Additional requirements for unconditional and conditional admission are as follows.

Unconditional

To qualify for unconditional admission, an applicant must have an overall grade point average of 3.0 (on a 4.0 scale) in a geoscience (or related) field and a composite GRE score (V+Q) of 1,000 old scale or 300 new scale.

Conditional

Students admitted conditionally are admitted to full standing after completing (1) any remedial courses required by the graduate

faculty and (2) one semester of graduate work with an overall grade point average of 3.0 or above.

Master of Science Geosciences CIP 40.0699

Total Course Requirements 30 hours

- GSC 612 Remote Sensing
- GSC 619 Seminar in Research Techniques
- GSC 621 Geographic Information Systems
- GSC 680 Advanced Geographic Information Systems
- GSC 696 Understanding Scientific Communication

Electives 14 hours

- GSC courses, at 600-level (9-10 hrs)
- GSC or related courses at 600-level (4-5)

Other Degree Requirements

Written and oral comprehensive examinations.

**Master of Science Geosciences/
Environmental Geology Concentration** CIP 40.0699

Total Course Requirements 30 hours

- GSC 619 Seminar in Research Techniques^{PT}
- GSC 621 Geographic Information Systems
- GSC 696 Understanding Scientific Communication
- GSC 698 Thesis Research^{L, R}
- GSC 699 Thesis Research^{L, R}

Environmental Geology Restricted Electives 15 hours

Choose any two courses of the following (6-7 hours):

- BIO 686 Limnology
- CHE 665 Biogeochemistry
- GSC 616 Isotope Geochemistry
- GSC 633 Paleocology
- GSC 642 Watershed Ecology
- GSC 680 Advanced Geographic Information Systems

Eight to nine hours from the following:

- ARC 615 Environmental Archaeology
- BIO 623 Physiological Ecology
- BIO 625 Biogeography
- BIO 632 Quantitative Ecology
- BIO 646 Stream Ecology
- BIO 678 Conservation Biology
- BIO 690 Disturbance Ecology
- CET 655 Environmental Regulatory Affairs
- CET 681 Pollution Assessment and Control
- CHE 613 Environmental Chemistry
- GSC 636 Soils and Geomorphology
- GSC 662 Hydrogeology
- GSC 665 Physical/Chemical Limnology
- GSC 691 Special Problems
- GSC 692 Special Problems
- GSC 693 Special Problems
- MAT 665 Applied Statistics I
- WSC 601 Seminar in Sustainability Studies

Other Degree Requirements

Defense of thesis.

**Master of Science Geosciences/
Geoarchaeology Concentration** CIP 40.0699

Total Course Requirements 30 hours

- ARC 600 Graduate Seminar in Archaeology
- GSC 619 Seminar in Research Techniques^{PT}
- GSC 621 Geographic Information Systems
- GSC 696 Understanding Scientific Communication
- GSC 698 Thesis Research^{L, R}
- GSC 699 Thesis Research^{L, R}

Geoarchaeology Restricted Electives 12 hours

Choose one course from the following:

- ARC 602 Graduate Archaeological Field Work
- GSC 636 Soils and Geomorphology
- GSC 656 Geophysical Surveying

Choose nine hours from the following:

- ARC 604 Archaeological Laboratory Systems
- ARC 605 Archaeological Information Systems
- ARC 610 Landscape Archaeology
- ARC 615 Environmental Archaeology
- GSC 612 Remote Sensing
- GSC 680 Advanced Geographic Information Systems
- GSC 691 Special Problems
- GSC 692 Special Problems
- GSC 693 Special Problems
- MAT 665 Applied Statistics I
- WSC 601 Seminar in Sustainability Studies

Other Degree Requirements

Defense of thesis.

**Master of Science Geosciences/
Geoinformatics Concentration** CIP 40.0699

Total Course Requirements 30 hours

- GSC 619 Seminar in Research Techniques^{PT}
- GSC 621 Geographic Information Systems
- GSC 696 Understanding Scientific Communication
- GSC 698 Thesis Research^{L, R}
- GSC 699 Thesis Research^{L, R}

Required Concentration Courses 10 hours

- GSC 612 Remote Sensing
- GSC 640 Advanced Remote Sensing
- GSC 680 Advanced Geographic Information Systems

Geoinformatics Restricted Electives 5 hours

Choose from the following:

- CIS 609 Data Warehouses and Business Intelligence
- CIS 615 Information System Security
- GSC 622 Digital Cartography
- GSC 641 Digital Image Processing Research
- GSC 656 Geophysical Surveying
- GSC 660 Spatial Analysis Techniques
- GSC 661 Precision GIS/GPS Applications
- GSC 678 Terrestrial Ecosystem Modeling
- GSC 679 Remote Sensing of Vegetation
- GSC 691 Special Problems
- GSC 692 Special Problems
- GSC 693 Special Problems
- MAT 665 Applied Statistics I

Other Degree Requirements

Defense of thesis.

**Master of Science Geosciences/
Watershed Science Concentration**

CIP 40.0699

Total Course Requirements 30 hours

- GSC 619 Seminar in Research Techniques^{PT}
- GSC 621 Geographic Information Systems
- GSC 642 Watershed Ecology
- GSC 696 Understanding Scientific Communication
- GSC 698 Thesis Research^{L, R}
- GSC 699 Thesis Research^{L, R}

Watershed Science Restricted Electives 5 hours

Courses must be approved by the advisory committee and represent at least two disciplines.

- AGR 674 Agricultural Irrigation and Water Systems
- BIO 625 Biogeography
- BIO 630 Animal Ecology
- BIO 631 Plant Ecology
- BIO 632 Quantitative Ecology
- BIO 646 Stream Ecology
- BIO 661 Freshwater Invertebrates
- BIO 663 Aquatic Entomology
- BIO 668 Wetland Ecology
- BIO 669 Biological Limnology
- BIO 670 Limnological Analysis Laboratory
- BIO 671 Ichthyology
- BIO 672 Herpetology
- BIO 678 Conservation Biology
- BIO 682 Waterfowl Management
- BIO 683 Fisheries Management
- BIO 686 Limnology
- BIO 687 Freshwater Biology
- BIO 688 Reservoir Ecology
- BIO 690 Disturbance Ecology
- CET 655 Environmental Regulatory Affairs
- CET 681 Pollution Assessment and Control
- CET 685 Remediation Technology
- CHE 613 Environmental Chemistry
- CHE 617 Advanced Organic Chemistry
- CHE 627 Chemical Separations
- CHE 628 Mass Spectrometry
- CHE 665 Biogeochemistry
- GSC 616 Isotope Geochemistry
- GSC 636 Soils and Geomorphology
- GSC 640 Advanced Remote Sensing
- GSC 641 Digital Image Processing Research
- GSC 643 Soil Micromorphology
- GSC 662 Hydrogeology
- GSC 665 Physical/Chemical Limnology
- GSC 678 Terrestrial Ecosystem Modeling
- GSC 679 Remote Sensing of Vegetation
- GSC 680 Advanced Geographic Information Systems

Other Degree Requirements

Successful completion of MAT 665 Applied Statistics I if substituted for GSC 619.

Written and oral comprehensive examinations as specified by the advisory committee in broad aspects of watershed science and area of concentration (usually taken in third semester of residence).

Defense of thesis.

CERTIFICATE:

Geospatial Data Science

CIP 45.0702

The Certificate in Geospatial Data Science (cGDS) program is designed to complement interdisciplinary graduate and professional degree programs in data science and to provide specialized set of courses emphasizing geospatial science and technology for students to gain professional skills and/or knowledge. The certification program will support professionals working in geospatial field and will provide experience using industry and federal data standards and methodologies for data acquisition/input, manipulation, analysis, modeling and output. It will also add value to traditional computer science and geography discipline areas, such as big data analytics, remote sensing, geographic information systems (GIS) and science, and CyberGIS.

A grade of C or better must be achieved in all courses for successful completion of the certificate program. Students may transfer up to six credit hours of equivalent graduate courses into the program.

Requirements for Admission

Students who hold an undergraduate or a graduate degree, or are currently enrolled in a graduate or professional degree program may apply for the Certificate in Geospatial Data Science program. Applicants must comply with the Murray State University requirements (see *Graduate Admissions*).

Unconditional Admission

To qualify for unconditional admission, an applicant must have an overall grade point average of 3.0 (on a 4.0 scale).

Conditional Admission

Students admitted conditionally are admitted to full standing after completing

- (1) any remedial courses required by the Program Coordinator and
- (2) one semester of graduate work with an overall grade point average of 3.0 or above.

Total Course Requirements 14 hours

- GSC 612 Remote Sensing
- GSC 621 Geographic Information Systems
- GSC 693 Special Problems

Required Limited Electives 3 hours

Choose from the following approved electives:

- BUS 684 Seminar in Geospatial Tools in Business
- CIS 609 Data Warehouses and Business Intelligence
- CIS 643 Advanced Business Analytics
- CIS 646 Manager's Guide to Database
- CIS 695 Comprehensive Project in Computer Information Systems
- GSC 640 Advanced Remote Sensing
- GSC 660 Spatial Analysis Techniques
- GSC 678 Terrestrial Ecosystem Modeling
- GSC 679 Remote Sensing of Vegetation
- GSC 680 Advanced Geographic Information Systems (GIS)
- GSC 691 Special Problems
- GSC 692 Special Problems
- GSC 696 Understanding Scientific Communication
- MKT 685 Seminar in Marketing Location Analytics
- TSM 615 Information System Security

Institute of Engineering

263A Collins Center
270-809-3392

Chair: Danny Claiborne. **Faculty:** Bahadir, Bunget, Claiborne, Crofton, Ford, Giltner, Hereford, Hildebrant, Kemp, Kobraei, Leedy, Lopez, Martin, Okuda, Ottway, Palmer, Payne, Perry, Ridley, Rogers, Schneiderman, Siebold, Thiede, Tubbs, Yarali, Zirbel.

The Institute of Engineering offers undergraduate programs in engineering, engineering technology, engineering graphics and design, physics and telecommunications systems management. It also offers a graduate program in applied engineering and technology management.

Murray State University offers a Bachelor of Science in Engineering (B.S.E.) as a major in engineering physics. The Engineering Physics program has four tracks in mechanical engineering, electrical engineering, biomedical engineering and advanced physics. In all of these areas, students will learn to use advanced analytical techniques in solving engineering problems, and will develop the applied background to attack new engineering challenges.

Murray State's Engineering Physics degree is an engineering program accredited by the Engineering Accreditation Commission of ABET (EAC/ABET). This accreditation will place a student on the pathway to become a licensed engineer in Kentucky and throughout the country. Recognition by this organization has been earned by 22 Engineering Physics programs nationwide.

The Institute of Engineering offers strong undergraduate programs in engineering technology, which are: architectural engineering technology, civil engineering technology, construction engineering technology, electromechanical engineering technology, environmental engineering technology, manufacturing engineering technology, and surveying engineering technology. Graduates from these programs are prepared to succeed in a modern industrial environment.

The Institute also offers an engineering graphics and design program. Graduates from this program are able to apply product and process design for products related to manufacturing or mechanical design.

Students interested in physics have two degree options. The traditional physics major is accompanied by a flexible area in applied physics, where a student can design curricular choices to fit their chosen professional goals. These degrees are well-suited to students desiring teaching certification, or intending to pursue graduate degrees or corporate/industrial research positions.

Kentucky's Program of Distinction in Telecommunications Systems Management (TSM) is also offered by the Institute of Engineering. The TSM program is actually an interdisciplinary program between the Jesse D. Jones College of Science, Engineering and Technology and the Arthur J. Bauernfeind College of Business. The TSM program prepares graduates to work on cutting-edge information technologies related to wireless technology, security, and network administration while also applying concepts toward business decisions and critical strategic planning as it relates to telecommunications systems.

Engineering Accreditation

The B.S.E. in Engineering Physics (including all tracks in biomedical, electrical, mechanical and advanced physics) is an engineering program accredited by the Engineering Accreditation Commission of ABET, <http://www.abet.org>. This accreditation will place a student on the pathway to become a licensed engineer in Kentucky and throughout the country.

Engineering Technology Accreditation

The Engineering Technology Accreditation Commission of ABET (ETAC/ABET) accredits Murray State programs in civil and construction engineering technology. The Civil Engineering Technology/General Track and the Civil Engineering Technology/Construction Track programs are accredited by the Engineering Technology Accreditation Commission of ABET, <http://www.abet.org>.

AREA:

Engineering Physics¹

Bachelor of Science in Engineering

CIP 14.1201

ACCREDITED BY: Engineering Accreditation Commission of ABET, <http://www.abet.org>

University Studies Requirements 42 hrs
(See *Academic Degrees and Programs*.)

University Studies selections must include:

•**Scientific Inquiry, Methodologies, and Quantitative Skills**

CHE 201 General College Chemistry²

MAT 250 Calculus and Analytic Geometry I²

PHY 235 Mechanics, Heat and Wave Motion

•**Social and Self-Awareness and Responsible Citizenship**

ECO 231 Principles of Microeconomics

or

HON 232 Honors Seminar in Economics

•**University Studies Electives**

MAT 308 Calculus and Analytic Geometry II²

PHY 236 Mechanics, Heat and Wave Motion Laboratory

Core Courses 56 hrs

EGR 100T Transitions

EGR 101 Introduction to Engineering

EGR 140 Introduction to Computing Applications in Science and Engineering

EGR 240 Thermodynamics I

EGR 259 Statics

EGR 264 Linear Circuits I

EGR 330 Dynamics

EGR 363 Signals and Systems

EGR 375 Materials Science

EGR 390 Engineering Measurements

EGR 460 Electricity and Magnetism I

EGR 498 Senior Engineering Design I

EGR 499 Senior Engineering Design II

MAT 309 Calculus and Analytic Geometry III²

MAT 338 Ordinary Differential Equations²

PHY 255 Electricity, Magnetism and Light

PHY 256 Electricity, Magnetism and Light Laboratory

PHY 370 Introduction to Modern Physics

PHY 470 Optics

Technical Electives³ 18 hrs

Each student must complete at least 18 hours of technical electives. A minimum of 12 technical elective credit hours must be EGR courses. Completion of a track is encouraged but not required. Twelve credit hours must be exclusive to each track for multi-track students. A maximum of six technical elective credit hours may come from combinations of EGR/PHY 488, 489, 520, and EGR 388.

Advanced Physics

Select nine hours of 300-level and above PHY courses beyond the core course requirements.

Completion of at least 18 hours is required in this track (12 hours must be EGR prefix courses).

Aerospace Engineering

- EGR 320 Fundamentals of Flight
- EGR 359 Mechanics of Materials
- EGR 420 Aerodynamics
- and one of the following:
- EGR 422 Propulsion
- EGR 440 Thermal and Fluid Systems Laboratory
- PHY 316 Introductory Astrophysics and Space Physics

or
any mechanical engineering track course
Completion of at least 18 hours is required in this track (12 hours must be EGR prefix courses). Remaining six hours of electives must be advisor approved.

Biomedical Instrumentation³

- BIO 115 The Cellular Basis of Life
- CHE 202 General Chemistry and Qualitative Analysis
- EGR 310 Fundamentals of Biomedical Engineering
- and one of the following:
- EGR 392 Nondestructive Testing
- EGR 425 Bio-inspired Intelligent Systems

any electrical engineering track course
Completion of at least 18 hours is required in this track (12 hours must be EGR prefix courses). Remaining four hours of electives must be advisor approved.

Electrical Engineering

- Select four of the following courses:
- EGR 360 Electric Machines
 - EGR 366 Analog Electronics I
 - EGR 376 Computational Analysis in Engineering
 - EGR 378 Logic Design I
 - EGR 425 Bio-inspired Intelligent Systems
 - EGR 461 Electricity and Magnetism II
 - EGR 463 Power Systems
 - EGR 466 Power Electronics
 - EGR 468 Digital Signal Processing

Completion of at least 18 hours is required in this track (12 hours must be EGR prefix courses). Remaining five to six hours of electives must be advisor approved.

Mechanical Engineering

- EGR 344 Fluid Mechanics
- EGR 359 Mechanics of Materials
- Select two of the following courses:
- EGR 342 Thermodynamics II
- EGR 346 Heat Transfer
- EGR 392 Nondestructive Testing
- EGR 430 Mechanical Vibrations
- EGR 433 Control Systems
- EGR 450 Mechanics and Materials Laboratory
- EGR 459 Mechanical Design
- EGR 475 Solid-State Physics and Engineering
- ITD 102 CAD Applications

Any aerospace engineering track course
Completion of at least 18 hours is required in this track (12 hours must be EGR prefix courses). Remaining six hours of electives must be advisor approved.

Mathematics Depth Elective⁴ 3-4 hrs

Each student must complete a mathematics depth elective chosen from MAT 335, 440, 442, 460, 508, 512, 513, 522, 523, 524, 525, 535, 538, 542, 545, 570; STA 450, 540, 541, 554 or as approved by the department chair.

Unrestricted Elective 0-1 hrs

The use of an unrestricted elective will depend on the number or hours taken from Technical Electives or the Mathematics Depth Elective.

Total Curriculum Requirements 120 hrs

¹This degree program has been approved by the Kentucky Education Professional Standards Board as a track for secondary education certification in physics. Students seeking certification via this track must complete the Engineering Physics curriculum and the courses required for secondary certification. For current information, students should consult an advisor in the Department of Adolescent, Career and Special Education and with Teacher Education Services.

²This course is considered a program corequisite and may be shared with a minor or second major.

³Students completing the track in biomedical instrumentation and intending to seek admission to medical school are encouraged to complete the following: BIO 321, 322, 333; CHE 312, 320, 325.

⁴Technical Electives must come from the courses listed in the elective tracks or EGR/PHY courses, 300-level and above, or as approved by department chair.

Engineering Science Minor 22 hrs

EGR 240, 259, 264, and 330, plus nine additional hours of engineering-related courses approved by an advisor in the Department of Engineering and Physics. Six hours must be upper-level courses.

Pre-Engineering Curriculum (64 hrs)

- CHE 201 General College Chemistry
- CHE 202 General Chemistry and Qualitative Analysis
- EGR 140 Introduction to Computing Applications in Science and Engineering
- MAT 250 Calculus and Analytic Geometry I
- MAT 308 Calculus and Analytic Geometry II
- MAT 309 Calculus and Analytic Geometry III
- MAT 338 Ordinary Differential Equations
- PHY 235 Mechanics, Heat and Wave Motion
- PHY 236 Mechanics, Heat and Wave Motion Laboratory
- PHY 255 Electricity, Magnetism and Light
- PHY 256 Electricity, Magnetism and Light Laboratory
- University Studies courses
- Discipline-specific courses

MAJOR:

Physics

Bachelor of Science/Bachelor of Arts CIP 40.0801

University Studies Requirements 38-44 hrs

(See *Academic Degrees and Programs*.)
Note: See required courses below before selecting Scientific Inquiry, Methodologies, and Quantitative Skills University Studies electives.

Required Courses 32 hrs

- EGR 140 Introduction to Computing Applications in Science and Engineering
- EGR 240 Thermodynamics I
- EGR 390 Engineering Measurements
- PHY 100T Transitions
- PHY 235 Mechanics, Heat and Wave Motion
- PHY 236 Mechanics, Heat and Wave Motion Laboratory
- PHY 255 Electricity, Magnetism and Light
- PHY 256 Electricity, Magnetism and Light Laboratory
- PHY 460 Electricity and Magnetism I
- PHY 470 Optics
- PHY 530 Mechanics I
- PHY 580 Modern Physics I

Co-requirements for Major 6 hrs

CHE 201	General College Chemistry ^{1,2}
CHE 202	General Chemistry and Qualitative Analysis ^{1,2}
CSC 420	Numerical Analysis I
	or
MAT 442	Introduction to Numerical Analysis ²
MAT 250	Calculus and Analytic Geometry I ^{1,2}
MAT 308	Calculus and Analytic Geometry II ^{1,2}
MAT 309	Calculus and Analytic Geometry III ^{1,2}
MAT 338	Ordinary Differential Equations ²

Required Limited Electives..... 3 hrs
PHY/EGR courses numbered 300 or above.

Required Minor 3-21 hrs²

Unrestricted Electives..... 14-20 hrs

Total Curriculum Requirements 120 hrs
¹Fulfill University Studies requirements. Required for major if not taken as a University Studies requirement.
²CHE 201 and 202 fulfill requirements for a minor in chemistry; MAT 250, 308, 309, 338, and 442 fulfill requirements for a minor in math.

MAJOR:

Physics/Secondary Certification (Grades 8-12)

Bachelor of Science/Bachelor of Arts CIP 40.0801

NOTE: Requirements for teacher certification are established by the Kentucky Education Professional Standards Board. Students are cautioned that changes in these requirements may occur. For current information, student should check with an advisor in the Department of Adolescent, Career and Special Education and with Teacher Education Services.

University Studies Requirements 38-44 hrs
 (See *Academic Degrees and Programs*.)

University Studies selections must include:

•Social and Self-Awareness and Responsible Citizenship

EDP 260 Psychology of Human Development
Note: Certification requires a grade of B or better in one English composition course and a B or better in a University Studies math course, public speaking, and EDU 103 or equivalent course. Additional requirements for admission to teacher education and student teaching must be met. See advisor and/or Office of Teacher Education Services for details.

Required Courses 32 hrs

EGR 140	Introduction to Computing Applications in Science and Engineering
EGR 240	Thermodynamics I
EGR 390	Engineering Measurements
PHY 100T	Transitions
PHY 235	Mechanics, Heat and Wave Motion
PHY 236	Mechanics, Heat and Wave Motion Laboratory
PHY 255	Electricity, Magnetism and Light
PHY 256	Electricity, Magnetism and Light Laboratory
PHY 460	Electricity and Magnetism I
PHY 470	Optics
PHY 530	Mechanics I
PHY 580	Modern Physics I

Co-requirements for Major 6 hrs

CHE 201	General College Chemistry ^{1,2}
CHE 202	General Chemistry and Qualitative Analysis ^{1,2}
CSC 420	Numerical Analysis I
	or
MAT 442	Introduction to Numerical Analysis ²

MAT 250	Calculus and Analytic Geometry I ^{1,2}
MAT 308	Calculus and Analytic Geometry II ^{1,2}
MAT 309	Calculus and Analytic Geometry III ^{1,2}
MAT 338	Ordinary Differential Equations ²

Required Limited Electives..... 3 hrs
PHY/EGR courses numbered 300-level or above.

Required for Secondary Certification 35 hrs

EDU 103	Issues and Practices of American Education ³
EDU 303	Strategies of Teaching
EDU 403	Structures and Foundations of Education
EDU 405	Evaluation and Measurement in Education ⁴
REA 427	Teaching Content Area Literacy in the Secondary School
SEC 420	Practicum in Secondary Schools ⁴
SEC 421	Student Teaching in the Secondary School
SEC 422	Extended Practicum ⁵
SED 300	Educating Students with Disabilities

Required Minor 3-21 hrs²

Total Curriculum Requirements 120-123 hrs

¹Fulfill University Studies requirements. Required for major if not taken as a University Studies requirement.
²CHE 201 and 202 fulfill requirements for a minor in chemistry; MAT 250, 308, 309, 338 and 442 fulfill requirements for a minor in math.
³With a grade of B or better.
⁴EDU 405 and SEC 420 must be taken together and two semesters before student teaching.
⁵Must be taken one semester before student teaching.

Physics Teaching Specialization

The teaching specialization in physics is a path to secondary certification in physics, designed to accompany certification in another science content area. (All College of Education and Human Services secondary certification course requirements must be met.)

Note: Even though this program exceeds Murray State University's requirements for a physics minor, in order for a physics minor to appear on a transcript, a minor must be declared, and all residential and graduation requirements must be met.

Requirements for teacher certification are established by the Kentucky Education Professional Standards Board and changes in these requirements may occur. Students should check with an advisor in the College of Education and Human Services for the most current information.

AST 115	Introductory Astronomy
AST 116	Introductory Astronomy Laboratory
MAT 250	Calculus and Analytic Geometry I ¹
MAT 308	Calculus and Analytic Geometry II ²
PHY 235	Mechanics, Heat and Wave Motion
PHY 236	Mechanics, Heat and Wave Motion Laboratory
PHY 255	Electricity, Magnetism and Light
PHY 256	Electricity, Magnetism and Light Laboratory
PHY 370	Introduction to Modern Physics

Required Limited Electives..... 9 hrs
PHY/EGR courses numbered 300-level or above.

Physics Teaching Specialization 36 hrs

¹Corequisite of PHY 235.
²Corequisite of PHY 255.

AREA:

Applied Physics

Bachelor of Science/Bachelor of Arts CIP 40.0801

University Studies Requirements 38-44 hrs

(See *Academic Degrees and Programs*.)

Note: See required courses below before selecting Scientific Inquiry, Methodologies, and Quantitative Skills University Studies electives.

Required Courses 33 hrs

- EGR 140 Introduction to Computing Applications in Science and Engineering
- EGR 240 Thermodynamics I
- EGR 264 Linear Circuits I
- PHY 100T Transitions
- PHY 235 Mechanics, Heat and Wave Motion
- PHY 236 Mechanics, Heat and Wave Motion Laboratory
- PHY 255 Electricity, Magnetism and Light
- PHY 256 Electricity, Magnetism and Light Laboratory
- PHY 370 Introduction to Modern Physics
or
- PHY 580 Modern Physics I
- PHY 460 Electricity and Magnetism I
- PHY 470 Optics
- PHY 530 Mechanics I

Co-requirements for Area 6 hrs

- CHE 201 General College Chemistry^{1,2}
- CHE 202 General Chemistry and Qualitative Analysis^{1,2}
- CSC 420 Numerical Analysis I
or
- MAT 442 Introduction to Numerical Analysis²
- MAT 250 Calculus and Analytic Geometry I^{1,2}
- MAT 308 Calculus and Analytic Geometry II^{1,2}
- MAT 309 Calculus and Analytic Geometry III^{1,2}
- MAT 338 Ordinary Differential Equations²

Technical Electives³ 24 hrs

Unrestricted Electives 13-19 hrs

Total Curriculum Requirements 120 hrs

¹Fulfill University Studies requirements. Required for area if not taken as a University Studies requirement.

²This course is considered a program corequisite and may be shared with a minor or second major.

³The technical electives are to be a coherent set of courses chosen to supply depth and breadth necessary for the pursuit of a particular career objective. The chosen electives must be approved by a departmental curriculum committee.

AREA:

Applied Physics/Pre-MBA Track

Bachelor of Science/Bachelor of Arts CIP 40.0801

Students who wish to complete a scientific course of study and qualify for admission to Murray State's Master of Business Administration program may follow the Applied Physics Curriculum/Pre-MBA track. Course requirements are identical to those listed under the Applied Physics program, with the exception of technical electives. Technical electives must be chosen in accordance with MBA admission guidelines, and are as follows:

Pre-MBA Required Electives 27 hrs

- ACC 200 Principles of Financial Accounting
- ACC 201 Principles of Managerial Accounting

- BUS 355 Information Systems and Decision Making
- CIS 443 Business Statistics III
- ECO 230 Principles of Macroeconomics
- ECO 231 Principles of Microeconomics
- FIN 330 Principles of Finance
- MGT 350 Fundamentals of Management
- MKT 360 Principles of Marketing

Unrestricted Electives 6 hrs

Astronomy Minor 21 hrs

AST 115, 116, 316; PHY 130, 131, 132, 133, and six additional hours of approved astronomy courses numbered 300 and above. PHY 235 and 255 may be substituted for PHY 130 and 132 with approval from the department chair. Physics majors must take CHE 201 and GSC 101 in place of PHY 130, 131, 132, and 133. Six hours must be upper-level courses.

Physics Minor 22 hrs

PHY 235, 236, 255, 256, 370, and nine additional hours of approved physics (PHY) or engineering physics (EGR) courses numbered 300 and above. PHY 130 and 131 may be substituted for PHY 235 and 236; PHY 132 and 133 may be substituted for 255 and 256, with approval from the department chair. Six hours must be upper-level courses.

Engineering Technology Accreditation

The Technology Accreditation Commission of ABET (TAC/ABET) accredits Murray State programs in civil and construction engineering technology. The Civil Engineering Technology/General Track and the Civil Engineering Technology/Construction Track programs are accredited by the Technology Accreditation Commission of ABET, 111 Market Place, Suite 1050, Baltimore, MD 21202-4012. Phone (410) 347-7700.

Professional Licensure

Students interested in pursuing a career as a professional land surveyor must complete courses specified by the Kentucky Board of Licensure for Professional Engineering and Land Surveyors (www.boels.ky.gov). Required courses may be taken as electives by students in the Civil Engineering Technology program under the supervision of an advisor. Students completing Board requirements normally sit for the Fundamentals of Surveying exam in their last semester at Murray State University.

Engineering Technology

The Engineering Technology programs are: Architectural Engineering Technology, Civil Engineering Technology, Construction Engineering Technology, Electromechanical Engineering Technology, and Environmental Engineering Technology.

Civil Engineering Technology

A baccalaureate degree in civil engineering technology provides students with a background in the design of steel and concrete structures, surveying, soil mechanics and foundations, construction materials, and engineering mechanics. Potential employers include construction companies, consulting engineering and architectural firms, state and federal governments, municipalities, testing laboratories, surveying firms, utilities, and materials suppliers.

The civil engineering technology program prepares graduates for careers in design (working with a team of engineers or architects in the preparation of engineering or architectural design documents), construction (as a field engineer, project engineer, or surveyor), or technical sales. An associate degree in civil engineering technology may also be obtained from Murray State University.

Architectural Engineering Technology

A baccalaureate degree in architectural engineering technology provides students with a background in architectural design, computer-aided design, building structures and structural design, steel and concrete structures, surveying and site planning, and construction estimating. Potential employers include architectural firms, construction (design/build) companies, consulting engineering firms, state and federal governments, municipalities, materials suppliers, and utilities. Architectural engineering technologists are educated in the process of taking a project from the drawing to the completed structure. Working together with architects and engineers, they assist in producing drawings and specifications for major construction projects. Architectural engineering technology prepares graduates for careers in architectural design, planning, development, and construction as well as technical or sales positions in a variety of manufacturing organizations associated with the building industry. An architectural engineering technology graduate seeking registration/licensure as an architect would usually pursue a Master of Architecture degree, typically requiring two or three years of additional study.

Construction Engineering Technology

A baccalaureate degree in construction engineering technology provides students with experience in construction, estimating, project management, scheduling, surveying, building structures, construction materials, and engineering mechanics. The curriculum stresses the application of technical knowledge, construction methods, problem-solving ability, and communication skills toward the completion of large-scale construction projects. Career opportunities for the construction-engineering technologist are as diverse as the industry. Potential employers include construction companies, general contractors, subcontractors, construction equipment and materials suppliers, testing laboratories, governments, industrial companies, and utilities.

The construction engineering technology program prepares graduates for supervisory and managerial careers within the construction industry. With a degree in construction engineering technology, the student will be qualified for an entry-level position as a construction project engineer, project manager, estimator, sales engineer, or field engineer.

Environmental Engineering Technology

A baccalaureate degree in environmental engineering technology provides graduates with backgrounds in municipals and industrial water and wastewater treatment system design and operations, water pollution control, solid and hazardous waste management and site remediation, air pollution control, and environmental regulatory compliance. Course work includes field and laboratory sampling and analysis plus design of pollution control systems.

Graduates obtain careers with industries, environmental consultants and remediation contractors, municipalities, testing laboratories, state or federal government agencies, and chemical manufacturing corporations.

Electromechanical Engineering Technology

A baccalaureate degree in electromechanical engineering technology provides students with backgrounds in mechanical and electrical systems, fluid power, controls, and industrial networks. Electromechanical graduates work in manufacturing and process plant engineering, operation, maintenance, new product design, systems design, system analysis, and systems integration.

The electromechanical engineering technologist is a blend of mechanical and electrical engineering technology, computer science, information technology, and control systems. Graduates have broad application backgrounds in automation, electronics, data acquisition, controls, programming, and mechanical and electrical science prin-

ciples. This allows students to understand the design and operation of systems found in the plant environment.

Manufacturing Engineering Technology

A baccalaureate degree in manufacturing engineering technology provides students with a broad range of knowledge and skills related to industry and industrial supervision. Graduates from this program are exposed to the applied aspects of industrial processes, production systems, production management, computer integrated design, manufacturing systems, human relations and human resource development. The graduates from this program will generally work in one of a variety of industries working directly with engineers, designers, and production personnel as supervisors and technical support, utilizing skills in computer numerical control, hydraulics, machine tool processes, CAD, CAM, computer integration, industrial automation and system integration. Additional skills in electrical systems, accounting, marketing, human resource management and business management allows graduates to work in a variety of industrial environments.

Civil Engineering Technology

Associate of Science CIP 15.0201

University Studies Requirements 23 hrs
(See *Academic Degrees and Programs*.)

University Studies selections must include:
•Scientific Inquiry, Methodologies, and Quantitative Skills
 PHY 130 General Physics I
 PHY 131 General Physics I Laboratory

Required Courses 32 hrs
 CET 280 Plane Surveying
 CET 284 Sustainable Design and Construction
 CET 385 Construction Estimating I
 ENG 324 Technical Writing
 ENT 100T Transitions
 ENT 287 Statics for Technology
 ENT 358 Mechanical and Electrical Systems
 ITD 107 Introduction to Technical Drawing and
 Computer-Aided Drafting

Support Courses 13 hrs
 GSC 101 The Earth and the Environment
 MAT 130 Technical Math I
 PHY 132 General Physics II
 PHY 133 General Physics II Laboratory

Total Curriculum Requirements 62 hrs

AREA:

Civil Engineering Technology/General Track
 Bachelor of Science CIP 15.0201

This track is ACCREDITED BY: Engineering Technology Accreditation Commission of ABET, <http://www.abet.org>

University Studies Requirements 44 hrs
(See *Academic Degrees and Programs*.)

University Studies selections must include:
•Scientific Inquiry, Methodologies, and Quantitative Skills
 MAT 130 Technical Math I
 PHY 130 General Physics I *and*
 PHY 131 General Physics I Laboratory
 PHY 132 General Physics II *and*
 PHY 133 General Physics II Laboratory

•Social and Self-Awareness and Responsible Citizenship

ECO 230 Principles of Macroeconomics

•University Studies Electives

GSC 101 The Earth and the Environment

MAT 230 Technical Math II

Core Courses 41 hrs

- CET 280 Plane Surveying
- CET 284 Sustainable Design and Construction
- CET 385 Construction Estimating I
- CET 480 Construction Planning and Management
- ENG 324 Technical Writing
- ENT 100T Transitions
- ENT 287 Statics for Technology
- ENT 358 Mechanical and Electrical Systems
- ENT 382 Hydraulics
- ENT 393 Engineering Economy
- ENT 419 Senior Project I
- IOE 125 Analytic Methods in Engineering Technology
- IOE 399 Professional Development Seminar I
- IOE 488 Cooperative Education/Internship
- ITD 107 Introduction to Technical Drawing and Computer-Aided Drafting

Required Courses 26 hrs

- CET 298 Strength of Materials
- CET 370 Route Surveying
- CET 410 Transportation Systems and Design
- CET 481 Structural Steel Design
- CET 482 Reinforced Concrete Design
- CET 483 Construction Materials
- CET 484 Soil Mechanics and Foundations
- ENT 286 Introduction to Environmental Engineering Technology

Emphasis 9-11 hrs

Choose one area of emphasis below:

Civil

GSC 202 Introduction to Geographic Information Science

GSC 507 Land Use Planning

ITD 301 Architectural Design Studio I

Construction

CET 386 Construction Estimating II

CET 490 Construction Scheduling and Methods

ITD 301 Architectural Design Studio I

Environmental

CET 330 Water Quality Technology I

CET 331 Water Quality Technology II

CET 585 Remediation Technology

Total Curriculum Requirements 120-122 hrs

**AREA: Civil Engineering Technology/
Architectural Engineering Technology Track**

Bachelor of Science CIP 15.0201

University Studies Requirements 44 hrs

(See *Academic Degrees and Programs.*)

University Studies selections must include:

•Scientific Inquiry, Methodologies, and Quantitative Skills

MAT 130 Technical Math I

PHY 130 General Physics I

PHY 131 General Physics I Laboratory

PHY 132 General Physics II

PHY 133 General Physics II Laboratory

•Social and Self-Awareness and Responsible Citizenship

ECO 230 Principles of Macroeconomics

•University Studies Electives

GSC 101 The Earth and the Environment

MAT 230 Technical Math II

Core Courses 41 hrs

- CET 280 Plane Surveying
- CET 284 Sustainable Design and Construction
- CET 385 Construction Estimating I
- CET 480 Construction Planning and Management
- ENG 324 Technical Writing
- ENT 100T Transitions
- ENT 287 Statics for Technology
- ENT 358 Mechanical and Electrical Systems
- ENT 382 Hydraulics
- ENT 393 Engineering Economy
- ENT 419 Senior Project I
- IET 125 Analytical Methods in Engineering Technology
- IET 399 Professional Development Seminar I
- IET 488 Cooperative Education/Internship
- ITD 107 Introduction to Technical Drawing and Computer-Aided Drafting

Track Courses 35 hrs

- CET 298 Strength of Materials
- CET 310 Anatomy of Buildings
- CET 481 Structural Steel Design
- CET 482 Reinforced Concrete Design
- CET 483 Construction Materials
- ITD 104 Computer Aided Design
- ITD 301 Architectural Design I
- ITD 401 Architectural Design II
- ITD 503 Architectural Design III

Total Curriculum Requirements 120 hrs

**AREA: Civil Engineering Technology/
Construction Engineering Technology Track**

Bachelor of Science

CIP 15.0201

This track is ACCREDITED BY: Engineering Technology Accreditation Commission of ABET, <http://www.abet.org>

University Studies Requirements 44 hrs

(See *Academic Degrees and Programs.*)

University Studies selections must include:

•Scientific Inquiry, Methodologies, and Quantitative Skills

MAT 130 Technical Math I

PHY 130 General Physics I

PHY 131 General Physics I Laboratory

PHY 132 General Physics II

PHY 133 General Physics II Laboratory

•Social and Self-Awareness and Responsible Citizenship

ECO 230 Principles of Macroeconomics

•University Studies Electives

GSC 101 The Earth and the Environment

MAT 230 Technical Math II

Core Courses 41 hrs

- CET 280 Plane Surveying
- CET 284 Sustainable Design and Construction

CET	385	Construction Estimating I
CET	480	Construction Planning and Management
ENG	324	Technical Writing
ENT	100T	Transitions
ENT	287	Statics for Technology
ENT	358	Mechanical and Electrical Systems
ENT	382	Hydraulics
ENT	393	Engineering Economy
ENT	419	Senior Project
IET	125	Analytical Methods in Engineering Technology
IET	399	Professional Development Seminar I
IET	488	Cooperative Education/Internship
ITD	107	Introduction to Technical Drawing and Computer-Aided Drafting

Track Courses 35 hrs

ACC	200	Principles of Financial Accounting
CET	298	Strength of Materials
CET	310	Anatomy of Buildings
CET	386	Construction Estimating II
CET	481	Structural Steel Design
CET	482	Reinforced Concrete Design
CET	483	Construction Materials
CET	484	Soil Mechanics and Foundations
CET	490	Construction Scheduling and Methods
MGT	350	Fundamentals of Management
OSH	384	Construction Safety

Total Curriculum Requirements 120 hrs

**AREA: Civil Engineering Technology/
Environmental Engineering Technology Track**

Bachelor of Science CIP 15.0201

University Studies Requirements 44 hrs

(See *Academic Degrees and Programs.*)

University Studies selections must include:

•Scientific Inquiry, Methodologies, and Quantitative Skills

MAT	130	Technical Math I
PHY	130	General Physics I
PHY	131	General Physics I Laboratory
PHY	132	General Physics II
PHY	133	General Physics II Laboratory

•Social and Self-Awareness and Responsible Citizenship

ECO	230	Principles of Macroeconomics
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•University Studies Electives

GSC	101	The Earth and the Environment
MAT	230	Technical Math II

Core Courses 41 hrs

CET	280	Plane Surveying
CET	284	Sustainable Design and Construction
CET	385	Construction Estimating I
CET	480	Construction Planning and Management
ENG	324	Technical Writing
ENT	100T	Transitions
ENT	287	Statics for Technology
ENT	358	Mechanical and Electrical Systems
ENT	382	Hydraulics
ENT	393	Engineering Economy
ENT	419	Senior Project
IET	125	Analytical Methods in Engineering Technology
IET	399	Professional Development Seminar I

IET	488	Cooperative Education/Internship
ITD	107	Introduction to Technical Drawing and Computer-Aided Drafting

Track Courses 37 hrs

CET	330	Water Quality Technology I
CET	331	Water Quality Technology II
CET	342	Air Quality Technology
CET	353	Solid and Hazardous Waste Management
CET	555	Environmental Regulatory Affairs
CET	585	Remediation Technology
CHE	111	Essentials of Chemistry and Biochemistry
ENT	286	Introduction to Environmental Engineering Technology
ENT	400	Energy Management
GSC	202	Introduction to Geographic Information Science
STA	135	Probability and Statistics

Total Curriculum Requirements 122 hrs

**AREA: Civil Engineering Technology/
Surveying Engineering Technology Track**

Bachelor of Science CIP 15.0201

University Studies Requirements 44 hrs

(See *Academic Degrees and Programs.*)

University Studies selections must include:

•Scientific Inquiry, Methodologies, and Quantitative Skills

MAT	130	Technical Math I
PHY	130	General Physics I
PHY	131	General Physics I Laboratory
PHY	132	General Physics II
PHY	133	General Physics II Laboratory

•Social and Self-Awareness and Responsible Citizenship

ECO	230	Principles of Macroeconomics
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•University Studies Electives

GSC	101	The Earth and the Environment
MAT	230	Technical Math II

Core Courses 41 hrs

CET	280	Plane Surveying
CET	284	Sustainable Design and Construction
CET	385	Construction Estimating I
CET	480	Construction Planning and Management
ENG	324	Technical Writing
ENT	100T	Transitions
ENT	287	Statics for Technology
ENT	358	Mechanical and Electrical Systems
ENT	382	Hydraulics
ENT	393	Engineering Economy
ENT	419	Senior Project
IET	125	Analytical Methods in Engineering Technology
IET	399	Professional Development Seminar I
IET	488	Cooperative Education/Internship
ITD	107	Introduction to Technical Drawing and Computer-Aided Drafting

Track Courses 35 hrs

CET	370	Route Surveying
CET	381	Boundary Surveying I
CET	410	Transportation Systems and Design
CET	460	Geodesy
CET	486	Boundary Surveying II
CSC	202	Introduction to Geographic Information Science

GSC 521 Geographic Information Systems
 PHI 202 Ethics
 Technical Electives (5 hrs)

Total Curriculum Requirements 120 hrs

**AREA:
 Electromechanical Engineering Technology**

Bachelor of Science CIP 15.0403

University Studies Requirements 43-47 hrs
 (See *Academic Degrees and Programs.*)

University Studies selections must include:

•Scientific Inquiry, Methodologies, and Quantitative Skills

MAT 130 Technical Math I
 or

PHY 130 General Physics I
 and

PHY 131 General Physics I Laboratory
 STA 135 Introduction to Probability and Statistics

•Social and Self-Awareness and Responsible Citizenship

ECO 230 Principles of Macroeconomics
 or

ECO 231 Principles of Microeconomics

•University Studies Electives

MAT 230 Technical Math II

PHY 132 General Physics II
 and

PHY 133 General Physics II Laboratory

Core Courses 69 hrs¹

- EMT 110 Electrical Systems I
- EMT 210 Electrical Systems II
- EMT 201 Engineering Technology Simulation
- EMT 202 Engineering Technology Analysis
- EMT 261 Introduction to Fluid Power Systems
- EMT 262 Introduction to Fluid Power Systems Laboratory
- EMT 305 Electrical Machinery and Controls
- EMT 310 Programmable Logic Controllers
- EMT 312 Industrial Instrumentation
- EMT 320 Mechatronics
- EMT 351 Industrial and Commercial Power Distribution
- EMT 365 Dynamics for Technology
- EMT 455 Manufacturing Control Systems
- EMT 461 Motion Controls
- ENG 324 Technical Writing
- ENT 100T Transitions
- ENT 287 Statics for Technology
- ENT 393 Engineering Economy
- ENT 419 Senior Project I
- IET 399 Professional Develop Seminar I
- IET 488 Cooperative Education/Internship
- ITD 102 CAD Applications
- TSM 301 Physical Network Theory

Technical Electives 7 hrs

Total Curriculum Requirements 120 hrs

¹A minimum grade of C is required in all EMT, ENT, and TSM prefix courses.

AREA:

Manufacturing Engineering Technology

Bachelor of Science

CIP 15.0613

University Studies Requirements 45 hrs
 (See *Academic Degrees and Programs.*)

University Studies selections must include:

•Scientific Inquiry, Methodologies, and Quantitative Skills

MAT 130 Technical Math I

PHY 130 General Physics I

PHY 131 General Physics I Laboratory

STA 135 Introduction to Probability and Statistics

•Social and Self-Awareness and Responsible Citizenship

ECO 230 Principles of Macroeconomics

or

ECO 231 Principles of Microeconomics

•University Studies Electives

CSC 199 Introduction to Information Technology

MAT 230 Technical Math II

Core Courses 64 hrs

- EMT 110 Electrical Systems I
- EMT 261 Introduction to Fluid Power Systems
- EMT 262 Introduction to Fluid Power Systems Laboratory
- EMT 310 Programmable Logic Controllers
- EMT 312 Industrial Instrumentation
- EMT 351 Power Distribution
- ENG 324 Technical Writing
- ENT 100T Transitions
- ENT 393 Engineering Economy
- IET 399 Professional Development Seminar I
- IET 488 Cooperative Education/Internship
- IOE 350 Technology Management
- ITD 102 CAD Applications
- ITD 130 Manufacturing Processes and Materials
- ITD 204 Parametric Modeling and Rendering
- ITD 330 Machine Tool Processes
- MET 310 Manufacturing Analysis
- MET 320 Control Systems
- MET 400 Lean Manufacturing Systems
- MET 410 Sustainable Management
- MET 440 Quality Management Systems
- MET 450 Systems Project Management

Technical Electives 13 hrs

Total Curriculum Requirements 120 hrs

Engineering Graphics and Design

A baccalaureate degree in engineering graphics and design provides students with the fundamentals of design principles, computer aided design, and commercial/industrial design standards. Graduates will be prepared to work with engineers and architects in designing, constructing and manufacturing in modern industrial and architectural corporations.

This broad based program emphasizes computer aided design, and design graphics including: mechanical engineering drawings, renderings, technical animations and 3D parametric design. Applied engineering and engineering design/CAD are typical job descriptors for engineering graphics and design graduates. Graduates typically find jobs in manufacturing companies, engineering consulting firms, and architectural firms utilizing cutting edge computer graphic design capabilities and applied engineering concepts in the design of modern processes, components and structures.

AREA:

Engineering Graphics and Design

Bachelor of Science

CIP 15.1302

University Studies Requirements 42 hrs
(See *Academic Degrees and Programs.*)

University Studies selections must include:

•Scientific Inquiry, Methodologies, and Quantitative Skills

- CHE 105 Introductory Chemistry
- MAT 230 Technical Math II
- PHY 130 General Physics I
- PHY 131 General Physics I Laboratory

•Social and Self-Awareness and Responsible Citizenship

- ECO 231 Principles of Microeconomics

•University Studies Electives

- CSC 199 Introduction to Information Technology
- STA 135 Introduction to Probability and Statistics

Core Courses 78 hrs

- CET 298 Strength of Materials
- ENG 324 Technical Writing
- ENT 287 Statics for Technology
- IOE 350 Technology Management
- IOE 399 Professional Development Seminar I
- IOE 488 Cooperative Education/Internship
- IOE 587 Quality Control
- ITD 100T Transitions
- ITD 101 Introduction to Design and Graphic Communications
- ITD 104 Computer Aided Design
- ITD 130 Manufacturing Processes and Materials
- ITD 204 Parametric Modeling and Rendering
- ITD 302 Applied Technical Drawing
- ITD 303 Advanced Parametric Modeling
- ITD 306 Engineering Graphics
- ITD 330 Machine Tool Processes
- ITD 333 ANSI Fundamentals for Mechanical Product Design
- TD 403 Product and Tooling Design
- ITD 404 Computer-Aided Engineering Design Graphics
- ITD 498 Senior Design
- MAT 130 Technical Math I

Technical Electives 8 hrs

Total Curriculum Requirements 120 hrs

Industrial Technology

Associate of Science

CIP 15.0612

University Studies Requirements 22 hrs
(See *Academic Degrees and Programs.*)

University Studies selections must also include:

•Scientific Inquiry, Methodologies, and Quantitative Skills

- MAT 130 Technical Math I
- PHY 130 General Physics I
- PHY 131 General Physics I Laboratory

•Social and Self-Awareness and Responsible Citizenship

- ECO 231 Principles of Microeconomics

Required Courses 28 hrs

- EMT 261 Introduction to Fluid Power Systems
- EMT 262 Introduction to Fluid Power Systems Laboratory
- IET 399 Professional Development Seminar I

- ITD 100T Transitions
- ITD 101 Introduction to Design and Graphic Communications
- ITD 104 Computer Aided Design
- ITD 130 Manufacturing Processes and Materials
- ITD 204 Parametric Modeling and Rendering
- ITD 330 Machine Tool Processes
- TSM 110 Electrical Systems I

Technical Electives 14 hrs

Total Curriculum Requirements 64 hrs

Environmental Technology Minor 21 hrs

CET 284, 330, 331, 342, 353, 555, and ENT 286. Prerequisite courses are not applicable to this minor. Six hours must be upper-level courses.

Industrial and Engineering Technology Minor 21 hrs

Program must be approved by an advisor with at least six hours of courses at 300-level or above.

Graduate Program

Graduate Coordinator - Michael Kemp

The Department of Industrial and Engineering Technology offers the Master of Science degree in Applied Engineering and Technology Management. This degree is designed for individuals who wish to further their knowledge of management, leadership, and technology. The program is appropriate for graduates with backgrounds in technology, engineering, science, and mathematics and other related fields who have significant business/industrial work experience.

The applied engineering and technology management degree places emphasis on the involvement with real situations and problems for an industrial setting. A broad range of selections are provided in the areas of resource management, supervision and training, quality control, environment and safety management, business and finance, research, communications, and information systems.

Requirements for Admission

Applicants must meet the Murray State University requirements (see *Graduate Admissions*). Additional requirements for unconditional and conditional admission are as follows. The Graduate Record Examination (GRE) is not required for admission to this program.

Unconditional

Admission to the Master of Science degree in Applied Engineering and Technology Management is open to persons holding a baccalaureate or higher degree from a regionally accredited college in engineering, engineering technology, science, or related fields. Persons holding degrees in other fields may also apply if the nature of the professional employment has provided significant technology-related experience. Courses included in the program of study may require prerequisite course work.

Unconditional admission requires a 2.75 grade point average (GPA based on an A equals 4.0).

Conditional

Students denied unconditional admission to Master of Science degree programs in the Department of Industrial and Engineering Technology, but who meet University requirements for conditional admission, may petition for conditional admission. Conditional admission is usually reserved for applicants whose previous education and/or experience is evaluated by the department chair to indicate

a likelihood of success. Students applying for conditional admission must have a GPA of 2.25 to 2.74. A student accepted conditionally will be expected to complete nine hours of prescribed work with a minimum 3.0/4.0 GPA. These initial nine hours are assigned by the advisor and may be in addition to the student's program of study. After completion of these nine hours the Departmental Graduate Committee will evaluate the student's progress. The first nine hours may include undergraduate or graduate courses as directed by the department. Depending on the student's undergraduate preparation, undergraduate courses may be required before enrolling in any graduate courses. Graduate courses may be allowed concurrently with these undergraduate courses in special situations.

Language Proficiency

Applicants whose native tongue is not English or who did not graduate from an English speaking college or university must demonstrate language proficiency. Applicants must adhere to the university's guidelines for language proficiency.

**Master of Science
Applied Engineering and Technology Management**
CIP 15.0000

The Applied Engineering and Technology Management program is designed for individuals who are seeking positions of increased leadership and responsibility in business, industry, and government. Emphasis is placed on involvement with real situations and problems. The student, in consultation with an advisor, will develop an interdisciplinary plan of study to increase skills in a specific technical area and to strengthen abilities to communicate effectively in the management of technical functions.

Total Course Requirements 30 hours¹

- CET 682 Industrial Environmental Management
- IET 684 Engineering Economic Analysis
- IET 691 Industrial Operations¹
- IET 693 Systems Management Technology
- IET 695 Industrial Supervision^{PT}
- IET 697 Research in Industrial and Engineering Technology^{R,1}

Electives 12 hrs

Select four electives with advisor approval. (No more than two courses total may be taken with the following prefixes: ACC, BUS, CIS, FIN, MGT, or MKT.)

Other Degree Requirements

- A written comprehensive examination is required as a component of graduation requirements.
- Independent study, special problems, and workshop courses may only be taken in special circumstances and with prior advisor and instructor approval.

¹A basic statistics course or equivalent is required prior to enrolling in IET 697.

Telecommunications Systems Management

Telecommunications systems are networks of leading-edge technologies that allow organizations and individuals throughout business and industry to communicate instantaneously around the world. Telecommunications systems provide the architectural structure for such activities as electronic commerce, electronic banking, video teleconferencing, distance learning, telemedicine, data interchange, on-demand video, wireless technology, information security, and a host of other traditional and new uses for business and industry.

Students in the baccalaureate program will have the insight and ability to function in all areas of Telecommunications Systems Management (TSM) but will choose a program option that will support the aspect of management which interests them most - the physical system and its components, the software that drives the system, or the business structure and operations that depend on the system. In addition, they will be prepared to move on to the Master of Science in Telecommunications Systems Management if they so choose.

Telecommunications Systems Management is an interdisciplinary program drawing upon the strengths of the Bauernfeind College of Business and the Jesse D. Jones College of Science, Engineering and Technology. These programs which are jointly administered by the two colleges provide students a unique opportunity to develop both technical expertise and management expertise in this dynamic field.

**AREA:
Telecommunications Systems Management**

Bachelor of Science CIP 11.0401

University Studies Requirements 41 hrs
(See *Academic Degrees and Programs.*)

University Studies selections must include:

•Scientific Inquiry, Methodologies, and Quantitative Skills

- MAT 140 College Algebra
- PHY 125 Brief Introductory Physics
- PHY 126 Brief Introductory Physics Laboratory
- STA 135 Introduction to Probability and Statistics

•Social and Self-Awareness and Responsible Citizenship

- ECO 231 Principles of Microeconomics

•University Studies Electives

- CSC 101 Introduction to Problem Solving Using Computers
- CSC 199 Introduction to Information Technology

Required Courses 58 hrs

- ACC 200 Principles of Financial Accounting
- CIS 307 Decision Support Technologies
- CIS 317 Principles of Information Systems Analysis and Design
- CSC 232 Programming in C#
- ENG 324 Technical Writing
- FIN 330 Principles of Finance
- IET 399 Professional Development Seminar I
- IOE 350 Technology Management
- MKT 360 Principles of Marketing
- TSM 100T Transitions
- TSM 134 Introduction to Telecommunications Systems Management
- TSM 232 Operating Systems
- TSM 233 Network Services
- TSM 241 Networking Fundamentals
- TSM 301 Physical Network Theory
- TSM 320 Introduction to Wireless Technology
- TSM 343 Protocol Analysis

- TSM 351 Principles of Information Security
- TSM 411 Network Design, Operations and Management
- TSM 443 Telephone Technology
- TSM 488 Cooperative Education/Internship¹

Selected Emphasis..... 21 hrs

Choose **one** of the methods of completion below:

- 1) Select 21 hours from any of the classes listed below or
- 2) Select two emphasis areas and complete at least 21 hours

Note: When selecting courses for an area of emphasis or as an elective, a maximum of nine hours may be selected from courses with a business prefix including: MGT or MKT. Adherence to course prerequisites is critical.

Wireless Communications Electronics

- TSM 321 Wireless Communications
- TSM 322 Wireless Communications II
- TSM 323 Wireless Mobile Internet
- TSM 421 Mobile Satellite Communications

Network Security

- TSM 352 System Security
- TSM 353 Network Security
- TSM 440 Information Policy and Security Auditing
- TSM 441 Advanced Information Security

System Administration

- CSC 310 Database Administration
- CSC 360 Scripting Languages
- TSM 450 Telecommunications Policy and Management
- TSM 517 Systems Planning

Approved Electives

- CSC 370 Introduction to Artificial Intelligence
- ECO 335 Economics and Public Policy of Telecommunications Industry
- LSC 443 Fundamentals of Operations and Technology
- MGT 358 Entrepreneurial Business Plan Development
- MKT 475 Marketing Strategies in E-Commerce
- TSM 360 Virtualized Enterprise Systems
- TSM 444 Enterprise Networks

Total Curriculum Requirements 120 hrs

¹Maximum of three hours Internship or Cooperative Education counts toward a degree.

Telecommunications Systems Minor 22 hrs

TSM 134, 135, 232, 233, and 241. Nine hours of advisor approved electives. Six hours must be 300- or 400-level courses.

Graduate Program

Graduate Coordinator - Michael Bowman
270-809-6218

The master's program in telecommunications systems management provides students a core of fundamental courses and the concentration of choosing a specialization within the curriculum. Although students in the master's program will have the insight and ability to manage all aspects of telecommunications systems, the program concentration choice will support the aspect of management which interests them most, the physical systems and its components or the business structure and operations that depend on the system.

Requirements for Admission

Applicants must meet the Murray State University requirements (see *Graduate Admissions*).

Unconditional

For a TSM applicant to be unconditionally admitted to the program, an applicant must satisfy one of two formulas:

GMAT Users: (200 x UGPA) + GMAT ≥ 1,000

GRE Users: GRE ≥ 321 - (11.66 x GPA - (Combined quantitative and verbal sections only.)

Note: The GRE formula uses the combined score from the quantitative and verbal sections only. Ask the Educational Testing Service (ETS) to send scores directly to Murray State University using our institution code: 1494.

In addition, candidates must take the TOEFL and score at least 550 on the paper-based exam (or 213 on the computerized version) if English is not their native language or they have not graduated from an accredited English speaking university.

Conditional

Applicants to the TSM graduate program may be admitted conditionally if their overall GPA is 2.75 or higher, or at least 3.0 for their last 60 hours of undergraduate study. Full admission to the program will be granted in one of only two ways, namely:

1) The applicant takes TSM 601, TSM 610 and one other core course (ACC 604, MGT 651, TSM 602, TSM 603, or TSM 630) as their first nine hours of the program and earns a GPA not less than 3.33 from the three core courses; or

2) the applicant takes the GMAT or GRE and meets the unconditional admission formula within their first semester in the program.

If neither of these two conditions is met, the student will be dropped from the program even if they have already taken graduate coursework.

International Admission

Applicants, from any country where English is a second language, will be required to demonstrate English language proficiency. This can be done by taking the Test of English as a Foreign Language (TOEFL) exam and score at least:

1) 550 pBT (paper-based test)

2) Minimum of 20 in each band iBT (internet-based test)

3) International English Language Testing System (IELTS) exam and score 6.0 on the academic test (with no band <5.5) to be fully admitted into the program.

Master of Science

Telecommunications Systems Management CIP 11.0401

NON-THESIS REQUIREMENTS ONLY

Total Course Requirements 30 hours

- ACC 604 Quantitative Financial Controls
- TSM 601 Telecommunications Principles
- TSM 602 Telecommunications Systems
- TSM 603 Telecommunications Project Management
- TSM 607 Advanced Telecommunications Project Management
- TSM 610 Telecommunication Networks Management
- TSM 630 Telecommunications Legal Environment: Law, Policy and Regulations
- TSM 680 Telecommunications Solution Development
- Electives (6 hrs)

Only one elective can be an ACC, BUS, CIS, FIN, MGT, or MKT prefix. Prefixes with no restrictions include: ECO, IET, and TSM. Other prefixes may be used with director's approval. Check course descriptions for prerequisites. Not all 600-level courses are offered online.

Department of Mathematics and Statistics

6C9 Faculty Hall
270-809-2311

Chair: Ed Thome. **Faculty:** Adongo, Alverson, Collins, Donnelly, Donovan, Fister, Gibson, Ivansic, Kramer, Lewis, McCarthy, McKendree, Mecklin, Pathak, Pearson, Polega, Porter, Pritchett, Roach, Schroeder, Taylor, Thome, Yayenie, Zhang.

The mission of the Department of Mathematics and Statistics is to engage the larger mathematical community through scholarship and research, to provide our service region with mathematical and statistical support for its educational and industrial objectives, and to equip our students with mathematical skills which they may apply in further degree programs and careers requiring expertise in mathematics. In particular, through our instruction and guidance we endeavor to provide our students with an understanding of mathematical ideas, and the ability to reason mathematically, analyze real world problems with mathematical techniques, and continue to read, learn, and communicate mathematics.

The department offers a major in mathematics, an area in mathematics with secondary certification, a major in mathematics with secondary certification, an area in applied mathematics, and an area in mathematics with a pre-MBA track. In these programs the student will learn mathematics as a fundamental discipline and as an essential tool in most other disciplines. Mathematics is also quite useful as a minor or second major. Additionally, the common awareness that mathematics is a substantial subject will enhance the prospects of any student who demonstrates a facility with the material. The minors offered by the department are actuarial science, applied statistics, mathematical biology, and mathematics.

Graduates with a major have gone on to careers in teaching, science, and industry. Some have improved their entry level prospects via graduate study at Murray State and/or in nationally known Ph.D. programs.

The area in applied mathematics will prepare the student for a career in business, industry, government or academics. The area consists of a core of applied mathematics courses and a 18-hour track in a related field. Each track contains further mathematical training, computer programming experience, and a broad study of a discipline which illustrates applications of mathematics. The program is flexible and, by its interdisciplinary nature, will provide the student with an understanding and experience in modeling and solving relative problems.

MAJOR:

Mathematics

Bachelor of Science/Bachelor of Arts CIP 27.0101

University Studies Requirements **38-44 hrs**
(See *Academic Degrees and Programs*.)

Required Courses **25 hrs**

- MAT 100T Transitions
- MAT 250 Calculus and Analytic Geometry I¹
- MAT 308 Calculus and Analytic Geometry II¹
- MAT 309 Calculus and Analytic Geometry III¹
- MAT 312 Mathematical Reasoning²
- MAT 335 Matrix Theory and Linear Algebra
- STA 540 Mathematical Statistics I³

Required Limited Electives..... **15 hrs**
Five MAT courses (3 or 4 credit hour) selected from MAT 338 and MAT or STA courses numbered 400 or above including:

at least one of the following:

- MAT 513 Modern Algebra I
- MAT 516 Introduction to Topology
- MAT 525 Advanced Calculus I

and at least one of the following:

- MAT 442 Introduction to Numerical Analysis
- MAT 506 Mathematical Modeling I
- MAT 524 Boundary Value Problems
- STA 541 Mathematical Statistics II

Co-Requirements..... **3 hrs**

One course in computer programming selected from: CSC 145, 232, 235, or EGR 140.

Required Minor **21 hrs**

Electives **12-18 hrs**

Total Curriculum Requirements **120 hrs**

¹May be taken as a University Studies elective.

²This is a University Studies writing intensive course.

³This is a University Studies technology intensive course.

AREA:

Mathematics/Secondary Certification (Grades 8-12) Track

Bachelor of Science/Bachelor of Arts

CIP 27.0101

University Studies Requirements **42-43 hrs**

(See *Academic Degrees and Programs*.)

University Studies selections must include:

• **Scientific Inquiry, Methodologies, and Quantitative Skills**

- MAT 250 Calculus and Analytic Geometry I
- MAT 308 Calculus and Analytic Geometry II

• **Social and Self-Awareness and Responsible Citizenship**

- PSY 180 General Psychology

• **University Studies Electives**

- EDP 260 Psychology of Human Development
- EDU 103 Issues and Practices of American Education¹

Note: Certification requires a grade of B or better in one English composition course and a B or better in a University Studies math course, public speaking, and EDU 103 or equivalent course. Additional requirements for admission to teacher education and student teaching must be met. See advisor and/or Office of Teacher Education Services for details.

Required Courses **24 hrs**

- MAT 100T Transitions
- MAT 309 Calculus and Analytic Geometry III
- MAT 312 Mathematical Reasoning²
- MAT 335 Matrix Theory and Linear Algebra
- MAT 517 Foundations of Geometry
- MAT 550 Teaching Mathematics
- MAT 551 Mathematics for Teachers
- STA 540 Mathematical Statistics I³

Required Limited Electives..... **18-20 hrs**

Three MAT courses (3 or 4 credit hour) selected from MAT 338 and MAT or STA courses numbered 400 or above including:

at least one of the following:

- MAT 513 Modern Algebra I
- MAT 516 Introduction to Topology
- MAT 525 Advanced Calculus I

and at least one of the following:

- MAT 442 Introduction to Numerical Analysis
- MAT 506 Mathematical Modeling I
- MAT 524 Boundary Value Problems
- STA 541 Mathematical Statistics II

An additional course (at least 3 credit hours) selected from MAT 338 and MAT or STA courses numbered 400 or above.

and

At least three (3 or 4 credit hour) courses selected from courses numbered 400 or above or from courses related to the application of mathematics selected from a list approved by the Department of Mathematics and Statistics.

Co-Requirement 3 hrs

One course in computer programming selected from: CSC 145, 232, 235, or EGR 140.

Required for Secondary Certification 33 hrs

- EDU 303 Strategies of Teaching
- EDU 403 Structures and Foundations of Education
- EDU 405 Evaluation and Measurement in Education⁴
- REA 427 Teaching Content Area Literacy in the Secondary School
- SEC 420 Practicum in Secondary Schools⁴
- SEC 421 Student Teaching in the Secondary School
- SEC 422 Extended Practicum⁵
- SED 300 Educating Students with Disabilities

Total Curriculum Requirements 120-123 hrs

¹With a grade of B or better.

²This is a University Studies writing intensive course.

³This is a University Studies technology intensive course.

⁴EDU 405 and SEC 420 must be taken together and two semesters before student teaching.

⁵Must be taken one semester before student teaching.

MAJOR:

Mathematics/Secondary Certification (Grades 8-12) Track

Bachelor of Science/Bachelor of Arts CIP 27.0101

University Studies Requirements 42-45 hrs

(See *Academic Degrees and Programs.*)

University Studies selections must include:

•**Scientific Inquiry, Methodologies, and Quantitative Skills**

- MAT 250 Calculus and Analytic Geometry I
- MAT 308 Calculus and Analytic Geometry II

•**Social and Self-Awareness and Responsible Citizenship**

- PSY 180 General Psychology

•**University Studies Electives**

- EDP 260 Psychology of Human Development
- EDU 103 Issues and Practices of American Education¹

Note: Certification requires a grade of B or better in one English composition course and a B or better in a University Studies math course, public speaking, and EDU 103 or equivalent course. Additional requirements for admission to teacher education and student teaching must be met. See advisor and/or Office of Teacher Education Services for details.

Required Courses 21 hrs

- MAT 100T Transitions
- MAT 309 Calculus and Analytic Geometry III
- MAT 312 Mathematical Reasoning²
- MAT 335 Matrix Theory and Linear Algebra
- MAT 517 Foundations of Geometry
- MAT 550 Teaching Mathematics
- STA 540 Mathematical Statistics I³

Required Limited Electives..... 9 hrs

Three MAT courses (3 or 4 credit hour) selected from MAT 338 and MAT or STA courses numbered 400 or above including:

at least one of the following:

- MAT 513 Modern Algebra I
- MAT 516 Introduction to Topology
- MAT 525 Advanced Calculus I

and at least one of the following:

- MAT 442 Introduction to Numerical Analysis
- MAT 506 Mathematical Modeling I
- MAT 524 Boundary Value Problems
- STA 541 Mathematical Statistics II

and an additional course (at least 3 credit hours) selected from MAT 338 and MAT or STA courses numbered 400 or above.

Co-Requirement 3 hrs

One course in computer programming selected from: CSC 145, 232, 235, or EGR 140.

Required Minor 21 hrs

Required for Secondary Certification 33 hrs

- EDU 303 Strategies of Teaching
- EDU 403 Structures and Foundations of Education
- EDU 405 Evaluation and Measurement in Education⁴
- REA 427 Teaching Content Area Literacy in the Secondary School
- SEC 420 Practicum in Secondary Schools⁴
- SEC 421 Student Teaching in the Secondary School
- SEC 422 Extended Practicum⁵
- SED 300 Educating Students with Disabilities

Total Curriculum Requirements 129-133 hrs

¹With a grade of B or better.

²This is a University Studies writing intensive course.

³This is a University Studies technology intensive course.

⁴EDU 405 and SEC 420 must be taken together and two semesters before student teaching.

⁵Must be taken one semester before student teaching.

AREA:

Mathematics/Applied Mathematics Track

Bachelor of Science/Bachelor of Arts CIP 27.0101

University Studies Requirements 38-44 hrs

(See *Academic Degrees and Programs.*)

Required Courses 31 hrs

- MAT 100T Transitions
- MAT 250 Calculus and Analytic Geometry I¹
- MAT 308 Calculus and Analytic Geometry II¹
- MAT 309 Calculus and Analytic Geometry III¹
- MAT 312 Mathematical Reasoning²
- MAT 335 Matrix Theory and Linear Algebra
- MAT 338 Ordinary Differential Equations
- MAT 442 Introduction to Numerical Analysis
- STA 540 Mathematical Statistics I³

Required Limited Electives..... 27-28 hrs

A. Three (3 or 4 credit hour) courses selected from MAT courses numbered 400 or above.

B. Five or six courses related to the application of mathematics. Must total at least 18 hours and be approved by the advisory committee.⁴

Co-Requirements..... 6 hrs
Two courses in computer programming selected from a list approved by the Department of Mathematics and Statistics.

Unrestricted Electives..... 11-18 hrs

Total Curriculum Requirements 120 hrs

¹May be taken as a University Studies elective.

²This is a University Studies writing intensive course.

³This is a University Studies technology intensive course.

⁴The program is very flexible. For example, an emphasis in either biology, chemistry, computer science, engineering physics, geoscience, statistics and finance, or actuarial science.

AREA:

Mathematics/Pre-MBA Track

Bachelor of Science/Bachelor of Arts

CIP 27.0101

University Studies Requirements 43-53 hrs
 (See *Academic Degrees and Programs.*)

University Studies selections must include:

•**Scientific Inquiry, Methodologies, and Quantitative Skills**

MAT 250 Calculus and Analytic Geometry I

MAT 308 Calculus and Analytic Geometry II

•**Social and Self-Awareness and Responsible Citizenship**

ECO 230 Principles of Macroeconomics

•**University Studies Electives**

ECO 231 Principles of Microeconomics

MAT 309 Calculus and Analytic Geometry III

Required Courses 39 hrs

ACC 200 Principles of Financial Accounting

ACC 201 Principles of Managerial Accounting

BUS 355 Information Systems and Decision Making

CSC 199 Introduction to Information Technology¹

FIN 330 Principles of Finance

MAT 100T Transitions

MAT 312 Mathematical Reasoning²

MAT 335 Matrix Theory and Linear Algebra

MGT 350 Fundamentals of Management

MGT 443 Management of Operations and Technology

MKT 360 Principles of Marketing

STA 540 Mathematical Statistics I³

STA 565 Applied Statistics I

Required Limited Electives..... 12-13 hrs
Four (3 or 4-credit hour) courses selected from MAT 338 and MAT courses numbered 400 or above.

Co-Requirements..... 3 hrs
One course in computer programming selected from: CSC 145, 232, 235, or EGR 140.

Unrestricted Electives..... 12-23 hrs

Total Curriculum Requirements 120 hrs

¹This is a University Studies technology intensive course.

²This is a University Studies writing intensive course.

³Will be a University Studies technology intensive course.

Actuarial Science Minor..... 21-22 hrs
 MAT 250, 308, 309, 543, STA 540. Students already taking MAT 250, 308, 309, and STA 540 for another program may substitute these courses with: ECO 230, 231, FIN 330, MAT 555, STA 565, 567. Six hours must be upper-level courses.

Applied Statistics Minor..... 22-23 hrs
 MAT 250, STA 135, 235, 565, plus at least two courses from the list MAT 308, 555 STA 450, 540, 541, 566, 567, 568, 569. For students already taking MAT 250, 308, STA 540 for another program, the recommended coursework is: STA 135, 235, 541, 565, 567, 568, and one of MAT 555, STA 566, 569. Six hours must be upper-level courses.

Mathematical Biology Minor 21 hrs
 Students not in a mathematics program take one or two of STA 135, 235 or 540 and one of MAT 250, 308 or 338. All students take BIO/MAT 460 and 461, and at least one of BIO 115, 216, 221, 222, 300, 305, 330, 333, 532, 557 so that the total number of hours in the minor is at least 21. Six hours must be upper-level courses.

Mathematics Minor..... 23 hrs
 MAT 250, 308, 309 and nine hours of selected mathematics courses numbered above 309 (except for MAT 330, 399 or STA 554). Departmental approval required. Six hours must be upper-level courses.

Graduate Program

Graduate Coordinator - Timothy Schroeder

The Master of Science and Master of Arts degrees are designed to provide students with the opportunity to study graduate level mathematics so that they may (1) obtain preferred employment in mathematics with government or industry, (2) teach at the junior college level or be better prepared to teach at the secondary school level, or (3) continue working toward a doctor of philosophy degree.

The Master of Arts program is a broadly based program which includes a study of algebra, analysis, topology, and the foundations of mathematics. The Master of Science program consists of a core of applied mathematics together with a core (at most nine hours) in an allied field such as business, computer science, or physics. The program is flexible and is particularly suited to meet the needs of students preparing for careers in business, industry, or government.

The department also offers the Master of Arts in teaching degree in mathematics. This program is designed for certified teachers who wish to strengthen their discipline-based background and keep up with current information in educational theory, curriculum, and research.

All graduate programs in mathematics are planned in close consultation with the department graduate committee and are subject to its approval.

Requirements for Admission

Applicants must meet the Murray State University requirements (see *Graduate Admissions*). Additional requirements for unconditional and conditional admission to M.S. or M.A. programs are as follows:

Unconditional

- Bachelor's degree from a regionally accredited college with a major (or equivalent) in mathematics or a related field;
- Overall GPA of 3.0 or above;
- Minimal GPA of 3.0 in all mathematics courses beginning with the first calculus course;
- Minimal GPA of 3.0 in all major courses; and
- If the major is in a related field (not mathematics), the student must have credit for three calculus courses (including a multi-variable calculus course), a proof-based course, a matrix/linear algebra course, and a differential equations course.

Conditional

Recommendation of the department graduate committee or

- A bachelor's degree from a regionally accredited college with a major in a related field and at least a 3.0 GPA in their major courses;
- Credit for three calculus courses (including a multivariable calculus course), a proof based course, and a matrix/linear algebra course with a 3.0 GPA in all mathematics courses beginning with the last elementary calculus course;
- GPA of 3.0 or above in all mathematics courses beginning with the last elementary calculus course; and
- Two letters of recommendation from college teachers addressing the candidate's ability to do mathematics graduate work.

**Master of Arts
Mathematics**

CIP 27.0101

THESIS REQUIREMENTS

Total Course Requirements 30 hours¹
 MAT 725 Integration Theory
 MAT or STA courses, 600- or 700-level (21 hrs)
 MAT 798-799 Research and Thesis (6 hrs)

Other Degree Requirements

- Oral defense and examination of thesis.

NON-THESIS REQUIREMENTS

Total Degree Requirements 30 hours¹
 MAT 725 Integration Theory
 and six hours chosen from MAT 716, 721, 722, 723 or 726
 MAT or STA courses, 600- or 700-level (21 hrs)

Other Degree Requirements

- Program of study must include MAT 614 or 721 and MAT 616 or 716.
- Comprehensive examinations over coursework.

¹All coursework must be approved by the department graduate committee. The student must complete two, two-course sequences. If the student has not completed two semesters of advanced calculus then one of the sequences must be MAT 625-626. At most, one of these sequences may be a completion of a sequence that was started as an undergraduate.

**Master of Science
Mathematics**

CIP 27.0101

THESIS REQUIREMENTS

Total Course Requirements 33 hours¹
 MAT or STA courses, 700-level (3 hrs)
 MAT or STA courses, 600 or 700-level (15-24 hrs)
 Allied field, 600 or 700-level (0-9 hrs)
 MAT 798-799 Research and Thesis (6 hrs)

Other Degree Requirements

- An advanced course in real analysis (MAT 725^{L, R}).
- Oral defense and examination of thesis.

NON-THESIS REQUIREMENTS

Total Course Requirements 33 hours¹
 MAT or STA courses, 700-level (9 hrs)
 MAT or STA courses, 600 or 700-level (15-24 hrs)
 Allied field, 600 or 700-level (0-9 hrs)

Other Degree Requirements

- An advanced course in real analysis (MAT 725^{L, R}).
- Comprehensive examinations over coursework.
¹All coursework must be approved by the departmental graduate committee. The student must complete two, two-course sequences. If the student has not completed two semesters of advanced calculus then one of the sequences must be MAT 625-626. At most, one of these sequences may be a completion of a sequence that was started as an undergraduate.

**Master of Arts in Teaching
Mathematics/Mathematics Teacher Leader** CIP 27.0101

The Master of Arts in Teaching (M.A.T.) program is designed for certified teachers who wish to strengthen their background in mathematics and keep up with current information in educational theory, curriculum and research. The program provides for both reasonable depth in the mathematics area and graduate-level exposure in supporting disciplines. Completion of this program fulfills the requirements for Rank II classification. A student portfolio is required.

Requirements for Admission

Applicants must meet the Murray State University requirements (see *Graduate Admissions*). Additional requirements for unconditional and conditional admission to the M.A.T. program are as follows.

Unconditional

- Completion of requirements for teaching certification.
- Documentation of secondary teacher certification in the United States or comparable teacher qualification document from another country.
- Documentation of current certification for the duration of the program.
- Minor in mathematics with 3.0 minimum mathematics GPA.

Conditional

- See MSU requirements (see *Graduate Admissions*) and conditional admission requirements for certification (see *College of Education and Human Services*).
- Completion of requirements for teaching certification.
- Documentation of primary, middle, or secondary teacher certification in the United States or comparable teacher qualification document from another country.
- Documentation of current certification for the duration of the program.
- At least two calculus courses and two approved upper-level mathematics courses; and
- Two letters of recommendation from college teachers addressing the ability of the student to complete an M.A.T. degree in mathematics.

NON-THESIS REQUIREMENTS ONLY

Total Course Requirements 33 hours
 MAT or STA courses, 600- or 700-level (18 hrs)

Education Courses

- EDU 600 Introduction to Teacher Leadership
- EDU 631 Classroom and Management and Student Motivation
- EDU 633 Curriculum Development
- EDU 637 Instruction for Diverse Learners
- EDU 639 Research to Improve Student Learning^{L, R}
- EDU 640 Exit Seminar in Teacher Leadership

Other Degree Requirements

Students must complete EDU 600 before enrolling in EDU 639.

Master of Arts in Education
Secondary Teacher Leader with Mathematics Concentration
 CIP 13.1205

The Department of Mathematics and Statistics provides instruction in support of the M.A.Ed. in Secondary Teacher Leader with a concentration in mathematics. Prospective students should contact the graduate coordinator in the College of Education and Human Services for details on advising and graduate program design.

Department of Occupational Safety and Health

157 Collins Center
 270-809-2488

Chair: Tracey Wortham. **Faculty:** Abulhassan, Atieh, Boyd, Byrd, Keller, Khalil, Medford, Morris, Spicer.

The Department of Occupational Safety and Health provides related curriculum offerings at the baccalaureate and master's levels. Service courses are offered for individuals majoring in other fields such as business, science, health, psychology, education, and engineering technology. The department also offers a technical minor and a Master of Science degree, including an online Master of Science program with an emphasis in safety management that is equivalent to the on-campus program. The degree programs are designed to provide the technical and professional knowledge required by individuals pursuing professional careers in accident prevention, loss-control management and supervision, inspection and control of occupational hazards, industrial hygiene or environmental health and safety.

Occupational Safety and Health Track

This track is designed to provide the technical and professional knowledge required by individuals pursuing professional careers in accident prevention, loss control management and supervision, inspection and control of occupational hazards, and industrial hygiene.

Environmental Health and Safety Track

This track is designed to provide the technical and professional knowledge required by individuals pursuing professional careers in environmental issues and affairs such as water quality, air quality, and solid and hazardous waste management.

Requirements for Admission

Students may declare OSH as their area of choice at any point. However students must be formally admitted into the OSH program before they can enroll in restricted classes which are OSH 353 and 400- (excluding 488) and 500-level OSH classes. In order to be admitted to the OSH program, a student must (1) have completed at least 30 credit hours of coursework directly applicable to an OSH degree from the OSH University Studies requirements, required core courses, non-restricted OSH classes at the 100-, 200- and 300-levels, and technical electives, with a minimum GPA of 2.50; (2) have no grade less than a C in an OSH class; (3) complete an application packet for admission to the program; (4) be successfully reviewed by the OSH program admissions committee; (5) apply by February 1 for summer/fall enrollment or by September 1 for spring enrollment; (6) follow the most current bulletin when admitted to the program. Admission is competitive and based on available space. Admission is subject to application and careful evaluation by the OSH program admissions committee.

Degree Requirements

All occupational safety and health majors and minors must earn a grade of C or better in all OSH courses. Any OSH course with a grade below a C must be repeated. The maximum number of times a student may enroll in an OSH class is twice; this includes audits and withdrawals after the first week of class. Exceptions would be made only if the student was forced to drop the class due to a life-changing event and not due to performance in the class. If a grade less than C is received in any OSH course for a second time, the course cannot be repeated and the student is dismissed from the program and is not eligible for readmission. A cumulative grade point average of at least 2.50 must be maintained to graduate.

AREA:

**Occupational Safety and Health/
 Occupational Safety and Health Track**

Bachelor of Science

CIP 15.0701

ACCREDITED BY: Applied Science Accreditation Commission of ABET (ASAC/ABET), www.abet.org.

University Studies Requirements 42 hrs
 (See *Academic Degrees and Programs*.)

University Studies selections must include:

•**Scientific Inquiry, Methodologies, and Quantitative Skills**

- BIO 101 Biological Concepts
- CHE 105 Introductory Chemistry
- MAT 230 Technical Math II

•**Social and Self-Awareness and Responsible Citizenship**

- PSY 180 General Psychology

•**University Studies Electives**

- CSC 199 Introduction to Information Technology¹
- STA 135 Introduction to Probability and Statistics

Required Core Courses 51 hrs

- ITD 120 Manufacturing Processes and Materials
- MGT 350 Fundamentals of Management
- OSH 100T Transitions
- OSH 192 Introduction to Occupational Safety and Health
- OSH 299 Professional Development Seminar I
- OSH 310 Fire and Emergency Preparedness Preplanning
- OSH 311 Hazardous Materials and Emergency Planning
- OSH 320 Environmental and Occupational Health Engineering Technology
- OSH 353 Prevention of Musculoskeletal Disorders in the Workplace
- OSH 387 OSHA Standards for General Industry and Construction
- OSH 420 Fundamentals of Industrial Hygiene
- OSH 425 Physical Agents
- OSH 450 Practical Application Lab
- OSH 452 Systems Approach to Hazard Control
- OSH 488 Cooperative Education/Internship
- OSH 550 Safety and Health Program Management and Training
- OSH 591 Engineering and Technical Aspects of Safety
- PHY 125 Brief Introductory Physics
- PHY 126 Brief Introductory Physics Lab

Safety Courses 30 hrs

- OSH 101 Emergency Medical Training
- OSH 384 Construction Safety
- OSH 445 Fundamentals of Loss Control
- OSH 546 Fundamentals of Risk Control

Technical electives (15 hrs)

(Must be approved by advisor and chosen from the Technical Electives list below and/or the Environmental Health and Safety Track.)

Technical Electives (*Choose from the following.*)

CET	310	Anatomy of Buildings
CET	342	Air Quality Technology
CET	353	Solid Hazardous Waste Technology
CET	385	Construction Estimating I
CET	480	Construction Planning and Management
CET	555	Environmental Regulatory Affairs
CET	585	Remediation Technology
CHE	120	Chemical Laboratory Safety
CHE	210	Brief Organic Chemistry
CHE	215	Organic Chemistry Laboratory
CHE	330	Basic Biochemistry
COM	340	Intercultural Communication
COM	384	Communication Skills for Professionals
COM	439	Conflict and Communication
CRJ	140	Introduction to Criminal Justice
CRJ	355	Security in Business and Industry
ENG	228	Standard English Usage
MGT	550	Human Resource Management
MGT	555	Training and Development
MGT	575	Labor Management Relations
OSH	330	Global Issues in OSH ²
OSH	371	Professional Internship II
OSH	453	Human Factors in Safety Engineering
OSH	488	Cooperative Education/Internship ³
OSH	499	Professional Development Seminar II
OSH	536	Motor Fleet Safety
OSH	571	Problems in Safety and Health
OSH	578	Workshop in Safety and Health
PSY	405	Industrial and Organizational Psychology
SPA	106	Basic Spanish and Culture for Agriculture

Total Curriculum Requirements 123 hrs

¹CSC 199 can be substituted by another computer related course with advisor's approval.

²May be repeated for additional credit.

³May be repeated for a second experience.

AREA:

**Occupational Safety and Health/
Environmental Health and Safety Track**

Bachelor of Science CIP 15.0701

ACCREDITED BY: Applied Science Accreditation Commission of ABET (ASAC/ABET), www.abet.org.

University Studies Requirements 42 hrs

(See *Academic Degrees and Programs*.)

University Studies selections must include:

•Scientific Inquiry, Methodologies, and Quantitative Skills

BIO	101	Biological Concepts
CHE	105	Introductory Chemistry
MAT	230	Technical Math II

•Social and Self-Awareness and Responsible Citizenship

PSY	180	General Psychology
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•University Studies Electives

CSC	199	Introduction to Information Technology ¹
STA	135	Introduction to Probability and Statistics

Required Core Courses 51 hrs

ITD	120	Manufacturing Processes and Materials
MGT	350	Fundamentals of Management
OSH	100T	Transitions
OSH	192	Introduction to Occupational Safety and Health

OSH	299	Professional Development Seminar I
OSH	310	Fire and Emergency Preparedness Preplanning
OSH	311	Hazardous Materials and Emergency Planning
OSH	320	Environmental and Occupational Health Engineering Technology
OSH	353	Prevention of Musculoskeletal Disorders in the Workplace
OSH	387	OSHA Standards for General Industry and Construction
OSH	420	Fundamentals of Industrial Hygiene
OSH	425	Physical Agents
OSH	450	Practical Application Lab
OSH	452	Systems Approach to Hazard Control
OSH	488	Cooperative Education/Internship
OSH	550	Safety and Health Program Management and Training
OSH	591	Engineering and Technical Aspects of Safety
PHY	125	Brief Introductory Physics
PHY	126	Brief Introductory Physics Lab

Environmental Health and Safety Courses 30 hrs

CET	330	Water Quality Technology I
CET	331	Water Quality Technology II
OSH	511	Hazardous Waste Site Operations
OSH	523	Occupational Diseases
OSH	527	Air Contaminants and Industrial Ventilation

Technical electives (15 hrs)

(Must be approved by advisor and chosen from the Technical Electives list below and/or the Occupational Safety and Health Track.)

Technical Electives (*Choose from the following.*)

CET	310	Anatomy of Buildings
CET	342	Air Quality Technology
CET	353	Solid Hazardous Waste Technology
CET	385	Construction Estimating I
CET	480	Construction Planning and Management
CET	555	Environmental Regulatory Affairs
CET	585	Remediation Technology
CHE	120	Chemical Laboratory Safety
CHE	210	Brief Organic Chemistry
CHE	215	Organic Chemistry Laboratory
CHE	330	Basic Biochemistry
COM	439	Conflict and Communication
COM	384	Communication Skills for Professionals
COM	340	Intercultural Communication
CRJ	140	Introduction to Criminal Justice
CRJ	355	Security in Business and Industry
ENG	228	Standard English Usage
MGT	550	Human Resource Management
MGT	555	Training and Development
MGT	575	Labor Management Relations
OSH	330	Global Issues in OSH ²
OSH	371	Professional Internship II
OSH	453	Human Factors in Safety Engineering
OSH	488	Cooperative Education/Internship ³
OSH	499	Professional Development Seminar II
OSH	536	Motor Fleet Safety
OSH	571	Problems in Safety and Health
OSH	578	Workshop in Safety and Health
PSY	405	Industrial and Organizational Psychology
SPA	106	Basic Spanish and Culture for Agriculture

Total Curriculum Requirements 123 hrs

¹CSC 199 can be substituted by another computer related course with advisor's approval.

²May be repeated for additional credit.

³May be repeated for a second experience.

Occupational Safety and Health Minor 21 hrs
 OSH 192, 353, 387, 420, and nine hours from OSH 101, 320, 384, 425, 452. Six hours must be upper-level courses. Courses may require prerequisites.

Graduate Program

The graduate program in occupational safety and health is unique in this region. In light of an increased sensitivity to the safety of the work environment and to the overall health of all Americans, the program is a timely response to business and industry needs. Few programs of this type are found in higher education.

Requirements for Admission

Applicants must meet the Murray State University requirements (see *Graduate Admissions*). Additional requirements for unconditional and conditional admission are as follows.

Unconditional

Unconditional Admission status is granted only to students who graduate from Murray State University with a baccalaureate degree in occupational safety and health with an overall GPA of 3.00 or higher.

Conditional

Conditional Admission status is granted to students with an undergraduate GPA of 2.75 or higher, regardless of undergraduate baccalaureate degree field or major. To change to Unconditional status, the student must meet the university requirement of obtaining a 3.00 in the first nine hours of graduate work and additional criteria set forth by the Department of Occupational Safety and Health.

Students admitted from a different undergraduate field/discipline must complete the following course work in addition to the above GPA requirements. Undergraduate coursework is required in biology, chemistry, mathematics, and physics. The following courses are the minimum accepted requirements for pursuing a master's degree in occupational safety and health.

- BIO 101
- CHE 105
- MAT 130 or MAT 140 and 145 or 150
- PHY 125 and 126
- PSY 300 or STA 135

Students must also complete 15 prerequisite credit hours in occupational safety and health **and pass these courses with a grade of C or higher.**

Prerequisite Undergraduate Requirements 15 hours

- OSH 192 Introduction to Occupational Safety and Health
- OSH 353 Prevention of Musculoskeletal Disorders in the Workplace

or

- OSH 453 Human Factors in Safety Engineering
- OSH 387 OSHA Standards for General Industry and Construction
- OSH 420 Fundamentals of Industrial Hygiene

and

one of the following concentration-specific courses:

Safety Management

- OSH 384 Construction Safety

Industrial Hygiene

- OSH 425 Physical Agents

Environmental

- OSH 320 Environmental and Occupational Health Engineering Technology

**Master of Science
 Occupational Safety and Health**

CIP 15.0701

ACCREDITED BY: Applied Science Accreditation Commission of ABET (ASAC/ABET), www.abet.org.

Within departmental guidelines, the individual student's program is developed in consultation with advisor.

THESIS REQUIREMENTS

Total Course Requirements 30 hours

Technical Requirements¹ 12 hrs

Choose four from the following:

- OSH 621 Industrial Hygiene and Safety Program Development
- OSH 623 Occupational Diseases
- OSH 626 Industrial Hygiene Sampling Strategies
- OSH 630 Global Issues in OSH
- OSH 636 Transportation Safety
- OSH 637 Biostatistics and Probability
- OSH 640 Safety and Health Program Management and Training
- OSH 645 Loss Control Measurement and Management
- OSH 646 Fundamentals of Risk Control
- OSH 654 Advanced Safety and Health Management and Administration
- OSH 655 Legal Aspects of Safety and Health
- OSH 656 Ergonomics and Biomechanics
- OSH 658 Introduction to Occupational Epidemiology
- OSH 644 Cooperative Education^{PT}
 (or approved elective with prior safety internship or equivalent)
- OSH 680 Graduate Seminar in Occupational Safety and Health

Thesis 6 hrs

- OSH 698-699 Thesis

¹Technical requirements courses are selected based on the student's program concentration and must be approved by the graduate program advisor.

NON-THESIS REQUIREMENTS

Total Course Requirements 30 hours

Same as above with the following substitution for thesis:

- OSH 644 Cooperative Education^{PT}
 (or approved elective with prior safety internship or equivalent)

and one of the following according to concentration

- OSH 657 Current Literature and Research in Safety and Health⁴ (Safety Management)
- OSH 697 Research in Environmental Health and Safety⁸ (Industrial Hygiene or Environmental)

All students (Thesis or Non-Thesis) must also complete 12 credit hours by selecting one of the following three concentrations. Substitutions within these concentrations can be made only with the approval of the advisor. Consult with advisor when choosing a concentration. Additional coursework may be required.

Safety Management Concentration 12 hrs

- OSH 621 Industrial Hygiene and Safety Program Development
- OSH 640 Safety and Health Program Management and Training
- OSH 650 Occupational Safety and Health Organizational Leadership and Management
- OSH 655 Legal Aspects of Safety and Health

Industrial Hygiene Concentration 12 hrs

- OSH 621 Industrial Hygiene and Safety Program Development
- OSH 622 Toxicology of Industrial Materials
- OSH 627 Air Contaminants and Industrial Ventilation
- OSH 663 Applied Workplace Ergonomics

Environmental Concentration 12 hrs

- OSH 622 Toxicology of Industrial Materials
- OSH 627 Air Contaminants and Industrial Ventilation
- OSH 687 Wastewater Treatment
- OSH 689 Solid and Hazardous Waste Treatment

Other Degree Requirement

- Oral defense of thesis (Thesis track).



Hutson School of Agriculture



Tony Brannon, Dean
103 South Oakley Applied Science Building
270-809-3328

DEPARTMENTS

Agricultural Science	214	Veterinary Technology and	
Animal and Equine Science	221	Pre-Veterinary Medicine	222

PROGRAMS

UNDERGRADUATE

Associate
Agricultural Science and Technology

Baccalaureate
Agricultural Science
Animal Technology

Minor
Agriculture
Equine Science
Golf Course Management

GRADUATE

Master's
Agriculture

Certificate
Veterinary Hospital Management

Hutson School of Agriculture

Broad opportunities for students to prepare for agricultural and related careers are offered by the Hutson School of Agriculture. The Hutson School of Agriculture offers three undergraduate degree programs: a Bachelor of Science in Agriculture (B.S.A.), a Bachelor of Science with a major in Agriculture, and an Associate of Science with emphasis in agricultural science and technology. Minors are available in agriculture, equine science, and golf course management.

The Hutson School of Agriculture also offers a Master of Science degree with both traditional and on-line options. The purpose of this degree is to provide an opportunity for professional agricultural personnel to obtain an education at the graduate level or to prepare for terminal degree work at the doctoral level. Faculty advisors assist students in planning an appropriate course of study to meet individual goals and to assure a balanced program.

The Hutson School of Agriculture includes the Department of Agricultural Science, the Department of Animal and Equine Science, and the Department of Veterinary Technology and Pre-Veterinary Medicine. Agricultural facilities include the farm laboratory complexes, the Cherry Agricultural Exposition Center, and the Breathitt Veterinary Center. The horse, beef, agronomy, and horticulture facilities are a part of the farm-laboratory complexes. The Cherry Agricultural Exposition Center is utilized for equine and rodeo classes, contests, field days, judging contests, clinics, and numerous agricultural activities.

MSU's Breathitt Veterinary Center (BVC), located in Hopkinsville, Kentucky, has as its primary mission the provision of diagnostic data; however, its mission also includes instruction and research. The laboratory is accredited through the American Association of Veterinary Laboratory Diagnosticians. The center's facilities and personnel provide learning experiences for students in the animal health technology program. The BVC also conducts research dealing with infectious diseases of food animals.

Department of Agricultural Science

212 Oakley Applied Science South
270-809-3327

Head: Brian Parr. **Faculty:** Bellah, Ferguson, Handayani, Hoover, Morrow, Musunuru, Payne, Santiago, M. Shultz, Still.

The Department of Agriculture Science offers a Bachelor of Science in Agriculture with the following tracks: (1) agronomy, (2) agriculture science/ agriscience technology track, (3) agricultural education, (4) agribusiness, (5) agriculture systems technology, and (6) horticulture. The agriculture science/ agriscience technology track includes emphases in emerging technology, communications/public relations, environmental/ health, agriculture public service/leadership, and agriculture technology.

Facilities for agriculture science include classrooms and labs in Oakley Applied Science South, Howton Agriculture Engineering Building, the West Farm, the Hutson Farm, the North Farm, the Pullen Farm Complex with three greenhouses and environmental center lab, and the agriculture systems technology farm lab.

Agricultural Science and Technology

Associate of Science

CIP 01.9999

University Studies Requirements 21 hrs
(See *Academic Degrees and Programs*.)

University Studies selections must include:

•**Scientific Inquiry, Methodologies, and Quantitative Skills**

BIO	101	Biological Concepts
		<i>or</i>
CHE	105	Introductory Chemistry I
		<i>or</i>
PHY	120	General Physics I
MAT	140	College Algebra

Agriculture Core Courses 41 hrs

AGR	100T	Transitions
AGR	100	Animal Science
AGR	130	Agricultural Economics
AGR	133	Field Applications for Agriculture
AGR	160	Horticultural Science
		<i>or</i>
AGR	240	Crop Science
AGR	170	Introduction to Agricultural Systems Technology
AGR	199	Contemporary Issues in Agriculture ¹
AGR	339	Computer Applications for Agriculture
AGR	345	Soil Science
AGR	399	Professional Development Seminar I
		<i>or</i>
AGR	499	Leadership/Professional Development Seminar II
AGR		electives (16 hrs)

Total Curriculum Requirements 62 hrs

¹AGR 199 will fulfill both the agriculture core and university studies elective.

AREA:

Agricultural Science/AgriScience Technology Track

Bachelor of Science in Agriculture

CIP 01.9999

University Studies Requirements 40 hrs
(See *Academic Degrees and Programs*.)

University Studies selections must include:

•**Global Awareness, Cultural Diversity and the World's Artistic Traditions**

Choose one of the following:

AGR	200	International Agricultural Experience
AGR	353	World Food, Agriculture and Society
SPA	106	Basic Spanish and Culture for Agriculture

•**Scientific Inquiry, Methodologies, and Quantitative Skills**

BIO	101	Biological Concepts
CHE	105	Introductory Chemistry I
MAT	140	College Algebra

•**Social and Self-Awareness and Responsible Citizenship**

AGR	199	Contemporary Issues in Agriculture ¹
BIO	103	Saving Planet Earth

or

POL	140	American National Government
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•**University Studies Electives**

CHE	210	Brief Organic Chemistry
		<i>and</i>
CHE	215	Organic Chemistry Laboratory
		<i>or</i>
GSC	199	Earth Science

Agriculture Core Courses 26 hrs

- AGR 100T Transitions
- AGR 100 Animal Science
- AGR 130 Agricultural Economics
- AGR 133 Field Applications for Agriculture
- AGR 160 Horticultural Science
- or*
- AGR 240 Crop Science
- AGR 170 Introduction to Agricultural Systems Technology
- AGR 199 Contemporary Issues in Agriculture¹
- AGR 339 Computer Applications for Agriculture
- AGR 345 Soil Science
- AGR 399 Professional Development Seminar I
- or*
- AGR 499 Leadership/Professional Development Seminar II
- AGR 599 Agriculture Senior Capstone

AgriScience Technology Track 24 hrs

- AGR 377 Agriculture Safety
- AGR 433 Farm Management
- and one of the following:*
- AGR 300 Principles of Animal Nutrition
- AGR 301 Livestock Judging and Evaluation
- AGR 302 Horse Science
- AGR 311 Beef Science
- AGR 312 Dairy Science
- AGR 321 Poultry Science
- AGR 326 Swine Science
- and one of the following:*
- AGR 330 Principles of Agribusiness
- AGR 333 Agribusiness Records and Analysis
- AGR 337 Agricultural Sales and Merchandising
- and one of the following:*
- AGR 360 Greenhouse Production and Management
- AGR 461 Plant Propagation
- AGR 542 Plant Breeding I
- AGR 549 Weeds and Their Control
- one of the following:*
- AGR 372 Agricultural Metal Processes
- AGR 379 Field Equipment Technology Management
- AGR 470 Soil and Water Engineering
- AGR 477 Agricultural Power Units
- AGR 576 Agricultural Electrification Systems
- AGR 577 Tractor Power Principles
- and*
- AGR electives (6 hrs)²

Required Support Courses 21-22 hrs

Choose one of the following support course emphases.

Emerging Technology Emphasis (22 hrs)

- AGR 471 Applications in Precision Agriculture²
- AGR 571 Advanced Precision Agriculture²
- GSC 202 Introduction to Geographic Information Science
- GSC 312 Introduction to Remote Sensing
- Select three of the following:*
- AGR 439 Software Applications for Agriculture²
- AGR 539 Advanced Computer Applications for Agriculture²
- CSC 125 Internet and World Wide Web Technologies
- GSC 305 Map Analysis
- GSC 521 Geographic Information Systems
- TSM 120 Introduction to Telecommunications

Communications Emphasis (21 hrs)

- AGR 385 Disseminating Agriculture, Food, and Natural Resource Messages Through Emerging Media

- AGR 585 Specialized Journalism/RTV²
- or*
- AGR 595 Integrated Agricultural Communications Strategies
- JMC 168 Contemporary Mass Media
- JMC 194 Newswriting
- JMC 330 Mass Media Effects
- JMC 590 Mass Communications Law
- Advisor-approved AGR, COM, or JMC elective

Environmental/Health Emphasis (21 hrs)

- AGR 378 Agricultural Environmental Management Systems
- CET 330 Water Quality Technology I
- CET 331 Water Quality Technology II
- CET 342 Air Quality Technology
- CET 353 Solid and Hazardous Waste Management
- CET 555 Environmental Regulatory Affairs
- ENT 286 Introduction to Environmental Engineering Technology

Agriculture Public Service/Leadership Emphasis (21 hrs)

- AGR 488 Cooperative Education/Internship²
- AGR 489 Cooperative Education/Internship²
- NLS 290 Introduction to the Role of Service and the Nonprofit Sector
- NLS 350 Program Development in Nonprofit Organizations
- NLS 351 Leadership and Support Systems in Nonprofit Organizations
- AGR, AED, COM, CTE, MGT, NLS advisor approved electives (6 hrs)²

Agricultural Technology Emphasis (21-22 hrs)

- AGR 313 Livestock Production Management Systems
- AGR 439 Software Applications for Agriculture²
- AGR 471 Applications in Precision Agriculture²
- AGR 499 Leadership/Professional Development Seminar II
- AGR 537 Seminar in Agricultural Business Systems
- AGR 538 Seminar in Production Agricultural Systems
- or*
- AGR 571 Advanced Precision Agriculture
- AGR 539 Advanced Computer Applications for Agriculture
- AGR 547 Crop Management

Unrestricted Electives 8-9 hrs

Total Curriculum Requirements 120 hrs

¹AGR 199 fulfills both Agriculture Core and a University Studies elective requirement.

²These agriculture electives may be fulfilled by agriculture courses used in the chosen emphasis.

AREA:

**Agricultural Science/
Agricultural Education Certification (5-12) Track**

Bachelor of Science in Agriculture CIP 01.9999

University Studies Requirements 40 hrs

(See *Academic Degrees and Programs.*)

University Studies selections must include:

•Global Awareness, Cultural Diversity and the World's Artistic Traditions

Choose one of the following:

- AGR 200 International Agricultural Experience
- AGR 353 World Food, Agriculture and Society
- SPA 106 Basic Spanish and Culture for Agriculture

•Scientific Inquiry, Methodologies, and Quantitative Skills

- BIO 101 Biological Concepts

CHE 105 Introductory Chemistry I
 MAT 140 College Algebra¹
 or
 STA 135 Introduction to Probability and Statistics¹
 •**Social and Self-Awareness and Responsible Citizenship**

BIO 103 Saving Planet Earth
 or
 POL 140 American National Government
 EDP 260 Psychology of Human Development

•**University Studies Electives**
 AGR 199 Contemporary Issues in Agriculture^{2,3}

Choose one of the following:

BIO 221 Zoology
 BIO 222 Botany
 CHE 101 Consumer Chemistry
 GSC 199 Earth Science

Note: Certification requires a grade of *B* or better in one English composition course and a *B* or better in a University Studies math course, public speaking, and AED 380 or equivalent course. Additional requirements for admission to teacher education and student teaching must be met. See advisor and/or Office of Teacher Education Services for details.

Agriculture Core Courses 26 hrs

AGR 100T Transitions
 AGR 100 Animal Science
 AGR 130 Agricultural Economics
 AGR 133 Field Applications for Agriculture
 AGR 160 Horticultural Science
 or
 AGR 240 Crop Science
 AGR 170 Introduction to Agricultural Systems Technology
 AGR 199 Contemporary Issues in Agriculture^{2,3}
 AGR 339 Computer Applications for Agriculture^{4,5}
 AGR 345 Soil Science
 AGR 399 Professional Development Seminar I
 or
 AGR 499 Leadership/Professional Development Seminar II
 AGR 599 Agriculture Senior Capstone

Agricultural Education Track 24 hrs

AED 104 Agricultural Education, Leadership and Life Knowledge
 AGR 360 Greenhouse Production and Management
 AGR 337 Agricultural Sales and Merchandising
 or
 AGR 433 Farm Management
 AGR 372 Agricultural Metal Processes
 AGR 570 Agricultural Systems Technology Laboratory
 Management

Choose one of the following:

AGR 303 Advanced Horse Science
 AGR 321 Poultry Science
 AGR 325 Small Animal Science
 AGR 461 Plant Propagation
 AGR 471 Applications in Precision Agriculture
 AGR 555 Advanced Soil Fertility
 AGR 573 Agricultural Processing Systems

Choose one of the following:

AGR 361 Greenhouse Practicum
 AGR 362 Floral Design
 AGR 368 Landscape Construction
 AGR 461 Plant Propagation

Choose one of the following:

AGR 300 Principles of Animal Nutrition
 AGR 301 Livestock Judging
 AGR 302 Horse Science
 AGR 311 Beef Science
 AGR 326 Swine Science

Required Support Courses 32 hrs

AED 380 Agricultural Education, Extension, and Leadership¹
 AED 501 Methods of Teaching Agricultural Education^{1,6,7}
 CTE 502 Assessment and Curricula in CTE
 SEC 421 Student Teaching in Secondary School⁶
 SED 300 Educating Students with Disabilities
 and an advisor approved content literacy course (3 hrs)⁸

Total Curriculum Requirements 122 hrs

¹With a grade of *B* or better.

²AGR 199 will fulfill both the agriculture core and university studies elective.

³Identified as discipline specific writing intensive course.

⁴Identified as discipline specific writing intensive course.

⁵With a grade of *C* or better.

⁶Admission to Teacher Education required.

⁷Must be repeated for a total of six hours.

⁸ENG 445 or REA 407.

AREA:

Agricultural Science/Agribusiness Track

Bachelor of Science in Agriculture

CIP 01.9999

University Studies Requirements 40 hrs

(See *Academic Degrees and Programs*.)

University Studies selections must include:

•**Global Awareness, Cultural Diversity and the World's Artistic Traditions**

Choose one of the following:

AGR 200 International Agricultural Experience
 AGR 353 World Food, Agriculture and Society
 SPA 106 Basic Spanish and Culture for Agriculture

•**Scientific Inquiry, Methodologies, and Quantitative Skills**

BIO 101 Biological Concepts
 CHE 105 Introductory Chemistry I
 or
 CHE 210 Brief Organic Chemistry
 MAT 140 College Algebra

or
 MAT 220 Business Calculus

or
 MAT 250 Calculus and Analytical Geometry I

•**Social and Self-Awareness and Responsible Citizenship**

COM 260 Communication Ethics
 or
 POL 140 American National Government
 ECO 230 Principles of Macroeconomics

•**University Studies Electives**

ECO 231 Principles of Microeconomics
 FIN 230 Personal Finance

Agriculture Core Courses 26 hrs

AGR 100T Transitions
 AGR 100 Animal Science
 AGR 130 Agricultural Economics
 AGR 133 Field Applications for Agriculture
 AGR 160 Horticultural Science
 or
 AGR 240 Crop Science
 AGR 170 Introduction to Agricultural Systems Technology
 AGR 199 Contemporary Issues in Agriculture
 AGR 339 Computer Applications for Agriculture
 AGR 345 Soil Science

- AGR 399 Professional Development Seminar I
or
 AGR 499 Leadership/Professional Development Seminar II
 AGR 599 Agriculture Senior Capstone

Agribusiness Track 24-25 hrs

- ACC 200 Principles of Accounting I
 AGR 328 Statistics for Food and Agriculture
or
 STA 135 Introduction to Probability and Statistics
 AGR 330 Principles of Agribusiness
 AGR 336 Agricultural Marketing and Price Analysis
 AGR 337 Agricultural Sales and Merchandising
 AGR 433 Farm Management
 AGR 531 Agricultural Finance
 AGR 552 Agricultural Policy

Required Support Courses 15 hrs

Choose one of the following support course emphases.

Crop Production Emphasis

- AGR 547 Crop Management
 AGR 549 Weeds and their Control
and three of the following: AGR 455, 470, 471, 542, 546, or 555.

Entrepreneurship Emphasis

- AGR 334 Entrepreneurship in Agribusiness
 MGT 350 Fundamentals of Management
 MGT 358 Entrepreneurial Business Plan Development
 Upper-level, advisor approved electives (6 hrs)

Global Emphasis

- MKT 360 Principles of Marketing
 MKT 568 Global Marketing Management
Choose three of the following:
 AGR 353 World Food, Agriculture and Society
 AGR 529 International Trade and Agriculture
 AGR 533 Seminar in International Agriculture Systems
 Three hours of foreign language

Marketing/Management Emphasis

- MGT 350 Fundamentals of Management
 MKT 360 Principles of Marketing
 FIN 330 Principles of Finance
 Upper-level, advisor approved electives (6 hrs)

Unrestricted Electives 14-15 hrs¹

Total Curriculum Requirements 120 hrs

¹Students wishing to qualify for admission to Murray State's Master of Business Administration (MBA) program should chose the following courses as part of the Unrestricted Electives requirement: ACC 201, BUS 355, CIS 443, MAT 220.

**AREA:
 Agricultural Science/
 Agricultural Systems Technology Track**

Bachelor of Science in Agriculture

CIP 01.9999

University Studies Requirements 40-41 hrs

(See *Academic Degrees and Programs.*)

University Studies selections must include:

•Global Awareness, Cultural Diversity and the World's Artistic Traditions

Choose one of the following:

- AGR 200 International Agricultural Experience
 AGR 353 World Food, Agriculture and Society
 SPA 106 Basic Spanish and Culture for Agriculture

•Scientific Inquiry, Methodologies, and Quantitative Skills

- BIO 101 Biological Concepts
 CHE 105 Introductory Chemistry I
 MAT 130 Technical Math I

or

- MAT 140 College Algebra

•Social and Self-Awareness and Responsible Citizenship

- AGR 199 Contemporary Issues in Agriculture¹

•University Studies Electives

- CHE 210/215 Brief Organic Chemistry and Organic Chemistry Laboratory

or

- GSC 199 Earth Science

or

- PHY 130 General Physics I

Agriculture Core Courses 26 hrs

- AGR 100T Transitions
 AGR 100 Animal Science
 AGR 130 Agricultural Economics
 AGR 133 Field Applications for Agriculture
 AGR 160 Horticultural Science
or
 AGR 240 Crop Science
 AGR 170 Introduction to Agricultural Systems Technology
 AGR 199 Contemporary Issues in Agriculture¹
 AGR 339 Computer Applications for Agriculture
 AGR 345 Soil Science
 AGR 399 Professional Development Seminar I

or

- AGR 499 Leadership/Professional Development Seminar II
 AGR 599 Agriculture Senior Capstone

Agriculture Systems Technology Track..... 24 hrs

- AGR 371 Agricultural Buildings and Construction
 AGR 372 Agricultural Metal Processes
 AGR 377 Agriculture Safety
 AGR 477 Agricultural Power Units
or
 AGR 577 Tractor Power Principles
 AGR elective (3 hrs)

Choose nine hours from the following:

- AGR 379 Field Equipment Technology Management
 AGR 470 Soil and Water Engineering
 AGR 471 Applications in Precision Agriculture
 AGR 488 Cooperative Education/Internship
 AGR 489 Cooperative Education/Internship
 AGR 551 Selected Studies in Agriculture
 AGR 570 Ag Systems Technology Lab Management

AGR 571	Advanced Precision Agriculture
AGR 572	Advanced Metal Work
AGR 573	Agriculture Processing Systems
AGR 574	Agricultural Irrigation and Water
AGR 575	Combine and Grain Handling Systems
AGR 576	Agriculture Electrification Systems
AGR 578	Research and Development of Agriculture Tractors and Equipment

Support Courses 6 hrs

AGR 471	Applications in Precision Agriculture
AGR 488	Cooperative Education/Internship

or select from the following:

AGR 489	Cooperative Education/Internship
AGR 571	Advanced Precision Agriculture
TSM 110	Electrical Systems I
ITD 102	CAD Applications
ITD 104	Computer-Aided Design
ITD 107	Introduction to Technical Drawing and Computer Aided Drafting
ITD 330	Machine Tool Processes

Unrestricted Electives 23-24 hrs**Total Curriculum Requirements 120 hrs**¹AGR 199 will fulfill both the agriculture core and university studies elective.**AREA:****Agricultural Science/Agronomy Track**

Bachelor of Science in Agriculture

CIP 01.9999

University Studies Requirements 42 hrs*(See Academic Degrees and Programs.)*

University Studies selections must include:

•Global Awareness, Cultural Diversity and the World's Artistic Traditions*Choose one of the following:*

AGR 200	International Agricultural Experience
AGR 353	World Food, Agriculture and Society
SPA 106	Basic Spanish and Culture for Agriculture

•Scientific Inquiry, Methodologies, and Quantitative Skills

BIO 222	Botany: Plant Form and Function
CHE 105	Introductory Chemistry I
MAT 140	College Algebra

•Social and Self-Awareness and Responsible Citizenship

BIO 103	Saving Planet Earth
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or

POL 140	American National Government
AGR 199	Contemporary Issues in Agriculture ¹

•University Studies Electives

CHE 210	Brief Organic Chemistry
CHE 215	Organic Chemistry Laboratory
GSC 199	Earth Science

Agriculture Core Courses 26 hrs

AGR 100T	Transitions
AGR 100	Animal Science
AGR 130	Agricultural Economics
AGR 133	Field Applications for Agriculture
AGR 160	Horticultural Science

or

AGR 240	Crop Science
AGR 170	Introduction to Agricultural Systems Technology

AGR 199	Contemporary Issues in Agriculture ¹
AGR 339	Computer Applications for Agriculture
AGR 345	Soil Science
AGR 399	Professional Development Seminar I

or

AGR 499	Leadership/Professional Development Seminar II
AGR 599	Agriculture Senior Capstone

Agronomy Track 25 hrs

AGR 346	Soil Science Laboratory
AGR 378	Agricultural Environmental Management Systems
AGR 455	Soil Management
AGR 470	Soil and Water Engineering
AGR 471	Applications in Precision Agriculture
AGR 542	Plant Breeding I
AGR 546	Integrated Pest Management
AGR 547	Crop Management
AGR 549	Weeds and Their Control

Required Support Courses 15 hrs*Choose one of the following support course emphases.***Practicum Emphasis**

AGR 498	Agronomy Practicum
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Choose one of the following:

AGR 330	Principles of Agribusiness
AGR 433	Farm Management
AGR 571	Advanced Precision Agriculture

Research Emphasis

AGR 328	Statistics for Food and Agriculture
AGR 571	Advanced Precision Agriculture
BIO 300	Introductory Microbiology
Agronomy advisor approved research electives (5 hrs)	

Sales/Production Emphasis

AGR 330	Principles of Agribusiness
AGR 433	Farm Management
AGR 333	Agribusiness Records and Analysis
AGR 336	Agricultural Marketing and Price Analysis

or

AGR 337	Agricultural Sales and Merchandising
Agronomy advisor approved electives (3 hrs)	

Unrestricted Electives 12 hrs**Total Curriculum Requirements 120 hrs**¹AGR 199 will fulfill both the agriculture core and university studies elective.**AREA:****Agricultural Science/Horticulture Track**

Bachelor of Science in Agriculture

CIP 01.9999

University Studies Requirements 40 hrs*(See Academic Degrees and Programs.)*

University Studies selections must include:

•Global Awareness, Cultural Diversity and the World's Artistic Traditions*Choose one of the following:*

AGR 200	International Agricultural Experience
AGR 353	World Food, Agriculture and Society
SPA 106	Basic Spanish and Culture for Agriculture

•Scientific Inquiry, Methodologies, and Quantitative Skills

BIO 222 Botany: Plant Form and Function

CHE 101 Consumer Chemistry

or

CHE 105 Introductory Chemistry I

MAT 140 College Algebra

•Social and Self-Awareness and Responsible CitizenshipAGR 199 Contemporary Issues in Agriculture¹**•University Studies Electives**

CHE 210 Brief Organic Chemistry

and

CHE 215 Organic Chemistry Laboratory

or

GSC 199 Earth Science

Agriculture Core Courses 26 hrs

AGR 100T Transitions

AGR 100 Animal Science

AGR 130 Agricultural Economics

AGR 133 Field Applications for Agriculture

AGR 160 Horticultural Science

or

AGR 240 Crop Science

AGR 170 Introduction to Agricultural Systems Technology

AGR 199 Contemporary Issues in Agriculture¹

AGR 339 Computer Applications for Agriculture

AGR 345 Soil Science

AGR 399 Professional Development Seminar I

or

AGR 499 Leadership/Professional Development Seminar II

AGR 599 Agriculture Senior Capstone

Horticulture Track..... 25 hrs

AGR 263 Woody Plant Materials I

AGR 346 Soil Science Laboratory

AGR 360 Greenhouse Production and Management

AGR 361 Horticulture and Greenhouse Management Practicum

or

AGR 460 Professional Experience in Horticulture

AGR 363 Woody Plant Materials II

AGR 365 Herbaceous Plant Materials

AGR 367 Residential Landscape Design

or

AGR 462 Fine Turf Management

or

AGR 563 Arboriculture

AGR 461 Plant Propagation

AGR electives (6 hrs)

Unrestricted Electives..... 29 hrs**Total Curriculum Requirements 120 hrs**¹AGR 199 will fulfill both the agriculture core and university studies elective.**MAJOR:****Agricultural Science**

Bachelor of Science/Bachelor of Arts

CIP 01.9999

University Studies Requirements 40 hrs(See *Academic Degrees and Programs.*)

University Studies selections must include:

•Global Awareness, Cultural Diversity and the World's Artistic Traditions

Choose one of the following:

AGR 200 International Agricultural Experience

AGR 353 World Food, Agriculture and Society

SPA 106 Basic Spanish and Culture for Agriculture

•Scientific Inquiry, Methodologies, and Quantitative Skills

BIO 101 Biological Concepts

CHE 105 Introductory Chemistry I

MAT 140 College Algebra

•Social and Self-Awareness and Responsible Citizenship

BIO 103 Saving Planet Earth

or

POL 140 American National Government

AGR 199 Contemporary Issues in Agriculture¹**•University Studies Electives**

CHE 210/215 Brief Organic Chemistry and Organic Chemistry Laboratory

or

GSC 199 Earth Science

Agriculture Core Courses 38 hrs

AGR 100T Transitions

AGR 100 Animal Science

AGR 130 Agricultural Economics

AGR 133 Field Applications for Agriculture

AGR 160 Horticultural Science

or

AGR 240 Crop Science

AGR 170 Introduction to Agricultural Systems Technology

AGR 199 Contemporary Issues in Agriculture¹

AGR 339 Computer Applications for Agriculture

AGR 345 Soil Science

AGR 399 Professional Development Seminar I

or

AGR 499 Leadership/Professional Development Seminar II

AGR 599 Agriculture Senior Capstone

AGR electives (12 hrs)

Required Minor 21 hrs**Unrestricted Electives..... 21 hrs****Total Curriculum Requirements 120 hrs**¹AGR 199 will fulfill both the agriculture core and university studies elective.**Agriculture Minor 21 hrs**

Program must be approved by an advisor with at least six hours of 300-level or above completed at Murray State. Six hours must be upper-level courses.

Golf Course Management Minor 21 hrs

ACC 200; AGR 160, 345, 460; MGT 350; and three hours of electives selected from either AGR 462 or MGT 370. Six hours must be upper-level courses.

Graduate Program

Graduate Coordinator - Alyx Shultz
 216S Oakley Applied Science Building
 270-809-6925

The Master of Science in Agriculture provides concentrations in agribusiness economics, agricultural education, sustainable agriculture, and veterinary hospital management. An on-line master's is also available. Please contact the graduate coordinator for details.

Requirements for Admission

Applicants must meet all Murray State University requirements (see *Graduate Admissions*). The status (conditional/unconditional) of an applicant must be determined before the student enrolls in the first class. Additional requirements for unconditional and conditional admission are as follows.

Unconditional

For unconditional admission, students must meet both of the following requirements:

- An overall grade point average (GPA) of 3.0 in the last 60 hours of undergraduate work; and
- The equivalent of an undergraduate area or major in agriculture is required.

Conditional

Students may be conditionally admitted according to the following requirements:

- An undergraduate GPA of at least 2.75 or a GPA of 3.0 in the last 60 hours of undergraduate work; and
- In some cases, students without the undergraduate area or major may be admitted on the condition of significant agricultural work experience and/or complete prerequisites consisting of at least the undergraduate agriculture core courses in a respective field. The plan of study must be approved by the advisor and graduate coordinator and may allow taking of a combination of undergraduate/graduate courses concurrently.

Upon completion of nine hours of graduate work a student admitted conditionally must have a 3.0 GPA or the student will be dropped from the program. A graduate student dropped for academic reasons may reapply after withdrawal from the graduate program for one semester. Readmission decisions will be made according to the recommendation of an appointed graduate admissions committee.

Note: L=literature; R=research; PT=professional training. See page 58.

**Master of Science
 Agriculture**

CIP 01.9999

THESIS REQUIREMENTS

Total Course Requirements..... 31 hours

- AGR 686 Training and Presentation Development Strategies for Agricultural Audiences
- AGR 713 Graduate Computer Applications^R
- AGR 720 Experimental Design and Statistical Analysis
- AGR 722 Graduate Capstone Seminar^{1,PT}
- AGR 735 Research Methodology^L
- AGR 798 Thesis^R
- AGR 799 Thesis^R

Specialty..... 12 hrs
 600- or 700-level, approved by faculty advisor.

The specialty area courses may be chosen, in consultation with an advisor, from courses that most effectively achieve the student's educational goals.

Other Degree Requirements

Comprehensive written examination over coursework.

¹Class must be taken during the last semester of enrollment. Each student will be expected to prepare and present one seminar based on their thesis project.

NON-THESIS REQUIREMENTS

Total Course Requirements..... 31 hours

- AGR 686 Training and Presentation Development Strategies for Agricultural Audiences
- AGR 700 Research in Agriculture^{R,1}
- AGR 713 Graduate Computer Applications
- AGR 720 Experimental Design and Statistical Analysis
- AGR 722 Graduate Capstone Seminar^{2,PT}
- AGR 735 Research Methodology^L

Specialty..... 15 hrs
 600- or 700-level, approved by faculty advisor.

The specialty area courses may be chosen, in consultation with an advisor, from courses that most effectively achieve the student's educational goals.

Other Degree Requirements

Comprehensive written examination, oral examination, and research presentation.

¹Course must include a creative component or significant research report.

²Class must be taken during the last semester of enrollment. Each student will be expected to prepare and present one seminar based on their creative component, research report or work experience.

**Master of Science
 Agriculture/Agribusiness Economics Concentration**

CIP 01.9999

NON-THESIS ONLY

Total Course Requirements..... 31 hours

- AGR 686 Training and Presentation Development Strategies for Agricultural Audiences
- AGR 700 Research in Agriculture ^{R,1,2} (6 hrs)
- AGR 713 Graduate Computer Applications
- AGR 720 Experimental Design and Statistical Analysis
- AGR 722 Graduate Capstone Seminar ^{PT}
- AGR 735 Research Methodology ^{L,3}

Agribusiness Economics Concentration

Select 12 hours from the following:

- AGR 628 Agriculture, Food and Rural Law
- AGR 631 Agricultural Finance
- AGR 652 Agricultural Policy
- AGR 739 Agribusiness Management
- AGR 744 Graduate Cooperative Education⁴

Advisors may approve substitutions to non-core courses in special situations or to better align coursework with the student's professional goals. Students should consult with their advisor to identify appropriate online courses among the following prefixes: ACC, AGR, COM, ECO, FIN, MGT, or MKT. Note: No more than two classes from ACC, ECO, FIN, MGT or MKT may be taken.

¹Must include a significant creative or scholarly component that will be presented as part of a student's final oral presentation. See HSOA Creative Component Guidelines for details.

²Must be taken with advisor/committee chair.

³Can be substituted with AED 735.

⁴Experience must be related to agribusiness and approved by advisor prior to enrollment.

Master of Science**Agriculture/Agricultural Education Concentration**CIP 01.9999

Total Course Requirements 31 hours

AGR 686	Training and Presentation Development Strategies for Agricultural Audiences
AGR 700	Research in Agriculture ^{R,1,2} (6 hrs)
AGR 713	Graduate Computer Applications
AGR 720	Experimental Design and Statistical Analysis
AGR 722	Graduate Capstone Seminar ^{3,PT}
AGR 735	Research Methodology ^{L,4}

Agricultural Education Concentration*Select 12 hours from the following:*

AED 682	Instructional Design for Agricultural Education
AED 683	Instructional Material in Agricultural Education
AED 684	Beginning Teacher Workshop ⁵
AED 685	Teaching Adults in Agriculture
AED 735	Qualitative Research Methods

Advisors may approve substitutions to non-core courses in special situations or to better align coursework with the student's professional goals. Students should consult with their advisor to identify appropriate online courses among the following prefixes: AGR, COM, CTE, EDU, or NLS.

¹Must include a significant creative or scholarly component that will be presented as part of a student's final oral presentation. See HSOA Creative Component Guidelines for details.

²Must be taken with advisor/committee chair.

³Must be taken during semester of graduation.

⁴Can be substituted with AED 735.

⁵Intended for current secondary agriculture teachers. Kentucky teachers should enroll in the fall following completion of the first year of teaching.

Master of Science**Agriculture/Sustainable Agriculture Concentration**CIP 01.9999

Total Course Requirements 31 hours

AGR 686	Training and Presentation Development Strategies for Agricultural Audiences
AGR 700	Research in Agriculture ^{R,1,2} (6 hrs)
AGR 713	Graduate Computer Applications
AGR 720	Experimental Design and Statistical Analysis
AGR 722	Graduate Capstone Seminar ^{3,PT}
AGR 735	Research Methodology ^L

Sustainable Agriculture Concentration*Select 12 hours from the following:*

AGR 655	Advanced Soil Fertility
AGR 661	Sustainable Agriculture
AGR 662	Principles of Agroecology
AGR 671	Advanced Precision Agriculture
AGR 744	Graduate Cooperative Education ⁴

Advisors may approve substitutions to non-core courses in special situations or to better align coursework with the student's professional goals. Students should consult with their advisor to identify appropriate online courses among the following prefixes: AED, AGR, GSC, WSC.

¹Must include a significant creative or scholarly component that will be presented as part of a student's final oral presentation. See HSOA Creative Component Guidelines for details.

²Must be taken with advisor/committee chair.

³Must be taken during semester of graduation.

⁴Experience must be related to sustainable agriculture and approved by advisor prior to enrollment.

Master of Science**Agriculture/Veterinary Hospital Management Concentration**CIP 01.9999

THESIS OR NON-THESIS**Total Course Requirements 31 hours**

AGR 700	Research in Agriculture ^{R,1,2} (6 hrs)
<i>or</i>	
AGR 798/799	Thesis ³ (6 hrs)
AGR 720	Experimental Design and Statistical Analysis
AGR 722	Graduate Capstone Seminar ^{PT}
AGR 735	Research Methodology ^L

Veterinary Hospital Management Concentration

AGR 680	Veterinary Products
AGR 682	Veterinary Practice and Operations
AGR 683	Veterinary Law and Ethics
AGR 713	Graduate Computer Applications
MGT 654	Seminar in Human Resource Management
600-700 level elective in AGR, BUS, MGT, MKT, or Human Resources	

Students completing this degree will also receive the Veterinary Hospital Management Certificate.

¹Must include a significant creative or scholarly component that will be presented as part of a student's final oral presentation. See HSOA Creative Component Guidelines for details.

²Must be taken with advisor/committee chair.

³Students who plan to pursue a terminal degree are encouraged to enroll in AGR 798/799 in lieu of AGR 700.

⁴Must be taken during semester of graduation.

Department of Animal and Equine Science212 Oakley Applied Science South
270-809-3327

Interim Head: O.L. Robertson. **Faculty:** Atkerson, Conover, Davis, Porr, Robertson, Robinson, A. Shultz, Van Hooser.

The Department of Animal and Equine Science offers a Bachelor of Science in Agriculture with three emphases: (1) food animal emphasis and (2) equine science emphasis and (3) equine management. The department also offers a minor in equine science. Career preparations include the scientific study of feeding, breeding, management and marketing of animals and their products along with the multitude of related businesses and industries.

Facilities for animal and equine science include an equine center, rodeo facilities, and a beef cattle complex including a registered Angus herd and stocker calf intensive grazing systems.

AREA:**Animal Technology/Animal/Equine Science Track**

Bachelor of Science in Agriculture

CIP 51.0808

University Studies Requirements 40-41 hrs*(See Academic Degrees and Programs.)*

University Studies selections must include:

•Scientific Inquiry, Methodologies, and Quantitative Skills

BIO 101 Biological Concepts

or

BIO 221 Zoology: Animal Form and Function

- MAT 140 College Algebra
and one of the following:
 CHE 101 Consumer Chemistry
 CHE 105 Introductory Chemistry I
 CHE 201 General College Chemistry
•Social and Self-Awareness and Responsible Citizenship
 AGR 199 Contemporary Issues in Agriculture
•University Studies Elective
Choose one of the following:
 CHE 210/215 Brief Organic Chemistry and Organic
 Chemistry Laboratory
 CHE 202 General Chemistry and Qualitative Analysis
 GSC 101 The Earth and the Environment
 GSC 102 Earth Through Time
 GSC 199 Earth Science

Agriculture Core Courses 24 hrs

- AGR 100T Transitions
 AGR 100 Animal Science
 AGR 300 Principles of Animal Nutrition
 AGR 310 Applications in Animal Technology
 AGR 339 Computer Applications for Agriculture
 AGR 399 Professional Development Seminar I
 AGR 504 Diseases of Livestock
 AGR 599 Agriculture Senior Capstone
and one of the following:
 AGR 170 Introduction to Agricultural Systems Technology
 AGR 377 Agriculture Safety
 AGR 375 Animals Emergency Preparedness
and one of the following:
 AGR 403 Equine Reproduction
 AGR 506 Reproductive Physiology
 AGR 523 Artificial Insemination Techniques for Cattle

Required Emphasis Courses 23-24 hrs

Choose one of the following emphases.

Food Animal Emphasis

- AGR 130 Agricultural Economics
 AGR 133 Field Applications for Agriculture
 AGR 240 Crop Science
 AGR 345 Soil Science
and two of the following:
 AGR 311 Beef Science
 AGR 321 Poultry Science
 AGR 324 Veterinary Diagnostic Imaging
 AGR 326 Swine Science
and one of the following:
 AGR 301 Livestock Judging and Evaluation
 AGR 313 Livestock Production Management Systems
 AGR 320 Livestock Behavioral Analysis
 AGR 402 Advanced Livestock Judging
and one of the following:
 AGR 502 Advanced Nutrition
 AGR 503 Genetics and Animal Breeding
 AGR 512 Beef Cattle Management Systems

Equine Management Emphasis

- AGR 101 Basic Stock Seat Horsemanship
or
 AGR 111 Basic Forward Seat Equitation
 AGR 130 Agricultural Economics
 AGR 133 Field Applications for Agriculture
 AGR 201 Intermediate Horsemanship
 AGR 302 Horse Science
 AGR 309 Equine Facility Management
or

- AGR 317 Equine Health Care and Management
 AGR 318 Equine Forage Management
or
 AGR 319 Equine Nutrition and Feeding
and one of the following:
 AGR 304 Advanced Stock Seat
 AGR 306 Advanced Forward Seat
 AGR 405 Equine Behavior Modification
 AGR 514 Teaching Students Horsemanship

Equine Science Emphasis

- AGR 101 Basic Stock Seat Horsemanship
or
 AGR 111 Basic Forward Seat Equitation
 AGR 130 Agricultural Economics
 AGR 302 Horse Science
 AGR 303 Advanced Horse Science
 AGR 309 Equine Facility Management
or
 AGR 317 Equine Health Care and Management
 AGR 315 Equine Exercise Physiology
 AGR 318 Equine Forage Management
or
 AGR 319 Equine Nutrition and Feeding
 AGR 407 Equine Selection and Evaluation

Required Support Courses 12 hrs

Choose the following support courses for the equine management or equine science emphases only:

Equine Management

- AGR 330 Principles of Agribusiness
 AGR 333 Agribusiness Records and Analysis
 AGR 433 Farm Management
 MGT 350 Fundamentals of Management

Equine Science

- AGR 133 Field Applications for Agriculture
 AGR 240 Crop Science
 AGR 345 Soil Science
 AGR 328 Statistics for Food and Agriculture

Unrestricted Electives 18-33 hrs

Total Curriculum Requirements 120 hrs

Equine Science Minor 21 hrs

Program must include 15 hours of required courses: AGR 101 or 111; and AGR 201, 302, 303, and 317. Six additional hours of upper-level equine courses must be.

**Department of Veterinary Technology
 and Pre-Veterinary Medicine**

A. Carman Animal Health Technology Center
 270-809-7001

Head: Terry Canerdy. **Faculty:** Canerdy, DeWees, Hoffman, Jones, Papajeski, Provine, Vaughn-Doom.

The Veterinary Technology Program at Murray State University is one of only 25 schools in the nation that offers a fully accredited bachelor of science degree in the area of veterinary technology. Students are also given the track to complete the prerequisite courses required by any of the thirty veterinary schools in the U.S. The program involves hands-on experience with many animal species including

small, large, and exotic animals. The program has been continually accredited by the American Veterinary Medical Association (AVMA) since 1986. Facilities for the Veterinary Technology/Pre-Veterinary Medicine program include classrooms and laboratories at the A. Carman Veterinary Technology Center and the university farms. This program is not only academically challenging, but provides students the opportunity to gain valuable hands-on experience.

A portion of the veterinarian technology curriculum will involve students taking courses, which have been labeled the BVC (Breathitt Veterinary Center) courses. The BVC courses include AGR 340, AGR 400, AGR 410, AGR 420, and AGR 430. BVC courses must be taken together in one semester. Because the Veterinary Technology/Pre-Veterinary Medicine program is an accredited program, available space is limited to ensure the quality of instruction. Registration in BVC courses is based on available openings. The veterinary technology program will make every effort to ensure that students who need BVC courses will be placed, but no guarantee is made that the student will be enrolled during the preferred semester. Applications are due February 1st for the fall term and September 1st for the spring term. Once completed applications are reviewed, students will be notified of their placement into BVC courses by March 1st for the fall semester and October 1st for the spring semester.

The following prerequisites are required for the BVC classes: AGR 310, AGR 322, AGR 332, 329 and eight hours of chemistry. The student must have a grade of C or higher in these courses before being considered. After the prerequisites have been evaluated, the following criteria will be reviewed in order to determine the student's placement into the BVC courses:

- Completed applications were submitted by the appropriate deadline.
- BVC courses are the ONLY classes remaining.
- BVC courses plus one other course are the only classes remaining.
- Unavoidable course conflicts will be evaluated on a case by case basis.
- Once the placed students are enrolled any space available will be given to students on a first come basis.

The following courses are required by the American Veterinary Medical Association for Veterinary Technician certification: AGR 310, 322, 324, 329, 331, 332, 340, 400, 410, 420, 430, 504, 506, 510, 511, 540, 550, 590, and 599.

AREA:

Animal Technology/Veterinary Technology Track

Bachelor of Science in Agriculture CIP 51.0808

ACCREDITED BY: American Veterinary Medical Association

University Studies Requirements 41 hrs
(See *Academic Degrees and Programs.*)

University Studies selections must include:

•Scientific Inquiry, Methodologies, and Quantitative Skills

- BIO 101 Biological Concepts
- CHE 105 Introductory Chemistry I
- MAT 140 College Algebra

•Social and Self-Awareness and Responsible Citizenship

- AGR 199 Contemporary Issues in Agriculture
- Ethics, Social Responsibility and Civic Engagement sub-category elective

•University Studies Electives

- CHE 210 Brief Organic Chemistry
- CHE 215 Organic Chemistry Laboratory

Agriculture Core Courses 24 hrs

- AGR 100T Transitions
- AGR 100 Animal Science
- AGR 300 Principles of Animal Nutrition
- AGR 310 Applications in Animal Technology
- AGR 339 Computer Applications for Agriculture
- AGR 399 Professional Development Seminar I
- AGR 504 Diseases of Livestock¹
- AGR 599 Agriculture Senior Capstone

and one of the following:

- AGR 170 Introduction to Agricultural Systems Technology
- AGR 377 Agriculture Safety
- AGR 375 Animals Emergency Preparedness

and one of the following:

- AGR 403 Equine Reproduction
- AGR 506 Reproductive Physiology
- AGR 523 Artificial Insemination Techniques for Cattle

Veterinary Technology Track¹ 22 hrs

- AGR 322 Introduction to Veterinary Laboratory I
- AGR 324 Veterinary Diagnostic Imaging
- AGR 329 Introductory Veterinary Laboratory II
- AGR 332 Veterinary Nursing
- AGR 510 Animal Anatomy and Physiology
- AGR 540 Veterinary Surgery and Anesthesia
- AGR 489 Cooperative Education/Internship

or

- AGR 590 Internship in Animal Technology

Required Support Courses 30-31 hrs

Choose one of the following support courses emphases:

Veterinary Technology Emphasis

- AGR 331 Small Animal Diseases
- AGR 340 Veterinary Laboratory Sciences
- AGR 400 Veterinary Microbiology¹
- AGR 410 Advanced Veterinary Hematology¹
- AGR 420 Veterinary Clinical Chemistry¹
- AGR 430 Veterinary Parasitology¹
- AGR 511 Animal Anatomy and Physiology Laboratory¹
- AGR 550 Applied Pharmacology¹
- Approved Electives (6 hrs)

Large Animal Emphasis

- AGR 313 Livestock Production Management Systems
- AGR 340 Veterinary Laboratory Sciences
- AGR 400 Veterinary Microbiology¹
- AGR 410 Advanced Veterinary Hematology
- AGR 420 Veterinary Clinical Chemistry
- AGR 430 Veterinary Parasitology
- AGR 511 Animal Anatomy and Physiology Laboratory
- AGR 550 Applied Pharmacology
- AGR Elective - Animal Science or Animal Health Technology

and one of the following:

- AGR 302 Horse Science
- AGR 311 Beef Science
- AGR 326 Swine Science

Zoological Animal Health Technology Emphasis

- AGR 331 Small Animal Diseases
- AGR 340 Veterinary Laboratory Sciences
- AGR 400 Veterinary Microbiology¹
- AGR 410 Advanced Veterinary Hematology
- AGR 420 Veterinary Clinical Chemistry
- AGR 430 Veterinary Parasitology

AGR 511 Animal Anatomy and Physiology Laboratory
 AGR 550 Applied Pharmacology
 Approved elective (3 hrs)
and one of the following:
 BIO 570 Ichthyology
 BIO 572 Herpetology
 BIO 573 Ornithology
 BIO 574 Mammalogy

Unrestricted Electives 2-3 hrs

Total Curriculum Requirements 120 hrs

¹Required by American Veterinary Medical Association for certification.

AREA:

Animal Technology/ Veterinary Technology/Pre-Veterinary Medicine Track

Bachelor of Science in Agriculture CIP 51.0808

ACCREDITED BY: American Veterinary Medical Association

University Studies Requirements 44 hrs

(See *Academic Degrees and Programs*.)

University Studies selections must include:

•**Scientific Inquiry, Methodologies, and Quantitative Skills**

BIO 101 Biological Concepts
 CHE 201 General College Chemistry
 MAT 150 Algebra and Trigonometry

•**Social and Self-Awareness and Responsible Citizenship**

PHI 202 Ethics

or

POL 140 American National Government
 PSY 180 General Psychology

•**World's Historical, Literary, and Philosophical Traditions**

CIV 201 World Civilizations I

•**University Studies Electives**

CHE 202 General Chemistry and Qualitative Analysis
 CIV 202 World Civilizations II

Note: 3rd year Veterinary School Applicants must also take HUM 212 and English Literature.

Agriculture Core Courses 24 hrs

AGR 100T Transitions
 AGR 100 Animal Science
 AGR 300 Principles of Animal Nutrition
 AGR 310 Applications in Animal Technology
 AGR 339 Computer Applications for Agriculture
 AGR 399 Professional Development Seminar I
 AGR 504 Diseases of Livestock
 AGR 599 Agriculture Senior Capstone

and one of the following:

AGR 170 Introduction to Agricultural Systems Technology
 AGR 377 Agriculture Safety
 AGR 375 Animals Emergency Preparedness

and one of the following:

AGR 403 Equine Reproduction
 AGR 506 Reproductive Physiology
 AGR 523 Artificial Insemination Techniques for Cattle

Pre-Veterinary Medicine Track 23 hrs

AGR 322 Introductory Veterinary Laboratory I
 AGR 324 Veterinary Diagnostic Imaging
 AGR 332 Veterinary Nursing

AGR 510 Animal Anatomy and Physiology
 AGR 550 Applied Pharmacology
 AGR 489 Cooperative Education/Internship
or
 AGR 590 Internship in Animal Technology
 BIO 300 Introductory Microbiology

Required Support Courses 25 hrs

AGR 331 Small Animal Diseases
 BIO 221 Zoology: Animal Form and Function
 CHE 312 Organic Chemistry I
 CHE 320 Organic Chemistry II
 CHE 330 Basic Biochemistry
 PHY 130 General Physics I
 PHY 131 General Physics I Laboratory
 BIO 321 Cell Biology

Unrestricted Electives 4 hrs

Total Curriculum Requirements 120 hrs

Graduate Program

The Certificate in Veterinary Hospital Management is designed to complement the undergraduate and graduate professional degree programs. The program's objectives are to provide students with opportunities to expand their knowledge in veterinary technology, to explore the business operation of a veterinary clinic, and to experience how the combination of their academic undergraduate and certificate course work can complement their job search.

CERTIFICATE:

Veterinary Hospital Management

CIP 51.0808

Requirements for Admission

Students who hold an undergraduate degree in veterinary technology or are currently enrolled in a graduate program may apply for acceptance to the Certificate in Veterinary Hospital Management program. Persons who already hold a graduate degree may also apply for the program.

Applicants must comply with the Murray State University requirements (see *Graduate Admissions*).

- For unconditional admission, an undergraduate GPA of 3.0 or higher.
- For conditional admission, judgement will be determined by probable success based on 1) Graduate Record Examination scores, 2) letters of recommendation, and/or 3) other evidence such as a planned program of prerequisite courses.

Total Course Requirements 18 hours

AGR 680 Veterinary Products
 AGR 682 Veterinary Practice and Operations
 AGR 683 Veterinary Law and Ethics
 AGR 713 Graduate Computer Applications
 MGT 654 Seminar in Human Resource Management
 600-level elective in AGR, BUS, MGT, MKT or human resources.



School of Nursing and Health Professions

Marcia Hobbs, Dean
121 Mason Hall
270-809-2193

12

UNITS

Applied Health Sciences	226	Nursing	234
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PROGRAMS

UNDERGRADUATE

- Baccalaureate
 Exercise Science
 Nursing
 Nursing/RN to BSN
 Nutrition, Dietetics and Food Management
 Public and Community Health
- Minor
 Exercise Science
 Nutrition
 Public and Community Health

GRADUATE

- Master's
 Athletic Training
 Nutrition
- Doctorate
 Nursing Practice
- Certificate
 Registered Dietian (R.D.)

School of Nursing and Health Professions

The School of Nursing and Health Professions offers baccalaureate and doctorate degrees in nursing as well as other health professions offered through the Department of Applied Health Sciences.

Department of Applied Health Sciences

408B Applied Science Building
270-809-5742

Chair: Amelia Dodd. **Faculty:** Crouch, Dodd, J. Erdmann, K. Erdmann, Kalinski, Maghrabi, Paine, Reeves, Stanczyk, Terry.

The Department of Applied Health Sciences offers the following programs dealing with health promotion, pre-health professional, clinical practice, and rehabilitation sciences.

A Bachelor of Science is offered in exercise science with three tracks available: movement science, pre-health professional, and wellness. This program prepares students for employment in health-related fields, graduate programs, or to take national certification exams through the American College of Sport Medicine, the National Strength and Conditioning Association, or other recognized entities in related fields.

A Bachelor of Science is offered in nutrition, dietetics and food management with tracks in dietetics, food management, or nutrition and foods. The graduate Dietetics Internship Program prepares students to become Registered Dietitians (R.D.). These graduate internship hours may be applied to completion of the Master of Science in Nutrition.

The Bachelor of Science in public and community health has three track options: healthcare administration, health education and promotion, and health information administration. It is a dynamic program that is interdisciplinary in nature and provides options that allow students to prepare for various careers in public and community health organizations, such as hospitals, government agencies, or non-profit organizations. The program also prepares students to sit for professional certifications/licensures, and/or pursue graduate studies in related fields.

A Master of Science in Athletic Training (MSAT) degree is offered. This program prepares students to sit for the Board of Certification examination for athletic trainers. This program offers a traditional route to completion, as well as a 3+2 accelerated route.

Note: L=literature; R=research; PT=professional training. See page 58.

Accreditations

The exercise science program's pre-health professional and wellness tracks are accredited through the Commission on Accreditation of Allied Health Education Programs (CAAHEP) upon the recommendation of the Committee on Accreditation for the Exercise Sciences (CoAES). The undergraduate dietetics and the graduate registered dietitian certificate programs are accredited through the Accreditation Council for Education in Nutrition and Dietetics (ACEND). The graduate athletic training program is accredited through the Commission on Accreditation of Athletic Training Education (CAATE).

Exercise Science

Exercise Science professionals often collaborate with other health care professionals to provide clients with information designed to manage and/or prevent health issues. Students who are passionate about working with people interested in developing healthier lifestyles through a combination of educational programs

and exercise should consider the wellness track. Students who choose the wellness track complete the core course requirements and then choose from restricted electives based on their intended career path. Graduates may choose to work independently as a business owner or with other health care professionals in a variety of settings, including hospital wellness centers, cardiac rehabilitation, corporate fitness programs, private industry, and other wellness-related facilities. Graduates may also consider pursuing a graduate degree in related fields.

Health care professionals are in high demand nationwide. Students choosing to pursue graduate programs in athletic training, occupational therapy, physical therapy, physician assistant, or other health-related fields should consider the pre-health professional track. The Pre-health professional track allows the student to complete the EXS core course requirements and the prerequisite coursework required for their intended graduate program. Students should note that completing MSU's Bachelor of Science in Exercise Science/Pre-Health Professional Track does not guarantee acceptance to graduate programs. Acceptance into graduate programs is challenging and highly competitive. Successful applicants demonstrate a competitive academic history, have knowledge of the profession, and are motivated to succeed. Considering these high standards necessary for graduate programs and MSU's interest in each student's career success, criteria have been established that must be met prior to taking specific upper-level exercise science courses. Students who do not meet these requirements are encouraged to evaluate their career choice so the remaining coursework can be tailored to prepare them for the workforce or other graduate programs at the time of graduation from MSU. This track's flexible design provides the opportunity for students, with advisor guidance, to tailor their coursework to meet specific demands that graduate programs require for admittance.

Requirements necessary for acceptance to graduate programs differ depending on the field of study and the particular graduate program. Students are strongly encouraged to explore potential graduate programs or career options and narrow their areas of interest early in their undergraduate program. This will assist the student, under the guidance of their academic advisor, in developing an academic plan of action. Although academic advisors will be assisting students, it is the responsibility of the student to ensure all prerequisite coursework required for a specific graduate program has been completed.

Students must earn a C or better in all EXS core and track-specific courses. A cumulative GPA of 2.5 for students pursuing the Wellness track and a 3.0 for students pursuing the Pre-Health Professional track is required prior to enrollment in most senior-level courses. The 2.5 (or 3.0 depending on the program) GPA must be maintained to graduate.

Prior to graduating with an exercise science degree, all EXS students are required to take a comprehensive exam over material covered in core EXS classes. Students must earn at least a 75% on the exam to graduate with an EXS degree. The exam is offered on select dates, and is taken by seniors after all core classes are completed.

Students intending to pursue the Master of Science in Athletic Training (MSAT) will initially select the EXS pre-health professional track. Junior-level students will be transitioned to the movement science track after specific criteria are met (see below).

Movement Science Track

Students intending to pursue the Master of Science in Athletic Training (MSAT) will initially select the pre-health professional track. Students will be transitioned to the movement science track when the following criteria are met:

- successful completion of 60 credits
- 2.75 or greater cumulative grade point average
- complete EXS 101, BIO 227, 228, 229, and 230 (or equivalent).

See the Athletic Training section for additional information about the MSAT program.

Pre-Health Professional Track

Prior to taking EXS 304, 320, 390, 402, 403, 420, 421 and/or 435, students must have

- earned a grade of C or better in all EXS core and track-specific courses,
- completed at least one of the following with a grade of C or better: CHE 111, CHE 201, PHY 130, and PHY 131
- earned a minimum 3.0 cumulative grade point average. The 3.0 GPA must be maintained to graduate.

Wellness Track

Prior to taking EXS 415, 433, 445, 446, 465, 469, and 470, students must have

- earned a grade of C or better in all EXS core and track-specific courses,
- earned a minimum 2.5 cumulative grade point average. The 2.5 GPA must be maintained to graduate.

Any EXS student that is not adequately progressing through the program and/or has not met program requirements are held to the following:

- If a student earns below a C, the course must be retaken the next opportunity it is offered. If the course is not offered the next semester (or circumstances do not permit), but the student meets the cumulative GPA requirements, they will be allowed to progress in other courses.
- If on the third attempt, the student is still unable to earn a C or better, the course cannot be repeated again for the EXS program and the student can no longer progress through the EXS program.

AREA:

Exercise Science/Movement Science Track

Bachelor of Science CIP 31.0505

University Studies Requirements 43 hrs
(See *Academic Degrees and Programs.*)

University Studies selections must include:

•Scientific Inquiry, Methodologies, and Quantitative Skills

- BIO 101 Biological Concepts
or
BIO 216 Biological Inquiry and Analysis
or
BIO 221 Zoology: Animal Form and Function
CHE 111 Essentials of Chemistry and Biochemistry
or
CHE 201 General College Chemistry
MAT 150 Algebra and Trigonometry (or higher math)

•Social and Self-Awareness and Responsible Citizenship

- PHI 202 Ethics
PSY 180 General Psychology

•University Studies Electives

- CSC 125 Internet and Web Page Design
or
CSC 199 Introduction to Information Technology
STA 135 Introduction to Probability and Statistics

Core Courses 51 hrs

- BIO 227 Human Anatomy
BIO 228 Human Anatomy Laboratory
BIO 229 Human Physiology
BIO 230 Human Physiology Laboratory
EXS 100T Transitions

- EXS 101 Concepts and Careers in Exercise Science and Athletic Training
EXS 275 Group Fitness Instruction
EXS 295 Acute Care of the Physically Active
EXS 301 Care and Prevention of Injuries
EXS 333 Theory/Techniques in Strength and Conditioning
EXS 350 Exercise Physiology
EXS 351 Exercise Physiology Laboratory
EXS 353 Exercise Prescription
EXS 354 Exercise Prescription Laboratory
EXS 370 Kinesiology
EXS 375 Biomechanics in Sport and Exercise
EXS 385 Sport and Exercise Psychology
EXS 415 Exercise Concepts in Special Populations
EXS 445 Senior Seminar I
EXS 469 Professional Experience I
EXS 471 Administration in Exercise Science
NTN 230 Nutrition

Restricted Electives..... 26 hrs

- BIO 120 Scientific Etymology
BIO 220 Clinical Terminology
PHY 130 General Physics I
PHY 131 General Physics I Laboratory

and choose courses from the following to reach 120 total credit hours:

- ATR 500 Research and Evidence-Based Practice
ATR 503 Functional Anatomy in Athletic Training
ATR 504 Musculoskeletal Evaluation
ATR 505 Bracing, Splinting, and Taping
ATR 506 Diagnostic Testing and Measurement
ATR 507 Emergency Care in Athletic Training
ATR 508 Emergency Care in Athletic Training Laboratory
ATR 520 Therapeutic Interventions
ATR 521 Therapeutic Interventions Laboratory
ATR 535 Prevention and Health Promotion
ATR 541 Clinical Experience in Athletic Training I
ATR 551 Evaluation and Care: Foot, Ankle and Lower Leg
ATR 552 Evaluation and Care: Knee and Patellofemoral
ATR 585 Psychosocial Interventions
EXS 400 Research Design and Statistics for Allied Health
EXS 435 Neurological Anatomy and Physiology for Applied Health Sciences

Total Curriculum Requirements 120 hrs

AREA:

Exercise Science/Pre-Health Professional Track

Bachelor of Science CIP 31.0505

University Studies Requirements 43 hrs
(See *Academic Degrees and Programs.*)

University Studies selections must include:

•Scientific Inquiry, Methodologies, and Quantitative Skills

- BIO 101 Biological Concepts
or
BIO 216 Biological Inquiry and Analysis
or
BIO 221 Zoology: Animal Form and Function
CHE 111 Essentials of Chemistry and Biochemistry
or
CHE 201 General College Chemistry
MAT 150 Algebra and Trigonometry (or higher math)

•Social and Self-Awareness and Responsible Citizenship

PHI 202 Ethics
 PSY 180 General Psychology

•University Studies Electives

CSC 125 Internet and Web Page Design
 or

CSC 199 Introduction to Information Technology
 STA 135 Introduction to Probability and Statistics

Core Courses 51 hrs

BIO 227 Human Anatomy
 BIO 228 Human Anatomy Laboratory
 BIO 229 Human Physiology
 BIO 230 Human Physiology Laboratory
 EXS 100T Transitions
 EXS 101 Concepts and Careers in Exercise Science
 and Athletic Training
 EXS 275 Group Fitness Instruction
 EXS 295 Acute Care of the Physically Active
 EXS 301 Care and Prevention of Injuries
 EXS 333 Theory/Techniques in Strength and Conditioning
 EXS 350 Exercise Physiology
 EXS 351 Exercise Physiology Laboratory
 EXS 353 Exercise Prescription
 EXS 354 Exercise Prescription Laboratory
 EXS 370 Kinesiology
 EXS 375 Biomechanics in Sport and Exercise
 EXS 385 Sport and Exercise Psychology
 EXS 415 Exercise Concepts in Special Populations
 EXS 445 Senior Seminar I
 EXS 469 Professional Experience I
 EXS 471 Administration in Exercise Science
 NTN 230 Nutrition

Restricted Electives..... 26 hrs

Students must take at least 26 hours from the following courses.

Ten of the 26 hours must be 300-level or above to meet graduation requirements. Selected from the following based on requirements of intended graduate program(s).

BIO 120 Scientific Etymology
 BIO 220 Clinical Terminology
 BIO 300 Introductory Microbiology
 CHE 202 General Chemistry and Qualitative Analysis
 CHE 312 Organic Chemistry I
 EXS 304 Evidence-based Practice in Musculoskeletal Evaluation
 EXS 400 Research Design and Statistics for Allied Health
 EXS 435 Neurological Anatomy and Physiology for Applied
 Health Sciences
 PHY 130 General Physics I
 PHY 131 General Physics I Laboratory
 PHY 132 General Physics II
 PHY 133 General Physics II Laboratory
 PSY 260 Lifespan Development
 PSY 307 Abnormal Psychology
 SOC 133 Introduction to Sociology
 ATR 500-level courses
 Career Elective (*advisor approved*)

Total Curriculum Requirements 120 hrs**AREA:****Exercise Science/Wellness Track**

Bachelor of Science

CIP 31.0505

University Studies Requirements 43 hrs
(See *Academic Degrees and Programs.*)

University Studies selections must include:

•Scientific Inquiry, Methodologies, and Quantitative Skills

BIO 101 Biological Concepts
 or
 BIO 221 Zoology: Animal Form and Function
 CHE 111 Introductory Chemistry
 or
 CHE 201 General College Chemistry
 MAT 150 Algebra and Trigonometry (or higher math)

•Social and Self-Awareness and Responsible Citizenship

PHI 202 Ethics
 PSY 180 General Psychology

•University Studies Electives

CSC 125 Internet and Web Page Design
 or
 CSC 199 Introduction to Information Technology
 STA 135 Introduction to Probability and Statistics

Core Courses 51 hrs

BIO 227 Human Anatomy
 BIO 228 Human Anatomy Laboratory
 BIO 229 Human Physiology
 BIO 230 Human Physiology Laboratory
 EXS 100T Transitions
 EXS 101 Concepts and Careers in Exercise Science
 and Athletic Training
 EXS 275 Group Fitness Instruction
 EXS 295 Acute Care of the Physically Active
 EXS 301 Care and Prevention of Injuries
 EXS 333 Theory/Techniques in Strength and Conditioning
 EXS 350 Exercise Physiology
 EXS 351 Exercise Physiology Laboratory
 EXS 353 Exercise Prescription
 EXS 354 Exercise Prescription Laboratory
 EXS 370 Kinesiology
 EXS 375 Biomechanics in Sport and Exercise
 EXS 385 Sport and Exercise Psychology
 EXS 415 Exercise Concepts in Special Populations
 EXS 445 Senior Seminar I
 EXS 469 Professional Experience I
 EXS 471 Administration in Exercise Science
 NTN 230 Nutrition

Restricted Electives..... 26 hrs

Students must take at least 26 hours from the list. Ten of the 26 hours must be 300-level or above to meet graduation requirements. If the student elects to complete an approved minor, the minor hours plus an additional 1-6 hours from the restricted electives may be required to meet the 120 hour requirement for graduation.

EXS 356 Health Promotion Programming
 EXS 400 Research Design and Statistics for Allied Health
 EXS 433 Advanced Practices in Strength and Conditioning
 EXS 446 Senior Seminar II
 EXS 465 Advanced Exercise Physiology
 EXS 470 Professional Experience II
 GCM 151 Introduction to Graphic Communications
 or
 GCM 153 Electronic Imaging

HEA 303	Health Behavior
HEA 311	Epidemiology
LST 240	The Legal Environment in Business
MGT 350	Fundamentals of Management
MGT 358	Entrepreneurial Business Plan Development
MGT 370	Sports Business
MKT 360	Principles of Marketing
NLS 402	Financial Resource Management and Fund Development
NTN 333	Nutrition Throughout the Life Cycle

Advisor-approved career elective

Total Curriculum Requirements 120 hrs

Exercise Science Minor21 hrs
 EXS 101, 333, 350, 351, 353, 370; and at least five hours from the following: EXS 295, 301, 354, 356, 375, 385, 415, or 465. A minimum 2.50 GPA is required for admission and retention. Students must earn a grade of C or higher in all minor coursework. If an exercise science minor student's GPA (minor or overall) drops below 2.50, the student will have one semester to improve the GPA. If after the subsequent semester, the GPA (overall or minor) is below 2.50, the student will no longer be able to remain in this minor program.

Nutrition, Dietetics and Food Management

The nutrition, dietetics, and food management program offers a B.S. degree with a choice of three options: dietetics, food management, and nutrition and foods, as well as a Master of Science.

The Dietetics Track focuses on the application of principles of nutrition, physiology, biochemistry, behavioral and social sciences and management to promote optimal health in individuals, and leads to credentialing as a Registered Dietitian (R.D.). The R.D. is the nationally recognized credential in nutrition. It is required for most employment in the health care industry and preferred for many other employment opportunities in foods and nutrition. The admission requirements for the Dietetics Track are explained below. Upon successful completion of the B.S. degree program in Dietetics, a graduate must complete an accredited post-baccalaureate supervised practice program (Dietetic Internship Program) to gain eligibility for the national examination for R.D. status. Murray State also offers a post-baccalaureate dietetic internship program.

The Food Management Track prepares students for careers in the hospitality industry. Skills developed can be applied to a wide range of jobs across the industry. There will be no shortage of exciting opportunities and fresh challenges in the years ahead. Necessary skills include basic business skills, motivation, and supervisory skills as well as food purchasing, preparation, and service. Careers you can explore include theme parks, country clubs, corporate dining, university dining, bed and breakfast, restaurants, consulting, and sales.

The Nutrition and Foods Track provides a broad education in basic nutrition and food studies leading to a variety of career possibilities in food and nutrition. Today's interest in healthy lifestyles is translating into a remarkable range of career opportunities related to health, diet, and fitness. Graduates may be employed in a variety of settings such as education, government agencies, school, media, food management, or any position where the R.D. credential is not required.

Dietetics Admission Requirements

The Dietetics Program is accredited by the Accreditation Council for Education in Nutrition and Dietetics as a Didactic Program in Dietetics (DPD). In order to be admitted into the DPD, a student must have completed at least 45 credit hours and have a GPA of 3.0 or above with a B or better in NTN 230, 231, and 330 and a C or better in

BIO 115, CHE 105, CHE 210, and MAT 140. In order to obtain a Verification Statement upon completion of the DPD, a student must have a GPA of at least 3.0 and at least a C in all DPD required courses.

Upon completion of necessary prerequisite courses, students may apply for formal admission to the dietetics track. This typically occurs the second semester of the sophomore year of study. The student should request an application from the DPD Director. Admission is competitive and based on available space.

AREA:

Nutrition, Dietetics and Food Management/Dietetics Track

Bachelor of Science

CIP 19.0501

ACCREDITED BY: Dietetics Emphasis: Accreditation Council for Education in Nutrition and Dietetics (ACEND)

Note: With proper advising, this program can meet requirements for physician assistant and certain other pre-professional programs.

University Studies Requirements 38-43 hrs
 (See *Academic Degrees and Programs.*)

University Studies selections must include:

•**Scientific Inquiry, Methodologies, and Quantitative Skills**

CHE 105	Introductory Chemistry
STA 135	Introduction to Probability and Statistics
MAT 140	College Algebra

•**Social and Self-Awareness and Responsible Citizenship**

PSY 180	General Psychology
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•**University Studies Electives**

CSC 199	Introduction to Information Technology
GDS 201	Introduction to Gender and Diversity Studies
or	
SOC 133	Introduction to Sociology

Core Requirements 40 hrs

BIO 115	The Cellular Basis of Life
BUS 140	Foundations of Business
MGT 350	Fundamentals of Management
NTN 100T	Transitions
NTN 200	Introduction to the Profession
NTN 230	Nutrition
NTN 231	Principles of Food Science and Preparation
NTN 303	Research Concepts in Foods and Nutrition
NTN 333	Nutrition Throughout the Life Cycle
NTN 371	Quantity Food Production Practicum
NTN 372	Quantity Food Production and Purchasing
NTN 373	Management of Food Service Personnel and Facilities
NTN 412	Community Nutrition and Health
NTN 422	Meal Management
NTN 432	Experimental Foods
NTN 499	Senior Seminar

Dietetics Courses 34 hrs

BIO 120	Scientific Etymology
BIO 220	Clinical Terminology
BIO 229	Human Physiology
BIO 230	Human Physiology Laboratory
BIO 300	Introductory Microbiology
CHE 210	Brief Organic Chemistry
CHE 330	Basic Biochemistry
NTN 330	Advanced Nutrition
HEA 415	Communication Techniques for Health Care Providers
or	
NTN 350	Nutrition Counseling and Education

NTN 434	Clinical Dietetics Practicum
NTN 440	Medical Nutrition Therapy I
NTN 445	Pathophysiology for Nutrition-Related Diseases
NTN 450	Medical Nutrition Therapy II
NTN 460	Advanced Clinical Cases

and elective hours as needed to meet university requirements.

Total Curriculum Requirements 120 hrs

AREA:

**Nutrition, Dietetics and Food Management/
Food Management Track**

Bachelor of Science CIP 19.0501

University Studies Requirements 39-40 hrs

(See *Academic Degrees and Programs.*)

University Studies selections must include:

•**Scientific Inquiry, Methodologies, and Quantitative Skills**

BIO 101 Biological Concepts
CHE 105 Introductory Chemistry

or

CHE 201 General College Chemistry
MAT 117 Mathematical Concepts (or higher math)

•**Social and Self-Awareness and Responsible Citizenship**

PSY 180 General Psychology

•**University Studies Electives**

CSC 199 Introduction to Information Technology
SOC 133 Introduction to Sociology

Core Requirements 45-46 hrs

BUS 140 Foundations of Business
PSY 300 Principles and Methods of Statistical Analysis

or

STA 135 Introduction to Probability and Statistics
FCS 462 Methods of Teaching Family and Consumer Sciences
MGT 350 Fundamentals of Management
NTN 100T Transitions
NTN 200 Introduction to the Profession
NTN 220 Food Safety and Sanitation
NTN 230 Nutrition
NTN 231 Principles of Food Science and Preparation
NTN 303 Research Concepts in Foods and Nutrition
NTN 333 Nutrition Throughout the Life Cycle
NTN 371 Quantity Food Production Practicum
NTN 372 Quantity Food Production and Purchasing
NTN 373 Management of Food Service Personnel and Facilities
NTN 412 Community Nutrition and Health
NTN 422 Meal Management
NTN 432 Experimental Foods
NTN 499 Senior Seminar

Food Management Courses 24 hrs

ACC 200 Principles of Financial Accounting
ECO 230 Principles of Macroeconomics
MGT 550 Human Resource Management
MKT 360 Principles of Marketing
NTN 374 Food Service Management Practicum

Choose nine hours from the following:

ACC 201 Principles of Managerial Accounting
CSC 125 Internet and Web Page Design
MGT 358 Entrepreneurial Business Plan Development
MGT 551 Organizational Behavior
MGT 553 Human Resource Selection

MKT 361	Selling and Sales Management
MKT 565	Marketing Research
NTN 488	Cooperative Education/Internship
NTN 497	Trends and Issues in Nutrition and Foods

Electives 10-12 hrs

Total Curriculum Requirements 120 hrs

AREA:

**Nutrition, Dietetics and Food Management/
Nutrition and Foods Track**

Bachelor of Science CIP 19.0501

University Studies Requirements 39-40 hrs

(See *Academic Degrees and Programs.*)

University Studies selections must include:

•**Scientific Inquiry, Methodologies, and Quantitative Skills**

BIO 101 Biological Concepts
CHE 105 Introductory Chemistry

or

CHE 201 General College Chemistry
MAT 117 Mathematical Concepts (or higher math)

•**Social and Self-Awareness and Responsible Citizenship**

PSY 180 General Psychology

•**University Studies Electives**

CSC 199 Introduction to Information Technology
SOC 133 Introduction to Sociology

Core Requirements 45-46 hrs

BUS 140 Foundations of Business
PSY 300 Principles and Methods of Statistical Analysis

or

STA 135 Introduction to Probability and Statistics
FCS 462 Methods of Teaching Family and Consumer Sciences
MGT 350 Fundamentals of Management
NTN 100T Transitions
NTN 200 Introduction to the Profession
NTN 220 Food Safety and Sanitation
NTN 230 Nutrition
NTN 231 Principles of Food Science and Preparation
NTN 303 Research Concepts in Foods and Nutrition
NTN 333 Nutrition Throughout the Life Cycle
NTN 371 Quantity Food Production Practicum
NTN 372 Quantity Food Production and Purchasing
NTN 373 Management of Food Service Personnel and Facilities
NTN 412 Community Nutrition and Health
NTN 422 Meal Management
NTN 432 Experimental Foods
NTN 499 Senior Seminar

Nutrition and Foods Courses 19-20 hrs

BIO 227 Human Anatomy *and*
BIO 228 Human Anatomy Laboratory

or

EXS 250 Anatomical Concepts in Wellness
BIO 229 Human Physiology
BIO 230 Human Physiology Laboratory
CHE 210 Brief Organic Chemistry
HEA 191 Personal Health
HEA 415 Communication Techniques for Health Care Providers
NTN 430 Advanced Nutrition

- Electives** 14-17 hrs
- Total Curriculum Requirements** 120 hrs
- Nutrition Minor**22 hrs
FCS 462, NTN 230, 231, 330, 333, 412, and 445.

Public and Community Health

The Bachelor of Science in Public and Community Health is designed to prepare students to:

- promote the health of individuals and groups within the community;
- demonstrate the ability to think critically and behave ethically according to professional standards;
- work with individuals, groups, and families in a variety of settings, such as worksite, community health organizations, university-based health services, wellness centers, and community health programs at the local, state, or federal level;
- communicate with clients, families colleagues, and all stakeholders in health programs;
- sit for professional certifications/licensures; and/or
- pursue graduate studies in related fields.

A 2+2 curricular plan is available for students in the Kentucky Community College System.

Healthcare Administration Emphasis

This specialization provides students with the basic knowledge, skills, and applied studies needed for entry-level positions in a variety of settings, such as hospitals, physician group practices, nursing homes, home health agencies, consulting firms, pharmaceutical companies, and non-profit organizations. It can also be the springboard to a graduate program for those seeking higher-level positions. The curriculum includes business aspects of health care organizations, such as finance, management, and marketing, as well as health care planning, policy, and special event management.

Health Education and Promotion Emphasis

This specialization prepares students for careers in disease prevention, health and wellness promotion, and addressing health disparities. The theoretical and experiential education prepares students to make a difference in local, regional, national, and global settings. The health education and promotion curriculum includes advanced concepts in consumer health, substance abuse, human sexuality, nutrition, mental health, and evaluation and administration of health programs. These areas prepare students to sit for the national examination to earn professional recognition as a Certified Health Education Specialist (CHES).

Health Informatics Administration Emphasis

This specialization focuses on the increasing use of technology in the health care profession. A health informatics administrator plays a role in collecting, interpreting, analyzing, maintaining, and protecting data that health care providers rely on to deliver quality care. The curriculum includes aspects in coding and classification systems, management of patient health information, and administration of computer information systems. Students who complete this track will be qualified to take the national registration examination to earn professional recognition as a Registered Health Information Administrator (RHIA).

Program Requirements

Students must achieve and maintain an overall GPA of 2.50 and an area GPA of 2.75 on a 4.0 scale. Students must earn a grade of C or

better in Public and Community Health core courses to successfully complete the program. Additionally, a grade of B or better in MAT 140 (or higher) and a grade of C or better in BIO 101 and CHE 105 or CHE 111 is required for program completion.

Any Public and Community Health student that is not adequately progressing through the program and/or has not met program requirements are held to the following:

- If a student earns below a C, the course must be repeated at the next available offering. If the course is not offered the next semester (or circumstances do not permit), but the student meets the cumulative GPA requirements, they will be allowed to progress in other courses.
- If on the third attempt, the student is still unable to earn a C or better, the course cannot be repeated again for the Public and Community Health program and the student can no longer progress through the program.

Department approval is required to transfer in HEA 110, 200, 210, 301, 311, 356, 415, 460, 470, and 499 from other institutions.

AREA:

Public and Community Health

Bachelor of Science

CIP 51.2208

University Studies Requirements 41-42 hrs

(See *Academic Degrees and Programs*.)

University Studies selections must include:

• **Scientific Inquiry, Methodologies, and Quantitative Skills**

- BIO 101 Biological Concepts
- MAT 140 College Algebra (*or higher math*)

• **Social and Self-Awareness and Responsible Citizenship**

- HEA 260 Introduction to Medical Ethics
- or*
- PHI 202 Ethics
- PSY 180 General Psychology

• **University Studies Electives**

- CSC 101 Introduction to Problem Solving Using Computers
- or*
- CSC 199 Introduction to Information Technology

Core Courses 44 hrs

- HCA 450 Human Resource Management in Health Care
- HEA 100T Transitions
- HEA 191 Personal Health
- HEA 201 Introduction to Public and Community Health
- HEA 301 Chronic and Communicable Diseases
- HEA 302 Consumer Health
- HEA 303 Health Behavior
- HEA 311 Epidemiology
- HEA 411 Health Policy
- HEA 490 Senior Seminar in Public and Community Health
- HEA 499 Professional Experience in Public and Community Health (6 hrs)
- HIA 301 Overview of the Healthcare Delivery System
- HIA 401 Health Care Quality Management

and one of the following:

- HEA 310 Biostatistics in Public Health
- PSY 300 Principles and Methods of Statistical Analysis
- STA 135 Introduction to Probability and Statistics

and one of the following:

- EXS 400 Research Design and Statistics for Applied Health
- NTN 303 Research Concepts in Food and Nutrition
- PSY 301 Principles and Methods of Psychological Research
- SWK 303 Principles and Methods of Research

Area of Emphasis..... 24-32 hrs

Select one subject area from the following:

Healthcare Administration

BUS	215	Business Communication
		<i>or</i>
COM	380	Organizational Communication
COM	340	Intercultural Communication
		<i>or</i>
HCA	395	Cultural Diversity for Health Care Organizations
HCA	405	Hospital and Health Services Administration
HCA	410	Health Care Planning
HCA	415	Financial Aspects of Health Service Organizations
HEA	356	Health Promotion Programming
HEA	475	Health Assessment and Evaluation
NLS	351	Leadership and Support Systems in Nonprofit Organizations

Health Education and Promotion

HEA	304	Mental Health: A Public Health Perspective
HEA	350	Foundations of Community Health Education
HEA	356	Health Promotion Programming
HEA	412	Environmental Health: A Public Health Perspective
HEA	460	Human Sexuality
HEA	470	Education for Drug Abuse Prevention
HEA	475	Health Assessment and Evaluation
NTN	230	Nutrition

Health Informatics Administration

BIO	120	Scientific Etymology
BIO	220	Clinical Terminology
CIS	317	Principles of Information Systems Analysis and Design
HCA	405	Hospital and Health Services Administration
HCA	410	Health Care Planning
HCA	415	Financial Aspects of Health Service Organizations
HIA	302	Legal Aspects of Health Information Administration
HIA	303	Health Care Coding
HIA	402	Medical Coding and Reimbursement
HIA	410	Healthcare Data Structures and Management
TSM	351	Principles of Information Security
		<i>and one of the following:</i>
CSC	145	Introduction to Programming
CSC	232	Introduction to Programming in C#
CSC	235	Programming in C++

Unrestricted Electives..... 3-11 hrs

Total Curriculum Requirements 120 hrs

Public and Community Health Minor21 hrs

HEA 191, 201, 301, 302, 303, 311, and HIA 301. A minimum 2.50 GPA is required for admission and retention. Students must earn a grade of C or higher in all minor coursework. If a public and community health minor student's GPA (minor or overall) drops below 2.50, the student will have one semester to improve the GPA. If after the subsequent semester, the GPA (overall or minor) is below 2.50, the student will no longer be able to remain in this minor program. No substitutions and/or alterations in the curriculum shall be made without written approval of the public and community health program director.

Graduate Programs**Athletic Training**

As members of a sports medicine team, athletic trainers provide services comprising of prevention, emergency care, clinical diagnosis, and therapeutic interventions. Job settings for athletic trainers include secondary schools, colleges and universities, professional sports, rehabilitation clinics and hospitals, physicians' offices, performing arts programs, military, law enforcement, and industrial medicine. Murray State University's Master of Science in Athletic Training (MSAT) Program strengthens students' critical inquiry, cultural competence, and patient care skills through didactic and clinical education. Students wishing to pursue the MSAT degree will have two routes of completion: accelerated or traditional. Regardless of which route students pursue, the MSAT curriculum encompasses two full years of didactic and clinical coursework, including both summers.

The Commission on Accreditation of Athletic Training Education (CAATE) accredits the Athletic Training Program. Graduates are eligible to sit for the Board of Certification (BOC) examination. Minimum eligibility for state credentialing is based upon successful completion of the BOC exam.

Students wishing to pursue the Master of Science in Athletic Training (MSAT) degree have two routes of completion:

Traditional Route

Students who currently hold a bachelor's degree in an area other than athletic training and who complete the appropriate prerequisite coursework are eligible to apply for admission to the MSAT program.

Accelerated Route

Upon entering Murray State, students who are interested in athletic training but do not currently hold a bachelor's degree should declare exercise science as their major with the pre-health professional track. Students will change their major to exercise science/movement science track after meeting the necessary requirements. During their third year of undergraduate study, those students who complete the appropriate prerequisite coursework are eligible to apply for admission to the MSAT program. If accepted into the professional program, conferral of the bachelor's degree in exercise science will occur after the fourth year of study, and conferral of the MSAT degree will occur after the fifth year of study.

Students admitted to the master's program and successfully complete equivalent 600-level courses, could challenge the 500-level credit via a departmental challenge procedure. Departmental challenge fees would apply. The 500-level challenge credit will apply toward the baccalaureate degree.

Athletic Training Admission Requirements

A considerable time commitment is required to successfully complete the MSAT Program. Students are chosen based on a selective and competitive admissions process due to the limited space availability at the clinical sites. For detailed admission requirements and application deadlines, visit the MSAT Program website. General requirements for admission are:

- Cumulative GPA of 3.0 or greater for full admission; conditional admittance may be considered if cumulative GPA is 2.9-3.0.
- Completion of course credit (90 hours at MSU or by transfer OR baccalaureate degree)

- Completion of appropriate prerequisite foundational coursework with a C or better:
(Course eligibility at the discretion of the MSAT Admission Committee.)

- Anatomy with lab – 4 credits
- Medical Terminology – 2 to 3 credits
- Physiology with lab – 4 credits
- General Psychology – 3 credits
- General College Chemistry – 4 to 5 credits
- Nutrition – 3 credits
- General College Physics – 4 to 5 credits
- Kinesiology or Biomechanics – 3 credits
- Statistics – 3 to 4 credits
- Exercise Physiology – 3 credits

- CPR/AED and First Aid certification at the Health Care Provider level
- GRE scores earned no earlier than five years prior to application
- Observation hours with a certified athletic trainer
- Completed Technical Standards/Essential Skills Form (see *Retention Requirements below*)
- Proof of immunizations (including Hepatitis B or signed waiver, influenza, and TB)
- Online application
- Background check
- Official transcripts from all other colleges/universities attended (if applicable)

Athletic Training Retention Requirements

Students must maintain confidentiality at the clinical site(s), show respect for faculty, staff, preceptors, and patients, and demonstrate adequate performance to be retained in the MSAT Program. Specific requirements for retention are:

- Signed agreement to abide by all program policies and procedures as detailed on the MSAT program website
- Maintain MSAT GPA of 3.0 or greater
- Receive a C or better in all coursework and a B or better in clinical education coursework
- Achieve satisfactory completion of comprehensive assessments
- Provide personal transportation and/or housing to clinical rotations
- Any student who, after reasonable accommodations, cannot perform the Essential Skills may not be permitted to continue in the MSAT program.

It is the student's responsibility to notify the Executive Director, Office of Institutional Diversity, Equity and Access, to request a reasonable accommodation. All requests must be accompanied by appropriate documentation from a qualified professional referencing the condition and specific need for the accommodation requested.

Master of Science in Athletic Training CIP 51.0913

Total Curriculum Requirements 64 hours

- ATR 600 Research and Evidence-Based Practice
- ATR 601 Professional Aspects of Athletic Training
- ATR 603 Functional Anatomy in Athletic Training
- ATR 604 Musculoskeletal Evaluation
- ATR 605 Bracing, Splinting, and Taping
- ATR 606 Diagnostic Testing and Measurement
- ATR 607 Emergency Care in Athletic Training
- ATR 608 Emergency Care in Athletic Training Laboratory
- ATR 620 Therapeutic Interventions
- ATR 621 Therapeutic Interventions Laboratory

- ATR 635 Prevention and Health Promotion
- ATR 641 Clinical Experience in Athletic Training I
- ATR 642 Clinical Experience in Athletic Training II
- ATR 645 Clinical Experience in AT III
- ATR 646 Clinical Experience in AT IV
- ATR 647 Clinical Experience in AT V
- ATR 648 Seminar in Athletic Training I
- ATR 649 Seminar in Athletic Training II
- ATR 651 Evaluation and Care: Foot, Ankle, and Lower Leg
- ATR 652 Evaluation and Care: Knee and Patellofemoral
- ATR 653 Evaluation and Care: Thigh, Pelvis, and Lumbar Spine
- ATR 654 Evaluation and Care: Shoulder and Upper Arm
- ATR 655 Evaluation and Care: Elbow, Wrist, Hand, and Fingers
- ATR 656 Evaluation and Care: Head and Cervical Spine
- ATR 657 Evaluation and Care: Thorax and Abdomen
- ATR 671 Administration and Professional Development
- ATR 672 Graduate Project in Athletic Training I
- ATR 673 Graduate Project in Athletic Training II
- ATR 685 Psychosocial Interventions

Nutrition

The Master of Science (M.S.) in Nutrition is a 35-credit-hour program which enables graduates of the Registered Dietitian (R.D.) certification program to pursue additional higher education in the areas of professional counseling, education, science, statistics, psychology, management, and nutrition research. The M.S. in Nutrition prepares students to effectively compete in a growing job market in which 5 of 10 dietitians nationally hold master's degrees. Advances in nutrition and genetic research, aging demographics, and accelerating rates of nutrition-related diseases such as obesity and diabetes fuel the demand for highly trained nutrition professionals.

Master of Science Nutrition CIP 19.0501

Requirements for Admission

Applicants must meet the Murray State University requirements (see *Graduate Admissions*). Additional requirement for admission is as follows.

- Students must receive appointment to the MSU Dietetic Internship Program from the Commission on Dietetics Education's agent.

Total Course Requirements..... 35 hours

- NTN 640 Dietetics Clinical Training Primer
- NTN 641 Nutrition Therapy I
- NTN 642 Management Practice in Dietetics
- NTN 643 Community Nutrition^{PT}
- NTN 650 Dietetic Clinical Nutrition Assessment and Care
- NTN 651 Medical Nutrition Therapy II
- NTN 652 Dietetics Clinical Practice in Long Term Care
- NTN 653 Advanced Clinical Practice
- NTN 656 Nutrition Research Literature Review^L
- NTN 660 Research Project in Nutrition I^R
- NTN 661 Research Project in Nutrition II

Approved elective(1-4 hrs)

Other Degree Requirements

Student must pass the Registration Examination after 18 hours of study to continue in the program.

CERTIFICATE:**Registered Dietitian (R.D.)**

CIP 19.0501

ACCREDITED BY: Accreditation Council for Education in Nutrition and Dietetics (ACEND)

Requirements for Admission

Applicants must meet the Murray State University requirements (see *Graduate Admissions*) and students must receive appointment to the MSU Dietetic Internship Program from the Commission on Dietetics Education's agent.

Total Course Requirements..... 18 hours

NTN 640	Dietetics Clinical Training Primer
NTN 641	Nutrition Therapy I
NTN 642	Management Practice in Dietetics
NTN 643	Community Nutrition
NTN 650	Dietetic Clinical Nutrition Assessment and Care
NTN 651	Medical Nutrition Therapy II
NTN 652	Dietetics Clinical Practice in Long Term Care
NTN 653	Advanced Clinical Practice

Nursing

Dean: Marcia Hobbs. **Faculty:** Armstrong, Ballard, Byers, Cross, Farrell, Fowler, Garth, Hobbs, Mailow, Naber, Perlow, Springer, Thurmond, Tinsley, Todd.

Nursing offers two degree programs, the baccalaureate program leading to the Bachelor of Science in Nursing (B.S.N.) and the Doctor of Nursing Practice (D.N.P.). The B.S.N. and D.N.P. are accredited by the Commission on Collegiate Nursing Education. The D.N.P., Anesthesia Specialization, is also accredited by the Council on Accreditation of Nurse Anesthesia Educational Programs.

The purpose of the undergraduate nursing program is to prepare:

- a liberally educated individual;
- a professional graduate who practices as a generalist;
- one who is qualified to pursue graduate study in nursing.

Upon completing the program, students will be eligible to apply to write the licensing examination for registered nurses (NCLEX-RN)¹.

The baccalaureate nursing program is typically composed of two semesters of pre-nursing and six semesters of full-time study in the arts, sciences, and nursing. Upon completion of necessary prerequisite courses, students may apply for formal admission to the nursing program. This typically occurs the beginning of the sophomore year of study. Proof of up-to-date immunizations, tuberculin testing, CPR certification, professional liability insurance, background check, and drug screening must be submitted upon acceptance to the program. Failure to submit documents can result in mandated withdrawal or failure in the program. The prerequisite courses for admission consideration are BIO 227, BIO 228, CHE 111, COM 161, ENG 105, MAT 140, and PSY 180. A grade point average of 3.00 and 30 hours completed are the minimum standards for admission into the program. Admission is competitive and based on available space. Students are expected to maintain a grade point average of at least 2.00 and may pursue either a full-time or part-time (with approval) course of study. Licensed practical nurses may apply for NUR 206 credit upon successful completion of NUR 200, 201, and 205.

Students must earn a grade of C or better in all course work. Students must pass both theory and clinical practice in all clinical nursing courses or the entire course must be repeated. Once a student has a clinical failure, the student will receive an E for the course

and may not withdraw from the course, regardless of the university calendar. If a transfer student earned a D or E in a nursing course, it counts as a first failure in the MSU program. A student who must repeat a course is admitted to future courses on a space-available basis.

If a grade less than C is received in one nursing course, the student may repeat the course as soon as it is offered on a space-available basis. If a grade less than C is received in one nursing course for the second time, the course cannot be repeated and the student is not eligible for readmission. If two nursing courses are failed (less than a C), the student is dismissed from the program, and is not eligible for readmission to the same option (the options are pre-licensure B.S.N. and R.N.-B.S.N.).

Admission deadlines are May 1, for fall semesters and December 1 for spring semesters. Clinical facilities require drug screening and criminal background checks.

Students are responsible for the purchase of uniforms, miscellaneous equipment and transportation during their program of study. Undergraduate nursing course clinical hours are calculated on a one-credit-hour-to-three-clinical-hour ratio. Clinical courses usually require more clinical hours than are listed in the class schedules. Students are encouraged to check with advisors about the necessary time commitment.

Detailed information about these and other policies, such as academic honesty and confidentiality, is available from the School of Nursing and in the *MSU Student Handbook*.

For further information write: Nursing Program, Murray State University, 120 Mason Hall, Murray KY 42071-3302.

¹Applicants must submit a certified copy of the court record of each misdemeanor or felony conviction and a letter of explanation that addresses each conviction. (201 KAR 20:270).

AREA:**Nursing**

Bachelor of Science in Nursing

CIP 51.3801

ACCREDITED BY: Commission on Collegiate Nursing Education (CCNE)

University Studies Requirements..... 42 hrs**•Oral and Written Communication**

COM 161 Introduction to Public Speaking
 ENG 105 Critical Reading, Writing, and Inquiry

•Global Awareness, Cultural Diversity, and the World's Artistic Traditions

One University Studies elective in this category

•Scientific Inquiry, Methodologies, and Quantitative Skills

BIO 101 Biological Concepts¹

or

BIO 221 Zoology: Animal Form and Function

MAT 140 College Algebra¹

STA 135 Introduction to Probability and Statistics¹

•Social and Self-Awareness and Responsible Citizenship

PHI 202 Ethics¹

PSY 180 General Psychology¹

•World's Historical, Literary, and Philosophical Traditions

CIV 201 World Civilizations I

or

CIV 202 World Civilizations II

HUM 211 Western Humanities Tradition

•University Studies Approved Electives

CHE 111 Essentials of Chemistry and Biochemistry

One University Studies elective

Required Courses 78 hrs

- BIO 227 Human Anatomy
- BIO 228 Human Anatomy Laboratory
- BIO 229 Human Physiology
- BIO 230 Human Physiology Laboratory
- NTN 230 Nutrition
- NUR 100T Transitions
- NUR 200 Introduction to Nursing Concepts
- NUR 202 Nursing Assessment and Basic Interventions
- NUR 203 Mental Health Nursing
- NUR 205 Pharmacology in Nursing
- NUR 206 Nursing Practice Fundamentals
- NUR 301 Pathophysiology for Nursing Practice
- NUR 302 Nursing Care of Childbearing Families
- NUR 305 Nursing Care of Childrearing Families
- NUR 306 Introduction to Research in Nursing
- NUR 307 Nursing Care of Adults I
- NUR 308 Nursing Care of Adults II
- NUR 400 Applied Pharmacology
- NUR 402 Psychiatric Nursing
- NUR 407 Integration Practicum (Basic BSN only)
- NUR 408 Nursing Care of Adults III
- NUR 409 Issues in Health Care Delivery
- NUR 410 Community Health Nursing
- NUR 412 Leadership and Management in Nursing

Total Curriculum Requirements 120 hrs

¹Required for area if not taken as University Studies elective.

RN to BSN

Registered nursing students may complete requirements for the baccalaureate degree in nursing at Murray State University. Selected nursing courses may be earned by validation. The remaining nursing hours are taken from the nursing area curriculum shown below. A grade of C or better is required of all courses to be used toward the BSN degree, including transfer work.

Requirements for Admission to RN to BSN

The prerequisite courses for admission consideration are ENG 105; BIO 227, 228, 229, and 230; CHE 105 or 106 (with lab) or 111; COM 161; MAT 140; STA 135; and PSY 180.

Compliance with the School of Nursing Health Policy: 1) proof of immunizations (MMR, tetanus (within last 10 years), Varicella titer, Hep B or waiver, and tuberculin screening; 2) proof of CPR certification; 3) proof of RN licensure; and 4) professional liability insurance = \$1,000,000/\$3,000,000.

AREA:

Nursing/RN to BSN

Bachelor of Science in Nursing

CIP 51.3801

ACCREDITED BY: Commission on Collegiate Nursing Education (CCNE)

University Studies Requirements 38-43 hrs

•Oral and Written Communication

- COM 161 Introduction to Public Speaking
- ENG 105 Critical Reading, Writing, and Inquiry

•Global Awareness, Cultural Diversity and the World's Artistic Traditions

One University Studies elective in this category

•Scientific Inquiry, Methodologies, and Quantitative Skills

- STA 135 Introduction to Probability and Statistics

- or
- Other School approved equivalent transfer
- or
- PSY 300 Principles and Methods of Statistical Analysis
- or
- PSY 591 Statistics
- or
- Other School approved equivalent transfer
- MAT 140 College Algebra
- One science or mathematics course

•Social and Self-Awareness and Responsible Citizenship

One University Studies elective in this category

and

- PSY 180 General Psychology

•World's Historical, Literary, and Philosophical Traditions

Two University Studies electives in this category

•University Studies Approved Electives

Eight hours from the list of University Studies courses with no more than two courses from any one category.

Note: See required courses before selecting mathematics and science electives.

Required Courses 75 hrs

- BIO 227 Human Anatomy
- BIO 228 Human Anatomy Laboratory
- BIO 229 Human Physiology
- BIO 230 Human Physiology Laboratory
- CHE 105 Introductory Chemistry
- or
- CHE 111 Essentials of Chemistry and Biochemistry
- NUR 306 Introduction to Research in Nursing
- NUR 314 Professional Nursing Practice
- NUR 341 Nursing Assessment
- NUR 403 Community Health Nursing
- NUR 404 Leadership and Management in Nursing
- NUR 405 The Nursing Profession and Health Care Delivery
- NUR elective (3 hrs)

Courses required by validation or challenge

- NUR 305 Nursing Care of Childrearing Families
- NUR 307 Nursing Care of Adults I
- NUR 308 Nursing Care of Adults II
- NUR 400 Applied Pharmacology
- NUR 402 Psychiatric Nursing
- NUR 408 Nursing Care of Adults III

Unrestricted Elective 3 hrs

Total Curriculum Requirements 120-123 hrs

Graduate Programs

Graduate Coordinator - Dina Byers

Doctor of Nursing Practice (DNP)

The doctoral degree program in nursing is designed to move BSN prepared Registered Nurses to advanced practice. This unique program educates individuals to be advanced practice nurses (family nurse practitioners and nurse anesthetists) who are nursing leaders prepared to improve health-related outcomes at the individual client, population, and organization/system levels. The program has mandatory clinical experiences across the lifespan at clinical sites encompassing a wide variety of settings depending upon which specialization the student selects. Graduates of the DNP program will meet national certification criteria for advanced licensure.

Requirements for Admission

Applicants must meet the Murray State University requirements (see *Graduate Admissions*). In addition to the general MSU application, applicants must complete an application from the School of Nursing. This application must be turned in to the school office by the deadline set by the school. Requirements for unconditional and conditional admission are as follows; additional requirements are listed under each concentration. All application materials must be submitted on or before the application deadline.

Unconditional

For unconditional admission, an applicant must have:

- undergraduate cumulative grade point average of 3.0 on 4.0 scale;
- baccalaureate degree in nursing from an ACEN/CCNE-accredited institution;
- official transcripts from every college/university attended submitted to Murray State Graduate Admissions;
- current CPR certification; current ACLS and PALS certification for nurse anesthesia specialization only;
- students whose native language is not English, a TOEFL/iBT scores of 86 combined and a minimum of 26 speaking, 20 writing, 20 reading, and 20 listening;
- three professional recommendations submitted on a School of Nursing Recommendation form;
- unencumbered licensure as a registered nurse (students will also be required to be licensed as a registered nurse in any state in which they intend to complete clinical hours for the program);
- submission of a one to three, double-spaced pages listing reasons for the seeking of doctoral study, including short- and long-term professional goals; and
- a successful interview with the DNP faculty.

Nurse Anesthesia Specific Requirements

- Two years critical care experience as a registered nurse (excluding orientation to the critical care unit) within the past five years and by the time of application;
- chemistry prerequisite of organic or biochemistry course; *and*
- current PALS and ACLS.

Students who request admission to Murray State University's Doctor of Nursing Practice program must be in a good standing at previously and/or currently enrolled programs. Proof of liability insurance for advanced practice nursing, current immunizations, hepatitis vaccine or signed waiver, and TB testing are required before enrollment in clinical nursing courses. Submit copies to the Graduate Coordinator, School of Nursing.

Where unusual or extenuating circumstances are indicated, the Dean of the School of Nursing and Health Professions may admit a student who does not meet the above criteria.

All application materials must be submitted on or before the application deadline.

Doctor of Nursing Practice/ Family Nurse Practitioner Specialization

CIP 51.3818

ACCREDITED BY: Commission on Collegiate Nursing Education (CCNE)

Total Course Requirements..... 76 hours

Core Courses 38 hrs

NUR 603	Theory and Concept Analysis in Nursing
NUR 630	Research in Nursing ^R
NUR 631	Evidence-Based Clinical Practice ^L
NUR 642	Advanced Pharmacology
NUR 673	Pathophysiology in Advanced Nursing Practice
NUR 900	Philosophy of Science
NUR 901	Foundations of Advanced Nursing Practice
NUR 902	Ethics in Nursing
NUR 903	Principles of Epidemiology
NUR 905	Health Care Policy
NUR 906	Leadership/Management of Systems
NUR 909	Capstone ^R
NUR 912	Capstone Residency ^L

Clinical Courses 10 hrs

NUR 641	Advanced Nursing Assessment
NUR 910	Advanced Practice Clinical Residency ^{PT}

Specialty Courses..... 25 hrs

NUR 929	Introduction to Primary Care
NUR 931	Primary Care of the Family I
NUR 932	Primary Care of the Family Clinical I
NUR 933	Primary Care of the Family II
NUR 934	Primary Care of the Family Clinical II
NUR 936	Advanced Primary Care Practicum ^{PT}
NUR 937	Primary Care III

Additional Course..... 3 hrs

STA 660	Biostatistics
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¹Will be taken three times for a total of three credit hours.

Doctor of Nursing Practice/ Nurse Anesthesia Specialization

CIP 51.3818

ACCREDITED BY: Council on Accreditation of Nurse Anesthesia Educational Programs (COA) and Commission on Collegiate Nursing Education (CCNE)

Total Course Requirements..... 81 hours

Advanced Nursing Core Courses 38 hrs

NUR 603	Theory and Concept Analysis in Nursing
NUR 630	Research in Nursing ^R
NUR 631	Evidence-Based Clinical Practice ^L
NUR 642	Advanced Pharmacology
NUR 673	Pathophysiology in Advanced Nursing Practice
NUR 900	Philosophy of Science
NUR 901	Foundations of Advanced Nursing Practice
NUR 902	Ethics in Nursing

- NUR 903 Principles of Epidemiology
- NUR 905 Health Care Policy
- NUR 906 Leadership and Quality Improvement/Patient Safety
- NUR 909 Capstone^R
- NUR 912 Capstone Residency

Clinical Courses 10 hrs

- NUR 641 Advanced Nursing Assessment
- NUR 949 Clinical Residency for Nurse Anesthesia^{PT}

Clinical Specialty Courses..... 30 hrs

- NUR 940 Introduction to Principles and Practice of Nurse Anesthesia
- NUR 941 Basic Principles and Practice of Nurse Anesthesia
- NUR 942 Physiology and Anesthetic Implications I
- NUR 943 Principles and Practice of Nurse Anesthesia for Special Populations
- NUR 944 Advanced Pharmacology Nurse Anesthesia
- NUR 945 Physiology and Anesthetic Implications II
- NUR 946 Advanced Physiology and Anesthetic Application^{PT}
- NUR 947 Advanced Principles and Practice of Nurse Anesthesia
- NUR 948 Senior Seminar I and II

Additional Course 3 hrs

- STA 660 Biostatistics

¹NUR 912 will be taken for three semesters.

²NUR 648 will be taken for two semesters.

hepatitis vaccine or signed waiver, and TB testing are required before enrollment in clinical nursing courses. Submit copies to the Graduate Coordinator, School of Nursing.

Where unusual or extenuating circumstances are indicated, the Dean of the School of Nursing and Health Professions may admit a student who does not meet the above criteria.

Total Course Requirements 32 hours

Core Courses 20 hrs

- NUR 631 Evidence-Based Clinical Practice^L
- NUR 900 Philosophy of Science
- NUR 902 Ethics in Nursing
- NUR 903 Principles of Epidemiology
- NUR 905 Health Care Policy
- NUR 906 Leadership/Management of Systems
- NUR 909 Capstone^R

Clinical Course 9 hrs

- NUR 911 Clinical Residency I, II, III^{PT}

Additional Course 3 hrs

- STA 660 Biostatistics

Doctor of Nursing Practice/MSN to DNP CIP 51.3818

The MSN to DNP specialization is designed to move MSN prepared Advanced Practice Registered Nurses (APRNs) to a doctorate in nursing practice. All application materials must be submitted on or before the application deadline.

Requirements for Admission

Admission criteria is as follows:

- master’s degree in nursing with advanced practice credentials from an ACEN/CCNE-accredited institution;
- graduate cumulative grade point average of 3.5 on 4.0 scale;
- official transcripts from every college/university attended submitted to Murray State Graduate Admissions;
- current CPR certification; current ACLS and PALS certification for nurse anesthesia concentration only;
- APRN certification - Clinical Nurse Specialist (CNS), Family Nurse Practitioner (FNP), Nurse Anesthetist (NA), or Nurse Mid-Wife (CNMW);
- students whose native language is not English, a TOEFL/iBT scores of 86 combined and a minimum of 26 speaking, 20 writing, 20 reading, and 20 listening;
- three professional recommendations submitted on a School of Nursing Recommendation form;
- unencumbered licensure as an advanced practice registered nurse (students will also be required to be licensed as an APRN in any state in which they intend to complete clinical hours for the program);
- submission of a one to three, double-spaced pages listing reasons for the seeking of doctoral study, including short- and long-term professional goals; and
- a successful interview with the graduate faculty.

Students who request admission to Murray State University’s Doctor of Nursing Practice program must be in a good standing at previously and/or currently enrolled programs. Proof of liability insurance for advanced practice nursing, current immunizations,



Honors College

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Warren Edminster, executive director
304 Lowry Center
270-809-5274

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Honors College

The Honors College offers a unique educational experience designed to teach students how to learn, how to think critically and creatively, and how to communicate effectively. Students with evidence of high achievement may qualify for the Murray State Honors College. This program has been designed to provide future social and professional leaders with exceptional thinking and communication skills, an appropriate breadth and depth of knowledge, and a sense of cultural and social responsibility.

Entering freshmen with an ACT composite score of 28 or above and exceptional high school records are invited to apply for admission to the Honors College. Acceptance is based on such factors as standardized test scores, grade point average, and evidence of creative and leadership abilities as displayed in extracurricular interests and activities.

Accepted students must participate in at least one Honors Seminar a semester until the sequence is complete unless arrangements are made with the director of the Honors College. In order to receive an Honors Diploma, an honors student must complete the Honors Sequence described below, fulfill the required competencies, maintain a 3.2 grade point average, and satisfy all Murray State graduation requirements including the completion of an area or a major and minor. In the programs they choose, honors students will be expected to select the more challenging courses offered.

The Honors College encourages intellectual exchange among students, professors, and visiting scholars. Ample opportunity is provided for dialogue.

The hallmarks of the Honors College are small class size and the resulting individual attention available to its students. Professors and guest lecturers are readily available to all students in developing a full understanding of the course materials. The faculty are selected partly on the basis of their commitment to fostering productive, interactive intellectual contact with students.

Only students admitted to the Honors College may enroll in HON prefix courses, including ENG 150 Honors English.

Honors Diploma Curricula

Honors Sequence - Arts

Bachelor of Arts (B.A.)

Bachelor of Arts in Business (B.A.B.)

Bachelor of Fine Arts (B.F.A.)

Bachelor of Music (B.M.)

- HON 100T Transitions¹
- ENG 150 Honors Rhetoric, Composition and Research
- HON 251 Honors Seminar in Literature and Philosophy

Two of the following²:

- HON 109 Interdisciplinary Humanities and Fine Arts
- HON 161 Honors Seminar in Visual Arts
- HON 162 Honors Seminar in Music
- HON 163 Honors Seminar in Theatre
- HON 164 Honors Seminar in Fine Arts and Culture Abroad
- HON 165 Honors Seminar in Communication

One of the following:

- HON 201 Honors Seminar in World History I
- HON 202 Honors Seminar in World History II

One of the following:

- HON 261 Honors Seminar in Science
- HON 262 Honors Seminar in Mathematics

Three of the following:

- HON 133 Honors Seminar in Sociology
- HON 140 Honors Seminar in American National Government
- HON 150 Honors Seminar in Archaeology
- HON 180 Honors Seminar in Psychology
- HON 201 Honors Seminar in World History I³

or

- HON 202 Honors Seminar in World History II³
- HON 203 Honors Seminar in American History
- HON 232 Honors Seminar in Economics
- HON 212 Honors Seminar in Ethics

or

- HON 252 Honors Seminar in Literature and Philosophy II
- HON 270 Honors Seminar in International Relations

or

- HON 272 Honors Seminar in Comparative Politics
- HON 290 Honors Seminar in Service and the Nonprofit Sector

One of the following:

- HON 437 Senior Honors Thesis
- HON 440 Honors Professional Engagement Project
- HON 444 Honors Internship Research and Analysis

¹HON 100T is only required for undeclared incoming honors students.

²HON 165 is required for business, education, or nursing majors.

³Choose whichever was not taken previously.

Additional Honors Diploma Requirements

Competency in Mathematics - The student must complete three hours of mathematics chosen from the University Studies mathematics category (not including HON 262) at STA 135 or MAT 140 or higher. This course can serve as the prerequisite for HON 262.

Competency in Science - The student must complete one lab science chosen from the University Studies science category. This course can serve as the prerequisite for HON 261.

Competency in Modern Language - 12-hour sequence (excluding 105) **in one modern language culminating no lower than a 202-level course**—Example: SPA 101, SPA 102, SPA 201, SPA 202. International students who are non-native English speakers may substitute 12 hours of English literature, linguistics, or writing classes (excluding ENG 105/150) for the modern language requirement by permission of the Honors Executive Director.

Study Abroad - Students must participate in a year, semester, or summer study abroad program (9 day minimum). Courses taken abroad may be used towards the Honors Sequence, modern language competency, major, or minor. International students may substitute a Study USA experience of at least nine days for the study abroad requirement by permission of the Honors Executive Director.

Honors Sequence - Science

- Bachelor of Science (B.S.)**
- Bachelor of Science in Agriculture (B.S.A.)**
- Bachelor of Science in Business (B.S.B.)**
- Bachelor of Science in Engineering (B.S.E.)**
- Bachelor of Integrated Studies (B.I.S.)**
- Bachelor of Science in Nursing (B.S.N.)**
- Bachelor of Social Work (B.S.W.)**

- HON 100T Transitions¹
- ENG 150 Honors Rhetoric, Composition and Research
- HON 251 Honors Seminar in Literature and Philosophy

Two of the following²:

- HON 109 Interdisciplinary Humanities and Fine Arts
- HON 161 Honors Seminar in Visual Arts
- HON 162 Honors Seminar in Music
- HON 163 Honors Seminar in Theatre
- HON 164 Honors Seminar in Fine Arts and Culture Abroad
- HON 165 Honors Seminar in Communication

One of the following:

- HON 201 Honors Seminar in World History I
- HON 202 Honors Seminar in World History II

One of the following:

- HON 212 Honors Seminar in Ethics
- HON 252 Honors Seminar in Literature and Philosophy II

Two of the following:

- HON 133 Honors Seminar in Sociology
- HON 140 Honors Seminar in American National Government
- HON 150 Honors Seminar in Archaeology
- HON 180 Honors Seminar in Psychology
- HON 201 Honors Seminar in World History I³
- or*
- HON 202 Honors Seminar in World History II³
- HON 203 Honors Seminar in American History
- HON 232 Honors Seminar in Economics
- HON 270 Honors Seminar in International Relations
- or*
- HON 272 Honors Seminar in Comparative Politics
- HON 290 Honors Seminar in Service and the Nonprofit Sector

One of the following:

- HON 437 Senior Honors Thesis
- HON 440 Honors Professional Engagement Project
- HON 444 Honors Internship Research and Analysis

¹HON 100T is only required for undeclared incoming honors students.

²HON 165 is required for business, education, or nursing majors.

³Choose whichever was not taken previously.

Additional Honors Diploma Requirements

Competency in Mathematics - The student must complete three hours of mathematics chosen from the University Studies mathematics category (not including HON 262) at STA 135 or MAT 140 or higher.

Competency in Science - The student must complete one lab science chosen from the University Studies science category.

Competency in Modern Language - 6-hour sequence (excluding 105) in one modern language culminating no lower than a 102-level

el course—Example: SPA 101, SPA 102. International students who are non-native English speakers may substitute six hours of English literature, linguistics, or writing classes (excluding ENG 105/150) for the modern language requirement by permission of the Honors Executive Director.

Additional Hours of University Studies Science, Math, or Language - Nine hours in addition to the competency courses mentioned above; students should consult their major advisors in deciding which courses to take, as specific courses are often needed to fulfill general education requirements for some majors. Either **HON 261** or **HON 262** may be taken for three of these hours.

Study Abroad - Students must participate in a year, semester, or summer study abroad program (9 day minimum). Courses taken abroad may be used towards the Honors Sequence, modern language competency, major, or minor. International students may substitute a Study USA experience of at least nine days for the study abroad requirement by permission of the Honors Executive Director.

Honors Focus

Students who complete the following requirements but who are unable to finish the complete Honors Sequence for the Honors Diploma will receive their Bachelor's Degree with an Honors Focus. Unlike Honors Diploma graduates, *students receiving credit for the Honors Focus must satisfy the appropriate University Studies curriculum for their major*. Students must graduate with a 3.2 GPA to receive the Honors Focus.

Take six of the following seminars while at Murray State. At least three of these seminars must be at the 200-level. Only one of these seminar credits can be a substitution from another institution. ENG 150 may be substituted for one of the Honors seminars by permission of the director.

- HON 133 Honors Seminar in Sociology
- HON 140 Honors Seminar in American National Government
- HON 150 Honors Seminar in Archaeology
- HON 161 Honors Seminar in Visual Arts
- HON 162 Honors Seminar in Music
- HON 163 Honors Seminar in Theatre
- HON 164 Honors Seminar in Fine Arts and Culture Abroad
- HON 165 Honors Seminar in Communication
- HON 180 Honors Seminar in Psychology
- HON 201 Honors Seminar in World History I
- HON 202 Honors Seminar in World History II
- HON 203 Honors Seminar in American History
- HON 212 Honors Seminar in Ethics
- HON 232 Honors Seminar in Economics
- HON 251 Honors Seminar in Literature and Philosophy I
- HON 252 Honors Seminar in Literature and Philosophy II
- HON 261 Honors Seminar in Science
- HON 262 Honors Seminar in Mathematics
- HON 270 Honors Seminar in International Relations
- HON 272 Honors Seminar in Comparative Politics
- HON 290 Honors Seminar in Service and the Nonprofit Sector

and complete two of the following requirements

Complete a 102, 201, or 202 foreign language class. Note: 101 course in the same language is a prerequisite for the 102 course, but the student may place out or test out of these prior credits with sufficient prior instruction. International students who are non-native English speakers may substitute six hours of English literature, linguistics, or writing classes (excluding ENG 105/150) for the foreign language requirement by permission of the Honors Director.

One of the following thesis courses:

HON 437 Senior Honors Thesis

HON 440 Honors Professional Engagement Project

HON 444 Honors Internship Research and Analysis

Study Abroad - Students must participate in a year, semester, or summer study abroad program (9 day minimum). International students may substitute a Study USA experience of at least nine days for the study abroad requirement by permission of the Honors Executive Director.

Presidential Fellows

This program is for graduating high school seniors of exceptional ability. Applicants should rank in the upper ten percent of their class and have a minimum ACT composite score of 28. In addition to excellent academic records, they must have demonstrated leadership abilities. An on-campus interview is required as part of the final selection process. This scholarship includes instate tuition (no course/health fees), a 10 meal per week board plan, and a semiprivate residential college room. This award is renewable for three additional years (eight semesters total) or until graduation, provided the student meets the requirements of the program and meets specified academic standards.

A Presidential Fellow must enroll in and successfully complete at least one Honors seminar each semester either until graduation or until the sequence has been completed. A Presidential Fellow is not required to complete the University Studies requirements but is required to complete the Honors Seminar sequence, including prerequisites and competencies. However, students who fail to complete the Honors Sequence must complete University Studies requirements for graduation. Presidential Fellows must maintain a 3.20 grade point average in order to retain the fellowship. They are also expected to live on campus and are encouraged to earn the Honors Diploma. Presidential Fellows must complete five hours of research each week under the guidance of a faculty advisor.

Trustee Scholars Program

Like Presidential Fellows, Trustee Scholars must also enroll in and successfully complete at least one Honors Seminar each semester either until graduation or until the sequence has been completed. Trustee Scholars are not required to complete the University Studies requirements but are required to complete the Honors Sequence, including prerequisites and competencies. However, students who fail to complete the Honors Sequence must complete University Studies requirements for graduation. Trustee Scholars must maintain a 3.20 grade point average in order to retain the scholarship. They are also expected to live on campus and are encouraged to earn the Honors Diploma.



Regional Academic Outreach

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270-809-4159

INFORMATION AND PROCEDURES

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Regional Academic Outreach

The Regional Academic Outreach (RAO) office meets the state mandate to serve the non-traditional students who desire educational opportunities in the 18 western most counties in Kentucky. RAO organizes all extended campuses, and off-campus courses, self-paced distance learning courses, online courses, workshops, conferences, non-credit courses, community education courses, military programs, adult student services, and summer school. Murray State University is a member of the Association for Continuing Higher Education.

Distance Learning-Extended Campuses

Murray State University offers an extensive schedule of degree programs and courses at regional campus locations and/or via distance learning technologies, including interactive television (ITV), and the Internet. Graduate and undergraduate degree programs and courses are offered in Paducah, Hopkinsville, Madisonville, Henderson, and Ft. Campbell, as well as other locations throughout the region. Murray State University has a fully interactive two-way video classroom network. This network links the main campus with the MSU regional campuses and centers throughout the 18-county service region. Information concerning admission, registration, and class schedules is published each semester in the *Distance Learning Programs Schedule*. To obtain a copy of the current schedule, contact 270-809-4159; outside Calloway County, call toll free, 1-800-669-7654.

Distance Learning-Online

Online courses are instruction conducted entirely on the Internet. Students should have a basic knowledge of computers, reliable Internet access, and experience using e-mail. Online courses are published in the official schedule of classes each semester with an instruction method of "web". Like traditional courses, registration for online courses is through the *myGate* system. Online courses are available for all admitted MSU students. There is no special application needed to enroll in online courses. Online course tuition is different from traditional courses. Visit the MSU website or call the Bursar's Office (270-809-4227) for current tuition rates.

For more information about these courses, contact 270-809-4159 or 1-800-669-7654.

Non-Credit and Youth Programs

Continuing education programs and services include non-credit professional development courses, workshops, teleconferences, and seminars; conference coordination, continuing education unit (CEU) administration; and other special programs. Online professional certificate programs are also offered through a partnership with ed2go.com. University faculty/staff, business and industry, and other interested individuals are encouraged to contact the office regarding their special training needs and interests.

Also offered are a wide range of youth programs, including camps with commuter and residential options, and ACT prep workshops. Registration services are available for youth and adult programming as well as conference and event coordination services.

For more information about youth programs, online certificates, conferences and workshops, or any of the non-credit programs, contact the Office of Non-Credit and Youth Programs, 270-809-3659.

Center for Academic Success

The Center for Academic Success is focused on the success of all students. The Center coordinates the offerings of several different programs. Housed within the Center is the Community College, Academic English Program, free tutoring program in a variety of sub-

jects, Pathways to Success Program, first-year experience support and resources programs, and the Kentucky Transitional Assistance Program, as well as, dedicated instructors and advisors to support student success.

The Pathways to Success Program (P2S) is a unique program focused on providing intentional and intense support, academic and career advising, developmental coursework, mentoring, and tutoring for students admitted into the program. Students have an extraordinary first year experience focused on their Pathway to Success.

For more information about any of the programs, contact the office of the Center for Academic Success at 270-809-2666.

Self-Paced Distance Learning Courses

For students who cannot attend traditional classes either on the main campus or at one of the off-campus locations, the university offers self-paced distance learning courses.

Enrollment Requirements

Self-Paced Distance Learning (SPDL) courses are only available to students in the United States of America and U.S. territories that hold a high school diploma or equivalent. Each student desiring to earn credit by self-paced distance learning study assumes full responsibility for determining if these courses will fulfill the requirements for their degree or certificate and are solely responsible for all payments. If you have questions, check with your academic advisor before enrolling.

The credit hours assigned to a self-paced distance learning course will be considered in determining the total semester hours of a MSU resident student. Credit earned by self-paced distance learning study will be credited to the term in which the course is enrolled. On the application the student must state whether he/she is or is not currently enrolled in residence, self-paced distance learning, or extended campus study at MSU or any other institution; otherwise, credit is jeopardized. A student will be allowed to receive credit for a maximum of six hours each semester, or 12 hours during the regular academic year of nine months, or 16 hours within a calendar year through self-paced distance learning study.

Special Regulations

Courses taken by self-paced distance learning study are normally not acceptable as part of the major or minor. Students desiring to take a SPDL course in their major or minor field must obtain written permission from the department chair. A self-paced distance learning course cannot be used to repeat a non-self-paced distance learning course where a grade has already been given.

Course Numbers

The numbers used to identify courses are as follows:

- 001-089** special category postsecondary courses
- 090-299** lower division undergraduate courses
- 300-499** upper division undergraduate courses
- 500-599** upper division undergraduate courses (requires at least a junior classification)

Grading System

Results of the final grade for the self-paced distance learning course taken through Regional Academic Outreach will be recorded in the Office of the Registrar as follows:

- A - Excellent** = 4 quality points per credit hour
- B - Good** = 3 quality points per credit hour
- C - Fair** = 2 quality points per credit hour
- D - Poor** = 1 quality point per credit hour
- E - Failure** = 0 points but counted as GPA hours

Procedures

A student who desires to enroll in a self-paced distance learning course should use the application provided at - www.murraystate.edu/rao. The application should be mailed to Regional Academic Outreach, Self-Paced Distance Learning, 303 Sparks Hall, Murray State University, Murray KY 42071. After the application has been processed, the student will receive information on how to register for a course using their *myGate* account. Once the student is officially enrolled in the course and total tuition is paid, the course outlines and lessons will be mailed to the student's address received on the SPDL application. Due to Federal Guidelines, this process will be different for Murray State University students wishing to use financial aid to pay for a SPDL course (see *Financial Information*). Detailed instructions regarding procedures and practices of the self-paced distance learning program will be included. The student will need to purchase the necessary books and materials to begin coursework.

Completed lessons should be mailed to Murray State's Regional Academic Outreach office to be recorded and forwarded to the instructor for grading. Graded lessons are returned to the student. The instructor reserves the right to have any paper revised by the student. **There is a two-week time allowance for instructors to grade papers and finals.**

Beginning/Term Dates. The beginning date for a self-paced distance learning study course is the date of enrollment using *myGate*. Your class will be attached to the term in which you enroll. A student may enroll for a course any time during the calendar year. The course must be completed within 52 WEEKS from the date of enrollment.

Fall Term	August 1 - November 30
Spring Term	December 1 - April 30
Summer Term	May 1 - July 31

Murray State students who anticipate a graduation date within a year from the date he/she enrolls in a self-paced distance learning course need to contact the Graduation Office at 800-272-4MSU. It is his/her responsibility to inquire about possible Graduation Office deadlines to complete the course that may occur before the deadlines set by the Regional Academic Outreach Office.

Course Completion Time Allowances and Extensions. The minimum completion times are as follows:

- 2 semester hours completed in not less than four weeks**
- 3 semester hours completed in not less than five weeks**
- 4 semester hours completed in not less than eight weeks**
- 5 semester hours completed in not less than nine weeks**
- 6 semester hours completed in not less than ten weeks**

Students wishing to complete a SPDL course in less than the minimum allowable time must have written approval from the instructor and the RAO Dean on their application.

Students are given 52 weeks from the date of enrollment for the completion of a course. Extensions of three months and six months are considered on an individual basis. Requests for extension MUST be made in writing to Regional Academic Outreach at msu.self-paced@murraystate.edu.

Payment. Please check the *Schedule of Fees* for per-credit-hour rate. Payment may be made by credit card or electronic check on your *myGate* account after you have registered for the class. Payment in full MUST be received before the lesson packet will be mailed to the student.

Financial Aid. Murray State University students wishing to use financial aid to pay for a self-paced distance learning course must be enrolled in the same number of hours of face-to-face/online classes with Murray State University, during the same semester, as they are applying for the SPDL course and will have to submit the first lesson of the class (provided by RAO) before they can add the class on *myGate*. For more information regarding using financial aid to pay for a SPDL course, please call the Financial Aid Office at 270-809-2546.

Withdrawal/Refunds. Students may withdraw from self-paced distance learning courses within six months of their initial registra-

tion date. Withdrawals must be done in writing to the Self-Paced Distance Learning Office in Regional Academic Outreach. After six months of the initial registration date, students may not drop their self-paced distance learning course regardless of the number of lessons completed. Contact the Self-Paced Distance Learning Office for refund information.

Materials. All text and instructional materials are furnished by the student. Textbook information will be mailed along with lesson assignments for each course and can also be found on our website www.murraystate.edu/rao. Most textbooks may be purchased from the Murray State University Store (270-809-4388 or 1-800-749-8580) or from publishing companies. Used textbooks are sometimes available at the Murray State University Store.

Course Grade Information. A student who enrolls and completes a self-paced distance learning course within one term will have their final grade applied to their academic record in the semester in which they registered. It is the student's responsibility to confirm that this will not interfere with any financial aid/grant/scholarship monies they are receiving. If the student fails to complete the course by the expiration date, the student will receive an *E* (failing grade) on their academic record which could affect their financial aid, scholarships, athletic eligibility, VA benefits, or other aid for the semester they enrolled, if aid was used.

Final Examinations. A final examination is required at the completion of all of the courses and must be taken within 30 days from the time the last lesson is completed. The final exam counts at least 60% of the course grade. Applications for final exams should be received in the RAO office at least one week prior to the requested date of examination. If you plan to take the exam on campus, in our office, call 270-809-5056 to set up a time and date. The examination can be given any weekday between 8:00 a.m. and 2:00 p.m., depending upon availability. These hours are specified so the student will have time to complete the examination before MSU closing hours. For students who cannot come to the MSU campus, arrangements may be made with an employee/instructor at your local community college, learning center, public school, or other college or university to proctor the examination. **Note:** a family member CANNOT proctor an exam.

Course Completion Date. The date of successful completion of the course will be the date the final examination paper is received in the RAO office. If credit is needed by a certain date, the student should plan so that the course can be completed according to the stated self-paced distance learning course rules and regulations. **There is a two-week time allowance for instructors to grade papers and finals.**

Course Verification. A student will be considered officially enrolled in a self-paced distance learning course by the university only during the first semester they are registered in the course (regardless of how long it takes to complete the course). The university will only verify enrollment one time per SPDL course.

Transcripts

After a student completes a self-paced distance learning course, his/her final grade will be sent to Murray State's Office of the Registrar for official recording on the academic record. A notice of completion of the course with the final grade will be mailed to the student. If a student wants credit transferred to another institution, he/she should go to www.murraystate.edu/academics/registrarsoffice/transcripts for information concerning requesting a transcript.

Adult Student Services

The Office of Adult Student Services serves the needs of our current adult students and also works to attract new adult students. The mission of this office is to provide services for adults who want to continue their education. These services include pre-admission

advising, adults-only orientations, a lounge and resource center, adult student scholarships, Alpha Gamma Epsilon a club for non-traditional students, and Alpha Sigma Lambda a national honor society for adult students. For more information about these services, contact the adult outreach office in the Lowry Center, 270-809-5796 or 855-668-8886.

Bachelor of Integrated Studies (B.I.S.)

The Bachelor of Integrated Studies is an alternative baccalaureate degree for adults who already have college credits. The Integrated Studies program works best for students established in careers who do not need specific academic credential for a new career. It also works well for students who desire a liberal arts education and for some students who plan to enter graduate programs.

Adults find the B.I.S. attractive for its flexible degree requirements, which make it easier to apply previous college work to a Murray State degree. Other attractive features include acceptance of self-paced distance learning courses and transfer coursework, encouragement of students to seek college credit for prior learning, and the learning contract which enables Integrated Studies students to complete requirements in some courses without attending classes.

Admission Requirements

The Integrated Studies degree is not for everyone. Admission into the program is available to adult students who meet the following conditions:

- Must have 60 hours of prior credit
- Must have a 2.2 GPA or higher in prior coursework
- Must have a one-year absence from school OR be a KCTCS transfer

Exceptions to the above requirements are made by consent of the Dean of Regional Academic Outreach.

Limitations. Due to the accreditation requirements of the College of Business, any student who wishes to apply business course credits to the Integrated Studies degree requirements must consult an Integrated Studies advisor. Students who have more than 25% of their coursework in business courses may be required to complete the business core. Teacher education and nursing program courses are not available to Integrated Studies students. The degree is not designed for students who want credentials for entry into professional fields that require a specific undergraduate course of study. Students wishing to change their major to the Bachelor of Integrated Studies, must first speak to a B.I.S. advisor and have an overall GPA of 2.5 or greater.

General Degree Requirements

The Bachelor of Integrated Studies degree requires 120 semester hours. Thirty-two semester hours must be taken with Murray State. Thirty-nine upper-division credits, courses taken at or above the 300-level, must be completed. An overall Grade Point Average (GPA) of 2.0, 32 semester hours of credit with Murray State University with a GPA of 2.0, and 30 semester hours in a field of study with a GPA of 2.5 are required. **Note:** This degree does not restrict the final hours from transferring into Murray State so long as the transfer hours are pre-approved by the Integrated Studies advisor and the Registrar. **See Mandatory Developmental Courses section in *Academic Degrees and Programs*.**

Bachelor of Integrated Studies

CIP 24.0102

University Studies Requirements 38-41 hrs

•Oral and Written Communication

ENG 105 [or ENG 104]..... 4
One University Studies elective in this category 3

•Global Awareness, Cultural Diversity, and the World's Artistic Traditions

One University Studies elective in this category 3

•Scientific Inquiry, Methodologies, and Quantitative Skills

One University Studies science course with lab 4-5
One University Studies mathematics course..... 3-5

•Social and Self-Awareness and Responsible Citizenship

One Ethics, Social Responsibility and Civic Engagement category course 3
One Social Science category course 3

•World's Historical, Literary, and Philosophical Traditions

CIV 201 or CIV 202 [or HON 201 or 202] 3
HUM 211 [or honors course HON 251] 3

•University Studies Approved Electives

Choose nine hours from the list of University Studies electives.
No more than two courses from one thematic category.

Core Courses 33 hrs

BIS 399 Seminar in Integrated Studies
BIS 437 Senior Project
Field of Study (18 hrs)
Research Methods (6 hrs)

Unrestricted Electives 46-49 hrs

Portfolio credits (*max. 30 semester credit hours*)
Military and professional courses
Credits from accredited institutions

Total Curriculum Requirements 120 hrs

Field of Study

The field of study is a planned academic concentration agreed upon by the student and the Integrated Studies advisor. The field may be interdisciplinary (for example, humanities or American studies) or it might be built upon a core consisting of a traditional major or minor. Some students build their field of study on the basis of courses required for admission to a graduate program. The point is that Integrated Studies students have individually designed academic concentrations that need not follow the major requirements for traditional degrees.

However designed, the field of study must include two appropriate courses in research methodology. These courses prepare the student for the culmination of the Integrated Studies program and the field of study project. A senior baccalaureate thesis is required of every student.

The field of study project is the final step in completing the Bachelor of Integrated Studies degree. The project report will be bound and displayed in the Murray State University library. It serves as a synthesis of applied learning and as a basis for an assessment of the student's analytical skills.

Active Status

Students may proceed at their own pace, taking as many or as few courses as they can handle. See MSU readmission requirements in *Undergraduate Admissions* for students who have been out of school for more than two semesters.

Fees

The following are fees applicable to the Bachelor of Integrated Studies degree:

- **application fee**—\$40; non-refundable; does not apply to tuition;
- **portfolio assessment**—\$25 for portfolio administration process and \$25 for each portfolio plus \$25 per credit hour for credits approved;
- **undergraduate semester credit hour**—refer to the *Schedule of Fees* for more information;
- **departmental challenge examination fee**—Refer to the *Schedule of Fees* for information.
- **web-based course fee**—web-based courses have additional course fees. Refer to the *Schedule of Fees* for information.

Earning Academic Credit

BIS 399 is required of all Integrated Studies students for three semester hours of credit.

The learning contract is a method by which a student completes an arranged course sponsored by a department and supervised by a Murray State University faculty member.

Departmental challenge examinations measure how well a student has mastered the content of courses which are normally offered to traditional students. Applications for departmental challenge examinations are made to the concerned department.

The College Level Examinations Program (CLEP) provides a way to earn college credit by taking standardized tests. A student may arrange to take these tests at any higher education institution offering the tests. Students who have ever enrolled at Murray State must have permission to take the CLEP tests. Contact the Testing Center, 270-809-6848.

Self-Paced Distance Learning courses may be taken by mail for credit from Murray State University and other accredited institutions. For the working adult, these integrated study courses allow the student to work at his or her own pace at times convenient to the student.

Integrated Studies students may apply for credit in Murray State courses by submitting a portfolio to a willing faculty reviewer of materials to show that the student has learned the course content. A maximum of 30 semester credit hours may be awarded for credit. The Integrated Studies program maintains a portfolio guide setting forth procedures for submission and evaluation of portfolios. **Each department will determine the methods for evaluation of portfolios. Any awarded credit will not be posted to the student's official MSU transcript until the student is up for graduation with a Integrated Studies degree.**

Traditional classroom courses scheduled by Murray State University both on-campus and off-campus may be a method for completing the external degree requirements. Many courses have been especially scheduled in the evenings for the adult student. The schedule of classes may be found under *Quick Links* at www.murraystate.edu.

Transfer credit from other accredited colleges or universities can become a part of the degree program of studies. There is no maximum limit of credit hours which may be transferred to the external degree program from an accredited college or university as long as the student has maintained an overall C average. The student must earn a minimum of 32 semester hours of degree credit at Murray State.

Policies not stated in this section may be found by referring to Murray State University's policies in other sections of this bulletin. For additional information regarding admission criteria, degree requirements, curriculum and fees, contact a Integrated Studies Advisor, Regional Academic Outreach, Murray State University, 303 Sparks Hall, Murray KY 42071-0009, or call 270-809-4159; outside Calloway County, call toll free, 1-800-669-7654.

Associate of Arts — General Studies

The Associate of Arts in General Studies is a degree for special populations and includes the following course requirements. Refer to the "Degrees" section of *Academic Degrees and Programs* for additional degree requirements.

General Studies

Associate of Arts CIP 24.0101

University Studies Requirements39-43 hrs
(See *Academic Degrees and Programs* for approved University Studies selections and the section on **Mandatory Developmental Courses.**)

• **Oral and Written Communication 4 hrs**
ENG 105 [or ENG 104]

Select courses from the categories indicated below from the approved list of University Studies courses in *Academic Degrees and Programs*. No more than two courses in any one discipline may be taken within any one University Studies category to fulfill University Studies requirements.

• **Global Awareness, Cultural Diversity, and the World's Artistic Traditions..... 3 hrs**

• **Scientific Inquiry, Methodologies, and Quantitative Skills10-12 hrs**

• **Social and Self-Awareness and Responsible Citizenship6 hrs**
One Ethics, Social Responsibility and Civic Engagement category course 3
One Social Science category course 3

• **World's Historical, Literary, and Philosophical Traditions..... 6 hrs**

• **University Studies Approved Electives.....10-12 hrs**

Approved Electives21 hrs

Total Curriculum Requirements60-64 hrs

Department of Military Science

211 Blackburn Science Building
270-809-5061

The purpose of the Reserve Officer Training Corps (ROTC) program is to qualify college students for commissioning in the United States Army as officers in the grade of Second Lieutenant. This includes the Active Army (AD), National Guard (NG), and U.S. Army Reserves (USAR). This program of study is designed to develop the individual leadership and management skills that are necessary as an officer and equally beneficial and applicable to most other professions or vocations.

The Department of Military Science offers a four year and two year course of instruction which are divided into two phases, the basic course and the advanced course. Prerequisites for entry into the advanced course are 10 hours of basic Military Science courses, which include MIL 101, MIL 102, MIL 201 and MIL 202, or complete MIL 210 (Basic Cadet Summer Training Course at Ft. Knox, KY). Qualified veterans, NG, or USAR personnel may qualify for immediate placement in the advanced course. Students must have at least 54 credit hours and two years (4 semesters) left at Murray State University for entry into the advanced course as well.

The Department of Military Science requires at least 26 hours of Military Science in the 300- and 400-level and HIS 333 to receive a minor and/or to receive a commission. Six minor hours must be upper-level courses completed in residence at Murray State University. Military Science courses such as MIL 101, MIL 102, MIL 201, and MIL 202 may be used as elective hours for students pursuing any degree at Murray State.

A student may be selected, after contracting to serve, for Active Duty or service in one of the Reserve Components (NG/USAR) upon the completion of the advance course requirements and receipt of a bachelor's degree. The student will have the opportunity to request the branch or "area" for commissioning. There are several branches to choose from:

Adjutant General's Corps	Corps of Engineers	Military Police Corps
Air Defense	Field Artillery	Nurse Corps
Armor	Finance	Ordnance Corps
Artillery	Infantry	Quartermaster Corps
Aviation	Medical Service Corps	Signal Corps
Chemical Corps	Military Intelligence	Transportation

Those students who desire to enter active duty are obligated to serve up to four years (depending if scholarship or not). Students choosing a Reserve Component option may request a Guaranteed Reserve Forces Duty (GRFD) contract. Students selecting this option serve on active duty for the duration of the branch school chosen then serve six (6) years for the National Guard or United States Army Reserve.

National scholarships are available which cover the cost of tuition and books. Information on National Scholarships may be found at www.goarmy.com. Students must apply for National Scholarships during their junior or senior year of high school. National Scholarship recipients and contracted cadets receive a monthly stipend during the school year. ROTC enrolled students may apply for housing scholarships and tuition scholarships as available. For more information on scholarships, contact the Department of Military Science 270-809-5061. Students qualifying for the advance courses may also belong to a NG or USAR unit under the Simultaneous Membership Program (SMP) and receive financial benefits by both ROTC and the NG or USAR unit.

Military manuals are provided by the Department of Military Science. All advanced course contracted cadets attend a leadership practicum in the summer between their junior and senior years of ROTC.

FOUR YEAR MINOR: Military Science

Required Courses 36 hrs

HIS	333	Military History of the United States
MIL	100	Physical Conditioning Lab
MIL	101	Introduction to the Army and Critical Thinking
MIL	102	Introduction to the Profession of Arms
MIL	201	Foundations of Leadership
MIL	202	Foundations of Tactical Leadership
MIL	301	Training Management and the Warfighting Functions
MIL	302	Applied Team Leadership in Small Unit Operations
MIL	401	The Army Officer
MIL	402	Company Grade Leadership
MIL	410	Leader Development-Advanced Cadet Summer Training ¹

¹Leadership practicum during the summer session that is not required to obtain the four year minor; however, it is required for commissioning selection and contracted cadets.

Students have the option to qualify and compete for contracting as a cadet in ROTC to become eligible to commission as an officer in the U.S. Army after selection and completion of an undergraduate degree.

Students who enroll in any military science course incur no military obligation. Basic level courses are conducted in the same manner as are other courses taught at the University.

Students entering into the advance course must be of high moral character and meet required medical, aptitude, and GPA requirements. In addition, if contracted as a cadet, students must sign an agreement to fulfill any obligations and a military service requirement in either the Reserve Component, or Active Army upon completion of ROTC and graduating from Murray State. This will not be valid if a cadet is disqualified, disenrolled, or not selected for commissioning as an officer; however, some obligations may remain.

TWO YEAR MINOR: Military Science

Required Courses26-32 hrs

HIS	333	Military History of the United States
MIL	100	Physical Conditioning Lab
MIL	210	Leader's Training-Basic Cadet Summer Training ¹
MIL	301	Training Management and the Warfighting Functions
MIL	302	Applied Team Leadership in Small Unit Operations
MIL	401	The Army Officer
MIL	402	Company Grade Leadership
MIL	410	Leader Development-Advanced Cadet Summer Training ²

¹Course not required if completion of Basic Combat Training or credit for prior military service. Credit required for commissioning as a U.S. Army officer.

²Leadership practicum during the summer session that is not required for minor; however, it is required for commissioning selection and contracted cadets.

The two-year program is designed for transfer students and Murray State students who qualify to earn a commission as an Army officer or want a minor without a military obligation, but did not participate in the four-year program. Students desiring to participate in the two-year program must gain credit for basic military science courses. This credit can be awarded to students who are veterans, National Guard and Reserve personnel that have completed Basic Training. Also, college students who qualify and contract as cadets with at least two

years remaining in college, may gain credit for basic military science courses by completing an ROTC leadership practicum (MIL 210) at Fort Knox, Kentucky, conducted each summer. Students participating in MIL 210 must meet screening height and weight standards, pass an entrance level Army Physical Fitness Test (APFT), entrance medical exam, and have the approval of the chair of the Department of Military Science.

The two year minor is the advanced military science course. All students entering into the advance course must be of high moral character and meet required medical, aptitude, and GPA requirements. Non-contracted students may obtain a minor in military science without a military service obligation. Contracted cadets, students must sign an agreement to fulfill any obligations and a military service requirement in either the Reserve Component, or Active Army upon completion of ROTC and graduating from Murray State. This will not be valid if a cadet is disqualified, disenrolled, or not selected for commissioning as an officer; however, some obligations may remain.



Ashley Ireland, Dean
224-1 Waterfield Library
270-809-2291

The Murray State University Libraries—the Harry Lee Waterfield Library, Wrather West Kentucky Museum, the James O. Overby Law Library and the Forrest C. Pogue Library—contain approximately 570,000 resource materials, including 400,000 books and approximately 317 current journal and newspaper subscriptions. The University Libraries also provide access to numerous electronic resources including 175 databases and over 100,000 eBooks.

Waterfield Library, the main library of the University, houses the circulating and reference collections, government documents, microforms, media, and journals. The reserve collection, housed at Waterfield Library's Circulation Desk, consists of materials assigned by faculty members for class use in the library or for a limited checkout period. A patron-initiated electronic interlibrary loan service for faculty, staff, and students is maintained for the borrowing of materials from other libraries. Photocopying services for print and microform materials are available for self-service use. In addition, the Waterfield Library lobby houses a computer lab with 60 computers loaded with Internet browsers and Microsoft Office software. Waterfield and Pogue Libraries both offer laptops for check-out. Waterfield Library also houses the Racer Writing Center, the Racer Oral Communication Center, and the Starbooks Cafe.

The Special Collections are located in the Forrest C. Pogue Library, housing materials relating to the history and culture of western Kentucky, Tennessee and those states from which the early settlers of this area came. Holdings include books, journals, newspapers, state documents, manuscripts, rare books, prints and paintings, tape recordings, maps, and microforms. Especially noteworthy are its outstanding collections of local and regional history, TVA materials, and Civil War materials, as well as the political papers of Harry Lee Waterfield, Robert A. Everett, Noble J. Gregory, Edward T. Breathitt, and Frank Albert Stubblefield. Additional holdings include materials relating to Kentucky authors Irvin S. Cobb and Jesse Stuart. The Forrest C. Pogue War and Diplomacy Collection, including personal papers, books and other materials donated by noted historian and Murray State University graduate Dr. Forrest C. Pogue, is available for research purposes. The James O. Overby Law Library, located on the lower level of the Pogue Library, consists of basic legal materials governing the United States and the Commonwealth of Kentucky. Wrather West Kentucky Museum highlights and promotes an understanding of the social, cultural, and economic development of West Kentucky and the Jackson Purchase. Acquisitions, exhibits, and special programs support this mission. Both permanent and changing exhibits are open to the public at no charge.

The University Libraries supports the Faculty Development Center, which provides opportunities for ongoing discussions about pedagogy and instructional design. These are accomplished in one-on-one and group settings through faculty consultations, classroom visits, faculty learning communities, workshops, and conferences. We collaborate with people and programs on Murray State's campus and beyond to support the advancement of engaging pedagogies and effective instructional design. We support the university's core mission of teaching excellence by helping cultivate an institutional climate that

values, promotes and rewards teaching excellence at Murray State University.

Information Studies

The Information Studies Minor is designed to cultivate learners who have an interest in the interdisciplinary study of the role of information in modern society. Upon completion of the minor, students will be able to:

- demonstrate appropriate advanced information-seeking methods with the ability to utilize specific resources to accomplish advanced information-seeking tasks;
- discuss the complications of such controversial topics as propaganda, privacy, censorship, intellectual property, and others, and be able to take an informed stand on public policy purposes;
- critically discern authority, credibility, and bias among information creators;
- utilize skills attained within this program in professions (i.e. librarianship or information sciences) or advanced degrees that require critical thinking in information; and
- create and/or contribute new knowledge as part of the information society.

MINOR: Information Studies

Total Minor Requirements21 hrs
Six hours must be upper-level courses.

INF	101	Research in the Information Age
INF	250	Advanced Information Gathering: Resources and Strategies
INF	260	Censorship, Propaganda and Privacy
		<i>or</i>
INF	270	Intellectual Property in the Information Age
		<i>One of the following:</i>
INF	310	Medical Information for Practitioners and Consumers
INF	320	Examination of Scientific Communication
INF	330	History of Libraries and the Written Word
INF	340	Children's and Young Adult Literature and Storytelling

Nine hours chosen from the following:

COM	260	Communication Ethics
CSC	125	Internet and Web Page Design
PHI	103	Critical Thinking
INF	350	Topical Seminar in Information Studies
INF	400	Directed Study



Administration and Faculty

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Administration

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Goshen, Kentucky

Susan Guess, *vice chair*
Paducah, Kentucky

Katherine Farmer, *faculty regent*
Murray, Kentucky

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Philip Schooley, *staff regent*
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Tori Wood, *student regent*
Symsonia, Kentucky

Jill Hunt, *board secretary*
Murray, Kentucky

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Fred Dietz—associate vice president and executive director, Enrollment Management

K. Renee Fister—senior presidential advisor for strategic initiatives

Camisha Duffy—director, Office of Institutional Diversity, Equity and Access

John Rall—general counsel

Allen Ward—director, Athletics

•Academic Affairs

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Robert Pervine—associate provost for graduate education and research

Brian Van Horn—associate provost for Regional Academic Outreach

Tim Todd—dean, Arthur J. Bauernfeind College of Business

David Whaley—dean, College of Education and Human Services

David Balthrop—dean, College of Humanities and Fine Arts

Stephen Cobb—dean, Jesse D. Jones College of Science, Engineering and Technology

Tony Brannon—dean, Hutson School of Agriculture

Marcia Hobbs—dean, School of Nursing and Health Professions

Ashley Ireland—dean, University Libraries

Tracy Roberts—registrar

Warren Edminster—executive director, Honors College

Kelley Wezner—director, Institutional Assessment

Michael Ramage—director, Center of Telecommunications Systems Management

•Finance and Administrative Services

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David Burdette—interim chief facilities officer

Keith Weber—chief information officer

TBA—executive director, Auxiliary Services

Wendy Cain—bursar

Ellen Dale—director, Accounting and Financial Services

Paula Amols—director, Dining Services

David Wilson—director, Housing

Joyce Gordon—director, Human Resources

Carl Prestfeldt, Jr.—director, Physical Planning and Analysis

Jan Fuqua—director, Procurement Services

James Herring—chief of police/director, Public Safety and Emergency Management

Karol Hardison—director, University Store

•Student Affairs

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Michael Young—associate vice president

Steve Leitch—director, Campus Recreation and Wellness Center

Angie Trzepacz—director, Counseling Services

Kimberly Paschall—director, Health Services

Guangming Zou—assistant vice president, Institute for International Studies

S.G. Carthell—director, Multicultural Affairs

Velvet Wilson—director, Student Disability Services

Re’Nita Avery-Meriwether—director, Student Life and Curris Center

Melissa Cooper—director, Student Support Services

Abigail French—director, Women’s Center

Chris Trzepacz—college head, Clark College

Crystal Coel—college head, Elizabeth College

Greg Gierhart—college head, Hart College

Kenneth Fister—college head, Hester College

Squire Babcock—college head, Regents College

Bassam Atieh—college head, Richmond College

Eric Umstead—college head, Springer/Franklin College

TBA—college head, White College

•University Advancement

Adrienne King—vice president

Carrie McGinnis—director, Alumni Relations

Robert Jackson—president, MSU Foundation

Faculty

Dates in parentheses indicate year of appointment at Murray State University. An * denotes a member of the Graduate Faculty.

Acharya, Sunayan, assistant professor—economics. B.T., Indian Institute of Technology; M.S., Ph.D., University of Kentucky. (2012)

Adair, Josh, associate professor—English. B.A., Blackburn College; M.A., Western Illinois University; Ph.D., Northern Illinois University. (2009)*

Adongo, Donald, associate professor—mathematics. B.S., Egerton University; M.S., University of South Carolina; Ph.D., Kansas State University. (2008)*

Alkhatib, Ihsan, associate professor—political science. B.A., American University of Beirut; M.A., University of Cincinnati; J.D., University of Toledo; Ph.D., Wayne State University. (2011)

Allenbaugh, Rachel, associate professor—chemistry. B.S., Truman State University; Ph.D., University of North Carolina. (2009)*

Almquist, Bradley, professor—music. B.S.Ed., M.M., University of North Dakota; D.M.A., Louisiana State University. (1992)*

Alverson, Leslie II, senior lecturer—mathematics. B.S., M.S., Murray State University. (2006)

Anderson, Paul, assistant professor—psychology. B.S., Georgia College and State University; M.S., Ph.D., University of Louisville. (2015)

Andonova, Yana, assistant professor—marketing. B.A., American University-Bulgaria; M.B.A., Ph.D., University of Massachusetts-Amherst. (2015)

Antony, Solomon, associate professor—computer information systems. B.E., Birla Institute of Technology and Science; Ph.D., Florida International University. (2005)*

Arkov, Alexey, professor—biology. B.S., M.S., Moscow State University; Ph.D., University of Texas-Houston Health Science Center. (2007)*

- Armstrong**, Nancy, assistant professor—nursing. B.S.N., M.S.N., Northern Kentucky University; D.N.P., Eastern Kentucky University. (2012)
- Arneson**, Michael, lecturer—English. B.S., M.A., Murray State University. (2014)
- Atieh**, Bassam, professor—occupational safety and health. B.Sc., Old Dominion University; M.P.H., University of Tennessee-Knoxville; M.B.A., University of Texas-Permian Basin; Sc.D., Tulane University. (1991)*
- Atkerson**, Gary, lecturer—animal/equine science. B.S., M.S., Murray State University. (2008)
- Austin**, Christopher, lecturer—mathematics. B.S., M.S., Murray State University. (2010)
- Badasyan**, Narine, associate professor—economics. B.S., Yerevan State University; M.B.A., American University of Armenia; M.A., Ph.D., Virginia Polytechnic Institute and State University. (2004)*
- Bagley**, Caitlin, assistant professor/reference librarian, B.A., University of Kentucky; M.L.S., Indiana University. (2010)*
- Bahadir**, Mehmet Emre, assistant professor—industrial technology. B.S., Marmara University; M.A., Ph.D., University of Northern Iowa. (2007)
- Bakes**, Alan, associate professor—education. B.S., Brigham Young University; M.Coun., Ph.D., Idaho State University. (2005)*
- Ballard**, Lori, lecturer—nursing. B.S.N., M.S.N., Murray State University. (2011)
- Balthrop**, David, dean, College of Humanities and Fine Arts; professor—theatre. B.A., Eastern Kentucky University; M.A., M.F.A., University of Cincinnati. (1993)*
- Barnett**, Cynthia, senior lecturer—Spanish. B.A., Oregon State University; M.A.T., Bethel College; M.A., Murray State University (2). (2007)
- Baum**, Rebecca Pender, assistant professor—counseling. A.A., John A. Logan College; B.A., M.S.Ed., Southern Illinois University; Ph.D., Idaho State University. (2012)
- Beaver**, Jeanne, associate professor—art. B.F.A., M.A., Iowa State University; M.F.A., Indiana University. (2000)*
- Beck**, Marc, assistant professor—computer science. B.S. Brescia University; M.S., Morehead State University; Ph.D., University of Louisville. (2015)
- Beckers**, Laura, assistant professor—biological sciences. B.A., University of Tulsa; B.S., Northeastern State University; Ph.D., University of Missouri. (2015)
- Beckers**, Oliver, assistant professor—biological sciences. M.S., Friedrich-Alexander University; Ph.D., University of Missouri. (2014)*
- Bell**, Deborah, assistant professor—English. B.A., M.A., Murray State University; Ph.D., Southern Illinois University. (2008)
- Bellah**, Kimberly, associate professor—agricultural education. B.S., M.S., California Polytechnic State University; Ph.D., University of Florida. (2011)
- Belue**, Ted, senior lecturer—history. B.S., M.A., Murray State University. (1985)*
- Benson**, Jane, lecturer—geosciences. B.S., M.S., Murray State University. (2017)
- Betts**, Teresa, associate professor—logistics and supply chain management. B.S., Iowa State University; M.B.A., Murray State University; Ph.D., Southern Illinois University. (2011)
- Binfield**, Kevin, professor—English. B.A., Nebraska Wesleyan University; M.A., Ph.D., University of Nebraska-Lincoln. (1997)*
- Black**, Andrew, assistant professor—English. B.A., Mississippi State University; M.A., University of Memphis; Ph.D., University of Maryland. (2013)*
- Black**, Randall, professor—music. B.M., Southern Illinois University; M.M., D.M., Indiana University. (1986)*
- Bloomdahl**, Susana, chair, Department of Educational Studies, Leadership and Counseling; associate professor—education. B.S., Louisiana State University; M.A., University of New Orleans; Ph.D., University of Arkansas-Fayetteville. (2008)*
- Bokeno**, R. Michael, chair, Department of Organizational Communication; professor—organizational communication. B.S.C., Ohio University; M.S., Murray State University; Ph.D., Purdue University. (1995)*
- Bolin**, J. Duane, professor—history. B.A., Belmont University; M.A., Ph.D., University of Kentucky (1996)*
- Bordieri**, Michael, assistant professor—psychology. B.S., University of Illinois; M.S., Southern Illinois University; Ph.D., University of Mississippi. (2014)*
- Boston**, Arthur, assistant professor—library science. B.A., Murray State University; M.L.S., University of Kentucky. (2016)
- Bourke**, Brian, assistant professor—education administration. B.S., University of South Carolina-Spartanburg; M.Ed., University of South Carolina; Ph.D., University of Alabama. (2014)*
- Bowman**, Michael, professor—telecommunications systems management. B.S., Ouachita Baptist University; M.S., Naval Postgraduate School; Master in Strategic Studies, U.S. Army War College; Ph.D., George Mason University. (2005)*
- Boyd**, Julia, lecturer—occupational safety and health. B.S., M.S., Murray State University. (2016)
- Branch**, Jessica, assistant professor—education. B.A., Ohio Northern University; M.A., Ph.D., University of Toledo. (2017)
- Brannon**, Tony, dean, Hutson School of Agriculture. professor—agriculture. B.S., M.S., Murray State University; Ed.D., Oklahoma State University. (1988)*
- Brasfield**, David, professor—economics. B.A., M.S., Louisiana State University; Ph.D., University of North Carolina. (1986)*
- Brookhiser**, Judy, associate professor—recreation. B.S., Western Illinois University; M.S., Pennsylvania State University; Re.D., Indiana University. (1990)*
- Brown**, Cory, assistant professor—education. B.S., Eastern Michigan University; M.Ed., University of Cincinnati; Ph.D., Ohio State University. (2013)
- Brown**, O. Ted III, professor—English. B.A., University of Redlands; M.A., Ph.D., Claremont Graduate School. (1991)*
- Brown**, Susan, lecturer—communication disorders. B.S., M.A., University of Kansas. (1995)
- Bryant**, James, professor—art. B.F.A., Herron School of Art, Indiana University; M.F.A., Louisiana State University. (1995)*
- Bunget**, Gheorghe, assistant professor—engineering. B.S., Polytechnic University-Romania; M.S., Ph.D., North Carolina State University. (2015)
- Busby**, Michael, lecture-geosciences, B.S., Central Missouri State University; M.S., Murray State University. (2017)
- Buttrey**, Kristina, assistant professor—education. B.S., University of Tennessee-Martin; M.S., Trevecca University; M.A., Murray State University; Ed.D., Union University. (2017)
- Byers**, Dina, professor—nursing. B.S.N., M.S.N., Murray State University; Ph.D., University of Tennessee-Memphis. (2004)*
- Byrd**, Karen, assistant professor—nutrition. B.A., Ball State University; M.B.A., Xavier University; Ph.D., Purdue University. (2017)
- Byrd**, Traci, assistant professor—occupational safety and health. B.S., M.A., Murray State University; Ed.D., Union University. (2001)*
- Callahan**, Kathy, chair, Department of History; associate professor—history. B.S., M.S., Indiana State University; M.A., Ph.D., Marquette University. (2009)
- Campoy**, Renee, professor—education. B.S., University of Missouri-St. Louis; M.A., Webster University; Ed.D., University of Missouri-St. Louis. (1996)*
- Canerdy**, Terry, head, Department of Veterinary Technology and Pre-Veterinary Medicine; professor—agriculture. B.S., University of Tennessee-Martin; D.V.M., University of Tennessee-Knoxville. (1984)*
- Canning**, David, associate professor—biology. B.Sc., Manchester University; D.Phil., Oxford University. (1996)*
- Carthell**, Alicia, senior lecturer—English. B.A., M.A., University of Miami. (2006)
- Casey**, Michelle, assistant professor—geosciences. B.A., Macalester College; M.S., Virginia Polytechnic Institute and State University; Ph.D., Yale University. (2015)*
- Cetin**, Haluk, professor—geosciences. B.S., M.S., Hacettepe University; Ph.D., Purdue University. (1995)*
- Chakradhar**, Kala, associate professor—social work. B.Sc., M.S.W., University of Madras; M.Phil., National Institute of Mental Health and Neurosciences; Ph.D., Tata Institute of Social Sciences. (2004)*
- Chapman**, Melissa, assistant professor—education. B.S., Western Kentucky University; M.Ed., Olivet Nazarene University; Ph.D., Walden University. (2017)
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- Clardy**, Brian, associate professor—history. B.A., University of Tennessee-Martin; M.A., Murray State University; Ph.D., University of Southern Illinois-Carbondale. (2006)*
- Clark**, Landon, assistant professor—education. B.A., Freed-Hardeman University; M.A., Geneva College; Ed.D., Vanderbilt University-Peabody College. (2016)
- Clark**, Teresa, assistant professor—education. B.A., M.A., Geneva College; Ed.D., Vanderbilt University. (2014)*
- Claywell**, Gina, professor—English. B.A., Western Kentucky University; M.A., Ph.D., University of Tennessee. (1996)*

- Clear**, Kasey J., assistant professor—chemistry. B.S., Indiana University; Ph.D., University of Notre Dame. (2016)*
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- Clinger**, James, professor—political science. B.A., M.A., University of Kansas; Ph.D., Washington University. (2002)*
- Cobb**, Barbara, professor—English. B.A., Wellesly College; M.A., Ph.D., Rutgers University. (2002)*
- Cobb**, Stephen, dean, Jesse D. Jones College of Science, Engineering and Technology; professor—engineering and physics. B.S., M.S., Murray State University; M.S., Ph.D., Georgia Institute of Technology. (1988)*
- Coel**, Crystal, senior lecturer—organizational communication. B.A., Hampton University; M.A., University of Louisiana-Monroe; J.D., Southern University Law Center. (1995)
- Collins**, Craig, assistant professor—mathematics. B.S., M.S., Murray State University. Ph.D., University of Tennessee. (2015)
- Conner**, Alysia, lecturer—agriculture. B.S.A., M.S., Murray State University. (2014)
- Cooper**, Sara, assistant professor—English. B.A., Northern Arizona University; M.A., New Mexico State University; Ph.D., University of Houston. (2017)
- Cothran**, Kem, lecturer—education. B.S., M.A. Ed., Murray State University. (2014)
- Coulter**, Karen, assistant professor—communication disorders. B.S., Illinois State University; M.S., Indiana State University; Ph.D., University of Louisville. (2014)
- Cox**, J. Ricky, professor—chemistry. B.S., University of Tennessee-Martin; M.S., Murray State University; Ph.D., University of Tennessee-Knoxville. (1999)*
- Cox**, Stephen, associate professor—organizational communication. B.A., M.A., Western Kentucky University; Ph.D., University of Missouri-Columbia. (1997)*
- Crawford**, Maribeth, assistant professor—music. B.M., Mississippi College; M.M., D.M.A., University of Cincinnati. (2015)
- Crider**, Matthew, assistant professor—theatre. B.F.A., University of Florida; M.F.A., Brandeis University. (2012)
- Crofton**, John, professor—engineering and physics. B.S., B.E.E., M.S., Ph.D., Auburn University. (1994)*
- Crofton**, Judy, senior lecturer—English. B.A., M.A., Auburn University. (2007)
- Cross**, Summer, assistant professor—nursing. B.S.N., M.S.N., Murray State University; Ph.D., University of Missouri-Kansas City. (2009)*
- Cumming**, Ashley, assistant professor—music. B.M., Wilfrid Laurier University; M.M., University of Victoria; D.M., Indiana University Jacobs School of Music. (2016)
- Cushen**, Patrick, assistant professor—psychology. B.A., Saint Louis University; M.A., Ph.D., University of Illinois. (2014)*
- Cyzewski**, Julie, assistant professor—English. B.A., Gordon College; M.Ed., Arcadia University; Ed.S., Simmons College; M.A., University of Connecticut; Ph.D., The Ohio State University. (2016)
- D'Ambrosio**, Mike, associate professor—music. B.A., Lehigh University; M.M., Ph.D., University of Cincinnati. (2008)*
- Darracq**, Andrea, assistant professor—biological sciences. B.S., University of Maine; M.S., University of Arkansas-Monticello; Ph.D., University of Florida. (2017)
- Davis**, Amanda, assistant professor—animal and equine sciences. B.S., Southern Arkansas University; M.S., Ph.D., University of Arkansas. (2015)
- Davidson**, Kelly, assistant professor—accounting. B.S., M.S., University of Kentucky; Ph.D., University of Florida. (2017)
- Dawkins**, Laura, professor—English. B.A., University of Louisville; M.A., University of Kentucky; Ph.D., Indiana University. (2000)*
- DeBella**, Joseph, associate professor—physical education. B.S., Northeastern University. VT MED, Norwich University; Ph.D., Texas A&M University. (2002)*
- Derting**, Terry, professor—biology. B.A., Mount Holyoke College; M.S., Virginia Polytechnic Institute and State University; Ph.D., Indiana University. (1993)*
- DeWees**, William, professor—animal health technology. B.S., M.S., University of Tennessee; DVM, Mississippi State University. (2005)*
- Dodd**, Amelia, chair, Department of Applied Health Sciences; assistant professor—exercise science; B.S., Murray State University; M.P.T., University of Louisville; D.P.T., University of Kentucky. (2006)*
- Dodson**, Richard, assistant professor—education administration. B.S., University of Kansas; M.A.Ed., Ed.D., Northern Arizona University. (2011)*
- Donnelly**, Robert, professor—mathematics. B.S., Liberty University; Ph.D., University of North Carolina-Chapel Hill. (1997)*
- Donovan**, Elizabeth, assistant professor—mathematics. B.S., M.S., Worcester Polytechnic Institute; M.S., Ph.D., Northeastern University. (2015)
- Doom**, Anna, lecturer—animal health technology. B.S., M.S., Murray State University. (2007)
- Dublin**, Steve, senior lecturer—management and marketing. B.S., M.B.A., Murray State University. (1998)
- Duncan**, Janine, assistant professor—education. B.S., University of Illinois-Urbana-Champaign; M.Ed., Ph.D., University of Missouri-St. Louis. (2016)
- Duncan**, Leslie, lecturer—industrial and engineering technology. B.S. Murray State University (2006), M.S., Ph.D., Vanderbilt University. (2016)
- Duncan**, Renae, acting provost; professor—psychology. B.A., University of Maryland; M.S., Ph.D., Florida State University. (1993)*
- Dunham**, Mardis, professor—school psychology. B.S., M.S., S.S.P., Northeast Louisiana University; Ph.D., University of Missouri. (1997)*
- Dunn**, Jessica, assistant professor—finance. B.S., M.S., Murray State University; Ph.D., Southern Illinois University. (2013)*
- Durr**, David, Baurenfeind endowed chair in investment management; professor—finance. B.B.A., University of Texas-Austin; M.B.A., Stephen F. Austin State University; Ph.D., University of North Texas. (2003)*
- Dwelly**, Priscilla, assistant professor—exercise science. B.S., Eastern Kentucky University; M.S., Florida International University; Ph.D., University of Arkansas. (2015)*
- Easterling**, Joshua, assistant professor—English. B.A., University of Maryland (2); M.A., Ph.D., Ohio State University. (2015)
- Eaton**, David, chair, Department of Economics and Finance; professor—economics. B.A., University of Maryland; M.A., University of Michigan; M.Div., Midwestern Baptist Theological Seminary; Ph.D., University of Michigan. (1996)*
- Edminster**, Warren, director, Honors College; professor—English. B.A., Ph.D., Baylor University; M.A., Clemson University. (2000)*
- Elder-Anderson**, Stephanie, associate professor—journalism and mass communications. B.S., M.S., and Ed.D., Murray State University. (2017)
- Ekida**, Fusae, assistant professor—Japanese. B.A., Yamaguchi Women's University; M.A., Ohio State University; M.A., Ph.D., University of Washington. (2015)
- El Masri**, Bassil, assistant professor—geosciences. B.S., Lebanese University; M.S., Texas Tech University; Ph.D., Indiana University. (2014)*
- Engelson**, Leslie, associate professor/technical services librarian. B.A., Northwest University; M.L.I.S., University of Washington. (2011)*
- Engineer**, Urmi, assistant professor—history. B.A., Wake Forest University; M.A., Ph.D., University of California. (2015)*
- Epperson**, Alison, assistant professor—health education. B.S., M.S., Murray State University; Ph.D., Southern Illinois University. (2012)*
- Erdmann**, Jeremy, lecturer—athletic training. B.S., University of Iowa; M.A., Murray State University. (2001)*
- Erdmann**, Kristan, assistant professor—athletic training. B.S., M.S., Eastern Kentucky University; Ed.D., University of Kentucky. (2013)*
- Erickson**, Scott, associate professor—music. B.M.E., University of Wisconsin; M.M., University of Michigan. (1985)
- Erikson**, Debra, assistant professor—education. B.S., Chicago State University; M.S., Northern Illinois University; Ph.D., University of Illinois-Urbana/Champaign. (2012)
- Esau**, Robin, lecturer—nonprofit leadership studies. B.I.S., M.A., Murray State University. (2014)
- Ezumah**, Bellarmine, associate professor—journalism. B.S., St. John's University; M.S., Brooklyn College; Ph.D., Howard University. (2012)*
- Fannin**, Harry, chair, Department of Chemistry; professor—chemistry. B.S., Murray State University; Ph.D., University of Cincinnati. (1988)*
- Fannin**, John, associate professor—music. B.S., Edinboro State College; M.M., New Mexico State University. (1995)*
- Farmer**, Katherine, associate professor/reference librarian/director of curriculum materials. B.A., Mississippi College; M.L.I.S., University of Southern Mississippi. (2009)*
- Fawzy**, Wafaa, associate professor—chemistry. B.S., M.S., Alexandria University; Ph.D., Michigan State University. (2008)*
- Ferguson**, David, professor—agriculture/agronomy. B.S., M.S., Ohio State University; Ph.D., Kansas State University. (1996)*

- Ferreira**, Bertus, professor—criminal justice. B.A., University of South Africa; B.A., Wichita State University; M.S., M.S., Central Missouri State University; M.Phil., St. John's College, University of Cambridge, England; Ed.D., Oklahoma State University. CPP, CFE, CST, DABFE, FACFE (2005)*
- Field-Bartholomew**, Tana, associate professor—music. B.A., Luther College; M.M., D.M.A., University of Cincinnati Conservatory of Music. (2010)*
- Fister**, Kenneth, senior lecturer—mathematics. B.S., Georgetown College; M.S., University of Tennessee. (1996)
- Fister**, Renee, professor—mathematics. B.S., Transylvania University; M.S., Ph.D., University of Tennessee. (1996)*
- Flinn**, Michael, associate professor—biology. B.A., Concordia College; M.S., Kansas State University; Ph.D., Southern Illinois University. (2008)*
- Ford**, Marcia, assistant professor—telecommunication systems management. B.S., M.S., Murray State University; Ph.D., Indiana State University. (2004)
- Foot**, Paul, assistant professor—political science. B.A., West Chester University; M.A., Villanova University; Ph.D., Georgia State University. (2002)
- Fowler**, Anna, lecturer—nursing. B.S.N., M.S.N., Murray State University. (2009)
- French**, Todd, assistant professor—music. B.M., University of Nebraska; M.M., D.M., Indiana University. (2016)
- Fritz**, Robert, assistant professor—Spanish. B.A., Hanover College; M.A., Katholieke Universiteit Leuven; M.A., Ph.D., Indiana University; (2017)
- Fuller**, Claire A., chair, Department of Biological Sciences; professor—biology. B.A., University of California-San Diego; M.S., Ph.D., Oregon State University. (1997)*
- Gagnon**, Paul, assistant professor—biological sciences. B.A., Baylor University; M.F.S., Yale School of Forestry and Environmental Studies; Ph.D., Louisiana State University. (2011)
- Gamble**, Antje, assistant professor—art. B.A., University of Wisconsin; M.A., School of the Art Institute of Chicago; Ph.D., University of Michigan. (2016)
- Gao**, Jie, assistant professor—history. B.A., M.A., Beijing University; Ph.D., University of Western Ontario. (2016)*
- Garth**, Katy, associate professor—nursing. B.S.N., Murray State University; M.S.N., Vanderbilt University; Ph.D., University of Tennessee Health Science Center. (1993)*
- Gesler**, David, associate professor—organizational communication. B.A., University of California-Davis; M.A., Murray State University; Ph.D., University of Tennessee. (2003)*
- Gianforte**, Matthew, associate professor—music. B.M., Catholic University of America; M.M., D.M., Indiana University. (2011)*
- Gibson**, David, associate professor—mathematics. B.A., M.S., M.A., Ed.D., University of Kentucky (1995)*
- Gierhart**, Gregory, lecturer—education. B.A., M.A., Murray State University. (2003)
- Gill**, Sharon, professor—education. B.S., University of Louisville; B.S., M.A., Northern Kentucky University; Ed.D., University of Cincinnati. (1994)*
- Giltner**, Brian, lecturer—industrial and engineering technology. B.S., University of Missouri-Rolla; M.S., Southern Illinois University-Carbondale. (2013)
- Godfrey**, Raymond, assistant professor—occupational safety and health. B.S., University of Florida; M.Ed., Florida Atlantic University; M.S.B.C., Ph.D., University of Florida. (2014)*
- Goggins**, Rory, associate professor—philosophy. B.A., Montclair State University; Ph.D., University of Pennsylvania. (2008)*
- Gomez**, Miguel, assistant professor. B.A., University of Georgia; M.S., Ph.D., Middle Grade Education. (2017)*
- Gowen**, G. Michael, lecturer—recreation. B.S., M.A., Murray State University. (2013)
- Graham**, Lissa, professor—theatre. B.A., Christopher Newport University; M.F.A., Virginia Commonwealth University. (1996)*
- Grant**, Christina, assistant professor—elementary education. B.S., Iowa State University; M.A.Ed., Viterbo University; Ph.D., Ball State University. (2014)*
- Greer**, Bobbie, lecturer—organizational communication. B.A., Randolph-Macon Women's College; M.A., Murray State University. (2001)
- Grossman**, Amanda, associate professor—accounting. B.A., M.S., Texas A & M University; Ph.D., Southern Illinois University. (2007)*
- Gupta**, Ramesh, professor—toxicology; D.V.M., G.B., Pant University of Agriculture and Technology; Ph.D., Punjab Agricultural University. (1987)*
- Guse**, Eran, associate professor—economics. B.S., University of Wisconsin-Eau Claire; M.S., Ph.D., University of Oregon. (2003)*
- Guyer**, Cheryl, lecturer—veterinary sciences. B.S., Eastern Illinois University; M.S., D.V.M., University of Illinois. (2006)
- Hackathorn**, Jana, associate professor—psychology. B.A., Park University; M.A., University of Saint Mary; Ph.D., Saint Louis University. (2011)*
- Hancock**, Katherine, assistant professor—criminal justice. B.S., M.S., Ph.D., University of Central Florida. (2014)
- Hand-Bryant**, Nicole, professor—art. B.S., Nazareth College; B.F.A., University of South Dakota; M.F.A., University of Miami. (2000)*
- Handayani**, Iin, professor—soil science. B.S., Gadjah Mada University; M.S., University of Arkansas; Ph.D., University of Kentucky. (2006)*
- Hansen**, Jacqueline, chair, Department of Early Childhood and Elementary Education; professor—education. B.A., Doane College; M.A., Ed.D., University of Nebraska. (2000)*
- Harris**, Daniel, assistant professor—accounting. B.S., Washington and Lee University; M.Acc., Florida State University; J.D., University of Miami School of Law; Ph.D., University of Mississippi. (2015)
- Hart**, John, senior lecturer—telecommunication systems management. B.S., M.S., Murray State University. (2001)
- Hart**, Sharon, assistant professor—communication disorders. B.S., Murray State University; M.A., University of Tennessee; Ph.D., University of Kentucky. (1997)*
- Hassan**, Seid, professor—economics. B.A., American University of Cairo; M.A., Texas Tech University; Ph.D., Texas A&M University. (1992)*
- Hatakeyama**, Yoko, senior lecturer—Japanese. B.A., Aoyama Gakuin University; M.A., Murray State University. (1994)
- Haynes**, Christopher, lecturer—journalism and mass communications. B.S., M.S., Murray State University. (2012)
- He**, Kate, professor—biology. B.S., M.S., Northeast Forestry University; Ph.D., University of Western Ontario. (2005)*
- Hendley**, Alexandra, assistant professor—political science. B.A., Southwestern University; M.A., Ph.D., University of California. (2013)
- Hendrith**, Stephanie, assistant professor—education. B.S., North Carolina A&T State University; M.Ed., Lipscomb University; Ed.D., Trevecca Nazarene University. (2016)
- Hepworth**, Daniel, associate professor—criminal justice. B.A., University of Wyoming; M.S., Ph.D., University of Illinois-Chicago. (2010)*
- Hereford**, James, professor—engineering and physics. B.S., Stanford University; M.S., Ph.D., Georgia Institute of Technology. (2001)*
- Hildebrant**, Jake, assistant professor—engineering technology. B.S., Murray State University; M.S., Western Kentucky University. (2013)
- Hill**, John, assistant professor—music. B.M.E., M.M., Butler University; D.M.A., Indiana University. (2004)*
- Hill**, Todd, professor—music. B.M.E., M.M.E., Murray State University; Ed.D., Boise State University. (2006)
- Hilton**, Marjorie, associate professor—history. B.S., Louisiana State University; M.A., University of South Alabama; Ph.D., University of Illinois. (2011)*
- Hinton**, Marcie, associate professor—journalism and mass communications. B.A., Samford University; M.A., Murray State University; Ph.D., University of Tennessee. (2013)*
- Hobbs**, Marcia, dean, School of Nursing and Health Professions; professor—nursing. B.S.N., DePauw University; M.S., University of Hawaii; D.S.N., University of Alabama. (2011)*
- Hoffman**, Laura, assistant professor—pre-veterinary medicine. B.S., Murray State University; D.V.M., Auburn University. (2014)
- Holmes**, Terence, professor—marketing and telecommunication systems management. B.S., University of Louisville; M.B.A., University of Kentucky; Ph.D., University of Cincinnati. (2000)*
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- Thomas**, Elizabeth, senior lecturer—journalism. B.S., University of Florida; M.S., Murray State University. (2011)
- Thome**, Edward, chair, Department of Mathematics and Statistics; associate professor—mathematics. B.S., M.S., Ph.D., Kansas State University. (1991)*
- Thurmond**, Janice, lecturer—nursing. B.S.N., M.S.N., Murray State University. (1996)
- Tillson**, Lou, professor—organizational communication. B.A., Glenville State College; M.A., West Virginia University; Ph.D., Ohio University. (1992)*
- Tinsley**, Carolyn, lecturer—nursing. B.S.N., M.S.N., Murray State University. (2009)
- Todd**, Dana, professor—nursing. B.S.N., M.S.N., Murray State University; Ph.D., University of Tennessee Health Science Center. (2001)*
- Todd**, Timothy, dean, Arthur J. Bauernfeind College of Business; professor—organizational communication. B.A., M.A., Western Kentucky University; Ed.D., North Carolina State University. (1995)*
- Trites**, Latricia, professor—English. B.A., M.A., Texas Tech University; Ph.D., Northern Arizona University. (2000)*
- Trzepacz**, Chris, assistant professor—biology. B.S., University of Massachusetts; Ph.D., University of Cincinnati College of Medicine. (2008)*
- Twardus**, Ian, assistant professor—accounting. B.S., West Virginia University; M. Acc., Ohio State University; Ph.D., Virginia Polytechnic Institute and State University. (2017)
- Umstead**, Eric, assistant professor—special education. B.S., Murray State University; M.Ed., Vanderbilt University; M.Ed., Ed.D., Tennessee State University. (2000)*
- Unrau**, Lucia, chair, Department of Music; professor—music. B.M., Oberlin College; M.M., Indiana University; D.M.A., University of Texas-Austin. (2017)
- Utgaard**, John, professor—art. B.F.A., Kansas City Art Institute; M.F.A., Alfred University. (2005)*
- Vance**, Tim, associate professor—journalism. B.I.S., M.P.A., Murray State University; Ph.D., University of Southern Mississippi. (2015)*
- Van Hooser**, J.D., lecturer—animal/equine science. B.S., M.S., Murray State University. (2003)
- Valentine**, Robert, senior lecturer—communication. B.A., M.A., University of Kentucky. (2000)
- Veatch**, Johna, assistant professor—veterinary sciences. B.S., M.S., Emporia State University; D.V.M., Ph.D., Kansas State University. (2000)
- Venter**, Marcie, assistant professor—geosciences. B.A., University of Pittsburgh; M.A., University of Kentucky; Ph.D., University of Kentucky. (2016)
- Vogel**, Valerie, lecturer—telecommunications systems management. B.S., University of Kentucky; M.S., Murray State University. (2017)
- Volp**, Robert, associate professor—chemistry. B.S., University of Wisconsin-Stevens Point; Ph.D., University of Wisconsin-Madison. (1983)*
- Waddill**, Paula, chair, Department of Psychology; professor—psychology. B.S., Oklahoma State University; M.S., University of Tennessee; Ph.D., Purdue University. (1994)*
- Walker**, Paul, associate professor—English. B.A., Brigham Young University; M.A., Northern Arizona University; Ph.D., Arizona State University. (2007)*
- Walsh**, Justin, assistant professor—theatre. B.F.A., Miami University; M.F.A., West Virginia University. (2010)*
- Wann**, Daniel, professor—psychology. B.S., Baker University; M.S., Emporia State University; Ph.D., University of Kansas. (1991)*
- Washington**, Barbara, chair, Department of Adolescent, Career and Special Education; associate professor—special education. B.S., M.Ed., Ph.D., Peabody College of Vanderbilt University (2007)*
- Weber**, Peter, assistant professor—nonprofit leadership studies. M.A., M.I.S., University of Bologna (Italy); Ph.D., Indiana University. (2015)*
- Webster**, Brent, lecturer—music. B.A., Murray State University; M.M., University of Kentucky. (2015)
- Weimer**, Steven, assistant professor—music. B.A., Murray State University; B.M., Western Illinois; M.M., Bowling Green State University; D.M.A., College-Conservatory of Music, University of Cincinnati. (2015)
- Weinberger**, Dena, assistant professor—biology. B.A., Concordia College; Ph.D., University of Wisconsin-Milwaukee. (2016)
- Weir**, Ryan, assistant professor—library science. B.S., M.L.S., Indiana State University. (2008)
- Welsch**, F. Gilland, senior lecturer—journalism and mass communications. B.S., M.S., University of Southern Mississippi. (1992)
- Whaley**, David, dean, College of Education and Human Services, professor—education. B.S., M.S., University of California; Ph.D., Cornell University. (2012)
- White**, David, professor—biology. A.B., M.A., DePauw University; Ph.D., University of Louisville. (1988)*
- White**, H. Allen, professor—journalism and mass communications. B.A., M.S., Murray State University; Ph.D., University of Tennessee. (1991)*
- Whiteman**, Howard, professor—biology. B.S., Allegheny College; Ph.D., Purdue University. (1996)*
- Whittaker**, Rachel E., assistant professor—chemistry. B.S., Abilene Christian University; Ph.D., University of Texas. (2016)*
- Williams**, Mary, assistant professor—mathematics. B.S., Murray State University; M.S., Ph.D., University of Nebraska-Lincoln. (2017)
- Williams**, Matthew, lecturer—physics. B.S., University of Louisiana; Ph.D., University of Georgia. (2017)
- Williams**, Rebecca, assistant professor—art. B.A., University of Louisiana; M.A.Ed., Ph.D., University of Georgia. (2015)
- Wilson**, Randal, assistant professor—educational administration. B.S., M.S., Murray State University; Ph.D., University of Nebraska. (2013)*
- Wortham**, Tracey, chair, Department of Occupational Safety and Health; professor—occupational safety and health. B.S., M.S., Pennsylvania State University; Ph.D., Texas Tech University. (1995)*
- Wright**, Keith, lecturer—agricultural systems technology. B.S., M.S., Murray State University. (2012)
- Wright**, Leigh, assistant professor—journalism and mass communications. B.A., M.F.A., Murray State University. (2012)
- Wright**, Sterling, associate professor—biology. B.S., M.S., Texas Tech University; Ph.D., University of Texas-Austin. (1998)*
- Wu**, Echo, assistant professor—education. B.A., University of International Relations; M.Ed., University of New South Wales; M.Phil., University of Hong Kong; Ph.D., University of Virginia. (2012)*
- Wu**, Jie, associate professor—Chinese. B.A., Fudan University; M.A., University of Colorado; M.A., Ph.D., University of Washington. (2011)
- Wylie**, Jeffrey, senior lecturer—social work. B.S., Gardner-Webb College. Master of Divinity, M.S.W., Southern Baptist Theological Seminary. (1997)
- Xia**, Saihua, associate professor—English. B.A., Hunan Normal University, China; M.A., University of International Business and Economics, Beijing, China; M.S., Ph.D., State University of New York-Albany. (2006)*
- Xu**, Junyi, assistant professor—economics. B.S., Fudan University; M.A., Ph.D., State University of New York-Binghamton. (2015)
- Xu**, Yuejin, associate professor—education. B.A., Yangzhou University; M.A., Suzhou University; Ph.D., University of Alabama. (2007)*
- Yarali**, Abdulrahman, professor—telecommunications systems management. B.S., University of Florida; M.S., George Washington University; Ph.D., Virginia Polytechnic Institute and State University. (2003)*
- Yang**, Xiaozhao Yousef, assistant professor—political science. B.A., Zhejiang University. M.A., Ph.D., Purdue University. (2016)
- Yayenie**, Omer, professor—mathematics. B.S., M.S., Addis Ababa University, Ethiopia; Ph.D., Temple University. (2003)*
- ZeRuth**, Gary, assistant professor—biological sciences. B.S., Ph.D., University of South Florida. (2014)
- Zhang**, Qiaofeng (Robin), chair, Department of Geosciences; professor—geosciences. B.Sc., Nanjing University; M.Sc., Chinese Academy of Science; Ph.D., University of Western Ontario. (2003)*
- Zhang**, Tan, professor—mathematics. B.S., University of Wisconsin-Madison; M.S., Utah State University; Ph.D., University of Oregon. (2000)*
- Zirbel**, Jay, associate professor—industrial and engineering technology. B.S., M.S., University of Wisconsin-Stout; Ph.D., Texas A&M University. (1991)*
- Zou**, Guangming, assistant professor—teaching English to speakers of other languages. B.A., Beijing University; Ph.D., Illinois State University. (1999)

Professor Emeriti

The Board of Regents votes to award the rank of Professor Emeritus to assistant professors, associate professors, or professors who have limited or terminated their responsibilities as ranked faculty members after ten or more years of distinguished service to Murray State University.

- Adams, Eddie R., industrial education and technology. (1968-1991)
 Adams, John H., English. (1967-1993)
 Adelman, Frank W., industrial and engineering technology. (1978-1994)
 Alderdice, Nancy B., business. (1989-2009)
 Anderson, Buford, physics. (1963-1998)
 Anderson, Jeffrey E., chemistry. (1983-2011)
 Anderson, Thayne K., English. (1970-2003)
 Babcock, Squire, professor–English. (1992-2017)
 Baggett, Wallace, social work. (1970-1986)
 Bailey, Ernie R., library science. (1971-2007)
 Bailey, Gene N., graphic arts technology. (1969-1997)
 Barrett, Terry R., psychology. (1975-2000)
 Batts, R. Andrew Jr., computer science. (1975-2015)
 Bates, Karen G., music. (1978-2004)
 Baust, Joseph A., education. (1978-2009)
 Beahan, Charlotte, history. (1980-2015)
 Beane, Allan L., special education. (1977-2001)
 Beatty, Durwood W., agriculture. (1968-1995)
 Beck, Ann, political science. (2004-2015)
 Bennett, Donald E., mathematics. (1970-2009)
 Benson, James, industrial and engineering technology. (1991-2014)
 Beyer, Louis M., engineering and physics. (1967-1999)
 Bishop, Steve, art. (1979-2010)
 Bodevin, Leon, Spanish. (1999-2015)
 Bogal-Allbritten, Rosemarie, social work. (1977-2003)
 Boggess, Gary, chemistry. (1966-1999)
 Booth, James L., organizational communication. (1976-2007)
 Bossing, Lewis L., education. (1975-1999)
 Boyd, Karen W., art. (1967-1997)
 Bradley, Evelyn A., psychology. (1966-1983)
 Britt, George N., mathematics. (1964-1996)
 Brockway, Gary R., marketing. (1976-2010)
 Broughton, James, recreation. (1989-2016)
 Brown, Margaret, modern languages. (1990-2014)
 Brown, Stephen, music. (1982-2012)
 Burkeen, Oleta, nursing. (1977-2001)
 Call, William L., telecommunications systems management. (1984-2002)
 Campbell, Marlene L., computer science. (1984-1999)
 Carr, Ann D., family and consumer studies. (1966-1998)
 Carstens, Ken, archaeology. (1978-2007)
 Cartwright, Joseph H., history. (1970-1998)
 Cella, C. Ronald, English. (1968-2000)
 Chamberlain, Don, professor–accounting. (1977-2017)
 Clark, Armin L., geosciences. (1961-1994)
 Clark, Howell R., chemistry. (1963-1986)
 Cohen, Michael M., English. (1976-2003)
 Collins, Irma H., music. (1976-1993)
 Conklin, Raymond, music. (1973-2016)
 Conley, Harry L., chemistry. (1968-2001)
 Conover, Mary E., industrial and engineering technology. (1978-2000)
 Cooper, Geneva L., nursing. (1977-2007)
 Cornelius, Fred H., English. (1976-1997)
 Cornell, William D. Jr., biology. (1978-2006)
 Cox, M. Douglas, veterinary sciences. (1995-2004)
 Crafton, Arvin D., school administration. (1966-1993)
 Culpepper, Jetta C., library science. (1969-2009)
 Daughaday, Charles, English. (1966-1997)
 Daughaday, Lillian, sociology. (1981-2013)
 Davis, James, animal and equine science. (1984-2014)
 Dougherty, Richard J., art. (1992-2013)
 Dressler, John, music. (1989-2016)
 Driskill, C. Dwayne, agriculture/agricultural mechanization. (1984-2015)
 Duobinis-Gray, Leon, biology. (1988-2016)
 DuFord, Sally, family and consumer studies. (1977-1999)
 Duncan, Don D., physics. (1967-2003)
 Earnest, James David, English. (1976-2004)
 Ebert, Reika, associate professor–German. (2000-2017)
 Eldredge, David L., computer information systems. (1976-2000)
 Elgin, Jean K., nursing. (1972-1988)
 Etherton, Robert C., physics. (1967-1994)
 Eversmeyer, Harold E., biology. (1964-1994)
 Fairbanks, Kenneth B., mathematics. (1979-2009)
 Farrell, Kathleen, professor–nursing. (1997-2017)
 Fazi, Frank, graphic arts technology. (1965-1985)
 Fender, David, occupational safety and health. (1995-2016)
 Ferguson, John W., Spanish. (1965-1997)
 Flood, Eugene, management. (1966-1979)
 Foreman, Terry H., philosophy and religious studies. (1975-2001)
 Forrester, Kent H., English. (1971-1995)
 Fox, Robert B., education. (1968-1983)
 Frame, Charles, dietetics. (1999-2009)
 Fuller, Marian J., biology. (1967-2000)
 Furches, Jeanette P., nursing. (1974-1994)
 Furches, W. Harry, art. (1963-1993)
 Fuhrmann, Joseph T., history. (1978-2006)
 Gantt, Vernon W., speech communication. (1973-2000)
 Garfield, Gene J., political science. (1970-2004)
 Garrett, Mica, associate professor–Spanish. (1995-2017)
 Gayman, Cynthia, professor–philosophy. (2003-2017)
 Gibson, Vanda Jean, child studies. (1955-1984)
 Giles, Howard C., economics. (1964-1989)
 Goodell, John, mathematics. (1994-2004)
 Greer, Marlin E., telecommunications systems management. (1979-2010)
 Griffin, John B., library science. (1977-2007)
 Grimes, J. Milton, German. (1972-2007)
 Guin, Larry, finance. (1978-2012)
 Gutwirth, Sarah, professor–art. (1998-2017)
 Hainsworth, Jerome C., education. (1973-1998)
 Hammons, JoAnn, communication disorders. (1989-2010)
 Haney, Roger D., journalism and mass communications. (1977-2004)
 Harcourt, Jules, office systems and business education. (1968-1991)
 Harrison, Carroll F., Jr., speech communication and theatre. (1970-1986)
 Harrison, Dannie E., economics. (1969-2007)
 Head, Robert W., art. (1966-1997)
 Heim, Keith M., library science. (1974-1996)
 Helton, Roy Jr., English. (1967-2015)
 Henley, Melvin B., chemistry. (1964-1996)
 Herndon, Jerry, English. (1969-1997)
 Herren, Charles E., veterinary science. (1977-1991)
 Higginson, Bonnie, regent’s professor, education. (1979-2013)
 Holcomb, Elizabeth Powell, nursing. (1981-2008)
 Holcomb, Thomas F., guidance and counseling. (1971-2009)
 Holt, William J., health, physical education and recreation. (1960-1991)
 Honchul, Delbert, management. (1967-1981)
 Honchul, Quava S., library science. (1966-1987)
 Hooks, Janice, education. (1965-2003)
 Horwood, Stephen E., graphic communications management. (1976-2008)
 Hough, Aldean L., English. (1962-1987)
 Hulick, Charles H., III, education. (1985-2004)
 Hussung, Karl F., chemistry. (1957-1992)
 Jacobs, Martin, education. (1994-2016)
 Jacquot, Ruth H., education. (1989-1999)
 Johnson, Michael E., art. (1973-2008)
 Johnson, Willis N., education. (1977-1999)
 Johnston, Timothy C., biology. (1986-2016)
 Jones, Donald E., education. (1966-1987)
 Jones, Gary D., mathematics. (1969-2003)
 Jones, Steven H., anthropology and social work. (1977-2012)
 Julian, Frank H., accounting/legal studies. (1974-2004)
 Kadel, Wade L., veterinary science. (1978-1997)
 Keeslar, Suzanne, French. (1966-1996)
 Kellie, Andrew C., industrial and engineering technology. (1982-2013)
 Kem, Lee, education. (2000-2016)
 Kind, Thomas C., geosciences. (1976-2009)
 Kipphut, George, geosciences. (1991-2016)
 Koenecke, William, education. (2001-2012)
 Koren, Johan, professor–education. (2003-2017)
 Kraemer, David, occupational safety and health. (1986-2014)
 Krizan, A. C., office systems and business education. (1978-2000)
 Kruger, John M., industrial and engineering technology. (1982-1998)

Landini, Ann, journalism. (1985-2012)
 Lanier, Michael T., management. (1991-2009)
 Lawson, Anita S., English. (1970-1997)
 Lawson, Hughie G., history. (1969-1996)
 Leasure, V. Lynn, geosciences. (1985-2010)
 Loberger, Gordon J., English. (1964-2001)
 Lochte, Robert, journalism. (1988-2016)
 Lorrh, Jean I., English. (1968-2007)
 Lovett, Jo H., education. (1963-1993)
 Lovins, Julie H., social work. (1971-1994)
 Lyle, William III, computer science. (1981-2015)
 Lyons, Paul, industrial education. (1966-1982)
 Maddox, William E., engineering and physics. (1967-2001)
 Mahfoud, W.E., mathematics. (1968-1995)
 Malone, Bobby G., school administration. (1970-1996)
 Martin, David, management. (1999-2009)
 Martin, Robert A., biology. (1993-2013)
 Mason, Eileen, occupational safety and health. (2001-2014)
 Matarazzo, S. M., school administration. (1967-1987)
 Mathis, Gilbert L., economics. (1966-2004)
 Matlock, Pam, lecturer–special education. (2002-2017)
 Mayes, Jerry W., organizational communication. (1972-2001)
 McCreary, Terry, chemistry. (1988-2016)
 McFadden, Marilyn, library science. (1963-1992)
 McGaughey, Robert H., III, journalism. (1969-1997)
 McIntosh, Dwain F., journalism and radio-television. (1968-1992)
 McKenna, Sharon, nursing. (1995-2004)
 McLaren, John, telecommunications systems management. (1978-2005)
 McNeely, Bonnie L., management. (1987-2013)
 Mikulcik, John D., agriculture/soil science. (1963-2005)
 Miller, Creighton J., communication disorders. (1978-2013)
 Miller, Fred, marketing. (1980-2015)
 Miller, Michael, English. (1968-1997)
 Miller, Thomas I., accounting. (1967-2010)
 Mills, Marvin D., occupational safety and health. (1977-1988)
 Minor, Ann G., nursing. (1982-2009)
 Morgan, Janice, modern languages. (1986-2014)
 Muehleman, Thomas, psychology. (1971-1998)
 Murphy, Janis E., education. (1991-2013)
 Murphy, Peter, professor–English. (1987-2017)
 Muscio, Oliver J., chemistry. (1976-2008)
 Myatt, Sharon U., nursing. (1983-2009)
 Naugle, Burl I., geosciences. (1981-2008)
 Navan, Joy L., education. (1998-2010)
 Nichols, George V., occupational safety and health. (1969-2010)
 Nichols, Patsy A., office systems and business education. (1978-2008)
 Niffenegger, Phillip B., marketing. (1975-2007)
 Noffsinger, Hugh A., school administration. (1964-1988)
 Northington, Wade, veterinary science. (1999-2015)
 Owen, David A., chemistry. (1978-2009)
 Payne, William, agribusiness economics. (1976-2015)
 Posey, Thomas B., psychology. (1969-2003)
 Presson, Alta V., home economics. (1969-1981)
 Purcell, J. Kenneth, health and physical education. (1974-2003)
 Ratliff, Judy, chemistry. (1993-2016)
 Reagan, Johnny L., marketing. (1957-1987)
 Rice, Pamela, exercise science. (1982-2013)
 Richerson, Virginia, business education. (1985-2014)
 Ritter, Alysia D., psychology. (1989-2012)
 Robertson, A. Jo, special education. (1998-2015)
 Rogers, Verona L., education. (1956-1977)
 Rose, Jack D., school administration. (1998-2014)
 Rose, Joseph L., political science. (1966-2002)
 Rose, Winfield, political science. (1979-2016)
 Roulston, C. Robert, English. (1964-1988)
 Rowan, Robert, guidance and counseling. (1965-1979)
 Royalty, Joel L., psychology. (1985-2009)
 Rudolph, James A., agriculture/animal science. (1973-2004)
 Sasso, Paul, art. (1981-2008)
 Schanbacher, Eugene M., industrial technology. (1961-1992)
 Schell, William, Jr., history. (1991-2016)
 Shatzer, Joyce, education. (2003-2014)
 Schempp, James I., theatre. (1970-2000)
 Schoenfeldt, Roger C., management. (1968-2007)
 Schrock, Peggy, professor–art history. (1990-2017)
 Scott, Richard J., music. (1983-2011)
 Seale, William B., marketing. (1965-1994)
 Seay, Robert A., accounting. (1985-2010)
 Serre, Camille, art. (1985-2012)
 Shelton, V.R., agriculture/agricultural mechanization. (1968-1985)
 Shepard, Frederick W., art. (1963-1999)
 Sholar, T.P., library science. (1965-1987)
 Sickel, James B., biology. (1975-2005)
 Siebold, Bert, professor–industrial technology. (1982-2017)
 Smith, June, education. (1965-1979)
 Southerland, Mittie D., criminal justice. (1994-2003)
 Speight, Jerry B., art. (1975-2005)
 Stambaugh, Clyde (Tommy), professor–accounting. (1986-2016)
 Steffa, John, music. (1988-2008)
 Steiger, Richard, English. (1976-2003)
 Stewart, Chad L., health and physical education. (1962-1993)
 Stockton, George L., business. (1965-1988)
 Story, Donald L., music. (1967-1993)
 Strieter, Terry, history. (1977-2014)
 Strohecker, Edwin, library science. (1972-1983)
 Stuart, James G., biology. (1977-2004)
 Swan, Wallace J., English. (1967-1996)
 Taylor, John G., education. (1968-1992)
 Taylor, Marie H., music. (1969-2000)
 Thompson, John A., accounting. (1976-1998)
 Timmons, Thomas, biology. (1982-2014)
 Tubbs, Cynthia, lecturer–industrial and engineering technology. (2001-2016)
 Tucker, Kenneth, English. (1970-1997)
 Umar, Farouk F., political science. (1970-2007)
 Usher, Richard H., education. (1977-1998)
 Waag, Michael, modern languages. (1986-2014)
 Waggner, Pauline, home economics. (1967-1981)
 Wagner, Tom L., guidance and counseling. (1976-2003)
 Wall, Celia J., journalism and mass communications. (1980-2011)
 Wattier, Mark J., political science. (1980-2011)
 Weatherly, James G., telecommunications systems management. (1975-2010)
 Weber, Neil V., geosciences. (1980-2008)
 Weis, Roger, professor–nonprofit leadership studies. (1989-2017)
 Whaley, Peter W., geosciences. (1968-2003)
 Whitaker, William J., industrial and engineering technology. (1975-2008)
 White, Stephen B., biology. (1981-2013)
 Williams, Rufie Lee, home economics. (1962-1973)
 Wilson, Brenda, computer science. (1995-2012)
 Wilson, Jack D., mathematics. (1959-1994)
 Winter, Kenneth W., industrial education. (1965-1988)
 Wolf, Ken H., history. (1969-2004)
 Wurgler, Pamela, music. (1994-2017)
 Yates, John, Center for Continuing Education. (1967-2008)
 Zimmerer, Edmund, biology. (1989-2014)

Presidents of Murray State University

John W. Carr	1923-1926
Rainey T. Wells	1926-1932
John W. Carr	1932-1936
James Richmond	1936-1945
Ralph Woods	1945-1968
Harry Sparks	1968-1973
Constantine W. Curris	1973-1983
Kala M. Stroup	1983-1990
Ronald J. Kurth	1990-1994
Kern Alexander	1994-2001
F. King Alexander	2001-2006
Randy Dunn.....	2006-2013
Tim I. Miller.....	2013-2014
Robert O. Davies	2014-present



Courses

Courses numbered 095-599 are offered by Murray State University for undergraduate credit; courses numbered 600-999 are for graduate credit. The University reserves the right to make any adjustments in the *Bulletin* which are deemed necessary. Course prefix, number, title, credit hours, and description shall be in effect with the most recent catalog at the time the course was taken. **Note:** Repeated 100T *Transitions* courses (regardless of course prefixes or departmental requirements) will be treated as duplicate courses, with only one course allowed to count toward graduation requirements. The subject-matter areas and course prefixes are shown below and appear in prefix order on the following pages.

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ACCOUNTING (ACC)

ACC 100T Transitions (1). Course is designed to assist students in their transition to Murray State University. Content includes orientation to the specific area or major(s) and minor(s) within the academic success; and extracurricular opportunities. Only one transitions course will count toward graduation. Graded pass/fail.

ACC 200 Principles of Financial Accounting (3). An introduction to the basic concepts and techniques of financial accounting, including the accounting cycle and the communication of financial information to external users. The course focuses on the nature and measurement of assets, liabilities, equities, dividends, revenues, and expenses. Emphasis is placed on the proper preparation and understanding of the financial statements. Prerequisite: sophomore standing. (ACC majors may be second semester freshmen.)

ACC 201 Principles of Managerial Accounting (3). The application of accounting to business management with emphasis on planning, control of operations, and decision-making, including study of cost behavior; the use of cost data in job order, process and standard cost systems; the application of differential analysis to decision making; the use of overhead allocation methods; the preparation and interpretation of budgets; and the study of pricing methods. The course also introduces topics such as the statement of cash flows and financial statement analysis. Prerequisite: ACC 200. (ACC majors must have a grade of *B* or higher in ACC 200.) Corequisite: ACC 202 (Students enrolled in accounting programs.)

ACC 202 Accounting Applications Laboratory (1). A study of basic accounting applications with emphasis on the use of spreadsheets in analyzing and solving accounting problems and making business decisions. The course focuses on the process of building models for generating and evaluating accounting information. Specific accounting applications include depreciation schedules, revenue and expense distribution analysis, inventory management and profit maximization. Prerequisites: ACC 200 and CSC 199. Corequisite: ACC 201.

ACC 300 Intermediate Accounting I (3). A review of the fundamental processes of accounting; the measurement of financial position and periodic revenues and expenses; and an introduction to selected, more advanced accounting issues. Some of the topics studied include standard setting processes; the accounting cycle; the income statement and balance sheet; cash and receivables; inventories; acquisition and disposition of property, plant and equipment; depreciation and depletion; intangible assets; and liabilities and contingencies. Prerequisites: junior standing; ACC 200, ACC 201 and ACC 202 with a minimum grade of *B* in each.

ACC 301 Intermediate Accounting II (3). Intensive study of the theory and methods of financial accounting with a focus on the impact of business transactions on financial reporting. Some of the course topics include liabilities, stockholders equity, dilutive securities, investments, revenue recognition, income tax allocation, pensions and post-retirement benefits, leases, accounting changes and error analysis, and cash flows. Prerequisites: junior standing; ACC 300 with a minimum grade of *C*.

ACC 302 Federal Income Tax (3). Federal income tax fundamentals under the latest amendments to the Internal Revenue Code; rates, credits; inclusions in and exclusions from gross income; recognition of and basis for gain or loss; capital gains and losses; dividends; deductions; with emphasis on individual income tax returns. Prerequisites: junior standing; ACC 200 and 201 with a minimum grade of *B* in each.

ACC 303 Cost Accounting (3). The study of financial and nonfinancial accounting information for strategic and operational decision making. Topics include traditional and contemporary product/service costing; planning; control; performance measurement; and nonroutine managerial decisions. Prerequisites: junior standing; ACC 200, ACC 201, and ACC 202 with a minimum grade of *B* in each.

ACC 308 Accounting Information Systems (3). Course emphasizes the principles of accounting systems design, development, implementation, and maintenance. Topics include: types of computerized accounting systems and transaction processes, fundamental networking and telecommunications

approaches, security and internal control concepts, data modeling and normalization theory, and CAATs (Computer Assisted Audit Tools and Techniques). Students use a database management system to create database objects for the assignments required in this class. A student may receive credit for one of the following courses: ACC 308, BUS 355 or CIS 307. Prerequisites: junior standing; ACC 200, ACC 201 and ACC 202 with a minimum grade of *B* in each; and CSC 199.

ACC 488 Cooperative Education/Internship (1-3). A meaningful, planned, and evaluated work experience related to the career and educational objectives of the student for which he/she may receive academic credit and possible financial remuneration. May be repeated for a maximum of six hours from any 488/489 courses. Graded pass/fail. Prerequisite: permission of chair.

ACC 489 Cooperative Education/Internship (1-3). A meaningful, planned, and evaluated work experience related to the career and educational objectives of the student for which he/she may receive academic credit and possible financial remuneration. May be repeated for a maximum of six hours from any 488/489 courses. Prerequisite: permission of chair.

ACC 490 Survey of Accounting (3). Designed for students who have an inadequate background in accounting. Covers the same material covered in ACC 200 and 201 or the equivalent. Not open to students who have credit for ACC 200 and 201 or the equivalent.

ACC 500 Advanced Accounting (3). A comprehensive examination of some of the most complex accounting problems including consolidated financial statements, partnerships, foreign subsidiaries, estates and trusts, and consignment and installment sales. Prerequisite: ACC 301.

ACC 501 Accounting for Governmental and Nonprofit Entities (3). Accounting and reporting principles, standards and procedures applicable to (1) state and local governments, including counties, cities, townships and villages; (2) the federal government; and (3) other not-for-profit institutions such as universities and hospitals. Prerequisite: ACC 300.

ACC 502 Advanced Income Tax (3). Continued study of the Internal Revenue Code and Regulations with emphasis on the advanced aspects of income; deductions, exclusions and credits, especially as they are related to the tax issues of individuals, corporations, and partnerships. Prerequisite: ACC 302.

ACC 503 Cost Management in the Global Economy (3). A decision-based approach to the study of selected cost management topics that enable managers to compete globally. Topics include strategic cost management, activity-based management, the balance scorecard, quality cost management, capital investment decisions, and inventory management. A business simulation requires the application of cost management information in product costing, planning, control, performance evaluation, and decision making. Prerequisite: ACC 303.

ACC 506 Principles of Auditing and Assurance Services (3). An introduction to internal and external auditing and audit-related services. The nature and purposes of audit, attestation, assurance and compilation services are studied. Other topics include: reporting, professional ethics, sampling, auditing for fraud, audit evidence, engagement planning, materiality and risk assessment, internal control, and operational audits. Prerequisites: ACC 301 and 308.

ACC 507 Professional Issues (1). Study of contemporary issues in accounting. Topics include professional certifications, emerging practices, career preparation, and professional development. Restricted to accounting area students. Graded pass/fail. Prerequisite: ACC 301.

ACC 509 Accounting Theory (3). Designed as a critical examination of relevant AICPA literature, especially Accounting Research Bulletins, Accounting Principles Board's Opinions and Statements, and the Financial Accounting Standards Board's Statements. Contemporary developments are examined in the accounting literature and through reports. Prerequisite: ACC 301.

ACC 586 International Experience in Accounting (3). A short-term study abroad program highlighting selected historical and modern contributions to accounting and business from another country and culture. Course will also meet weekly during the semester. Graded pass/fail. Prerequisite: permission of instructor.

ACC 595 Special Problems (3). Research by students in fields of special interests. Includes project research studies and intensive reading programs, accompanied by conferences with professors in fields involved. Prerequisite: permission of instructor.

ACC 600 Advanced Accounting (3). A comprehensive examination of some of the most complex accounting problems including consolidated financial statements, partnerships, foreign subsidiaries, estates and trusts, and consignment and installment sales. Prerequisite: ACC 301.

ACC 601 Accounting for Governmental and Nonprofit Entities (3). Accounting and reporting principles, standards and procedures applicable to (1) state and local governments, including counties, cities, townships and villages; (2) the federal government; and (3) other not-for-profit institutions such as universities and hospitals. Prerequisite: ACC 300.

ACC 602 Advanced Income Tax (3). Continued study of the Internal Revenue Code and Regulations with emphasis on the advanced aspects of income; deductions, exclusions and credits, especially as they are related to the tax issues of individuals, corporations, and partnerships. Prerequisite: ACC 302.

ACC 603 Cost Management in the Global Economy (3). A decision-based approach to the study of selected cost management topics that enable managers to compete globally. Topics include strategic cost management, activity-based management, the balance scorecard, quality cost management, capital investment decisions, and inventory management. A business simulation requires the application of cost management information in product costing, planning, control, performance evaluation, and decision making. Prerequisite: ACC 303.

ACC 604 Accounting for Decision Making (3). An in-depth study of management accounting techniques and methods needed for effective management of business enterprises. The trade-offs management makes in acquiring and using accounting information for decision-making and control are discussed. Specific topics include cost behavior and estimation, short-term decision making, budgeting, performance evaluation, cost allocation, and product costing. Prerequisite: ACC 201 or ACC 490.

ACC 605 Corporate Governance and Accounting Ethics (3). Course involves a dual study of corporate governance and accounting ethics. The course focuses on corporate governance practices in general, with particular emphasis on: (1) the responsibilities of and relationships among a company's board of directors, management and shareholders; (2) corporate and capital structures; and (3) corporate changes. This course also involves a study of the legal and ethical environment of the accounting profession.

ACC 606 Auditing Theory and Practice (3). Emphasizes independent auditing services that CPAs provide. Engagement planning and documentation, internal control, evidence accumulation for major categories of processes and accounts, reporting, statistical sampling, and audits of computer-based systems are the major topics. Prerequisite: ACC 506 or equivalent.

ACC 608 Accounting Information Technologies (3). Course emphasizes advanced coverage of accounting information systems topics, provides real-world simulation of the use of data extraction and analysis technology for assurance services and fraud detection, and requires individual research projects that result in formal papers and presentations. A significant component of this course includes skill development in the use of CAATs (Computer Assisted Audit Tools and Techniques). Prerequisites: ACC 308 and ACC 506 or equivalent.

ACC 609 Issues in Corporate Financial Reporting (3). An examination of corporate financial reporting issues including the application of accounting techniques and theory under generally accepted accounting principles (GAAP) to financial reports of large companies. In addition to covering traditional financial reporting issues, the course also emphasizes financial reporting issues related to initial public offerings, mergers and acquisitions, environmental contingencies, international accounting standards, and other contemporary topics. Prerequisites: ACC 300 and ACC 301.

ACC 610 International Accounting (3). International accounting examines accounting issues unique to multinational enterprises and international business activity. Specific course topics include International Financial Reporting

Standards (IFRS); auditing the global firm; financial reporting outside the United States; international financial disclosure issues such as segmental, social, and environmental; accounting harmonization; ethics; taxation; foreign exchange; and cultural issues. Prerequisite: ACC 301.

ACC 612 Tax Planning and Research (3). The study of tax research methodology. Emphasis is placed on the sources of tax law and their relationship to tax research. Administrative tax procedures and principles of tax planning as related to tax research are explored and evaluated. Prerequisite: ACC 302 or equivalent.

ACC 644 Graduate Cooperative Education (3). May be repeated to a maximum of six credits. Cannot be used to meet M.B.A., M.P.A., or M.S. degree requirements. Graded pass/fail. Prerequisite: permission of chair.

ACC 695 Special Problems (3). Entails research by graduate students in fields of special interests. Includes specialized research projects and intensive reading assignments that are accompanied by conferences with professors in the fields involved. Prerequisites: 12 hours of graduate credit in business and permission of instructor. May be repeated for a total of 6 credit hours.

ADULT EDUCATION (ADE)

ADE 199 Workshop in Adult Education (1-3). This course covers workshops conducted for paraprofessionals, persons employed by local school districts to visit home-bound adult students. Accumulated workshop credits are not allowed to exceed six credit hours.

ADMINISTRATION AND SUPERVISION (ADM)

ADM 600 Introduction to Educational Leadership (3). This introductory course examines the theoretical concepts and organizational patterns of governance and management of schools within the social and philosophical structure of our culture. Field research project required. Note: Recommended initial course in school administration.

ADM 601 School Leadership Culture (3). This course examines school leader effectiveness from a variety of theoretical and standards-based perspectives, with the role of the school leader in the development of school culture emphasized. Field-experience required. Prerequisite: admission to program.

ADM 602 Socio-Political Dimensions of School Leadership (3). This course provides students with an understanding of the formal and informal socio-political structure within a school-community, as well as strategies for communicating with the public, and collaborating with community stakeholders. A school problem is identified and investigated through collaborative processes. Field experience required. Prerequisite: admission to program.

ADM 611 Schoolwide Instructional Leadership (3). This course is a study of the supervisory functions dealing with curriculum and program evaluation. In addition, analysis and techniques for bringing about program and curricular change resulting in student achievement gains will be stressed. Prerequisite: admission to program.

ADM 612 Development of School Personnel (3). This course focuses candidates on research and best practices as related to formal induction, mentoring, professional development and supervision/evaluation of staff. Skills related to the supervision/evaluation of staff are modeled. Models of instructional leadership and faculty supervision are explored. Approaches to instructional coaching are modeled and evaluation. Prerequisite: admission to program.

ADM 624 School and Community Relations (3). A study of the local community and its relationship to the school program, an analysis of proven communication processes and principles and their use in two-way communication strategies to strengthen the school's resources. Field research project required.

ADM 627 School Law and Finance for Teachers (3). A study of the laws and finance pertaining to the teachers as they work with students, administrators, colleagues, and community interest groups.

ADM 630 Methods of Research (3). A study of procedures used to locate sources of information, organize and interpret collected data, and apply results of published research. Various research methods are studied and used.

ADM 631 Organization and Operation of Schools (3). This course will develop competencies and skills in the allocation of resources and structuring of the organization to improve student learning within the context of best practices and related Kentucky statute and regulation. The principal's role as related to the site-based council policies and processes are emphasized. Prerequisite: Admission to the Program.

ADM 632 Principal Internship I (3). This course will develop competencies and skills in the allocation of resources and structuring of the organization to improve student learning within the context of best practices and related Kentucky statute and regulation. Field experience required. Prerequisite: admission to program.

ADM 644 Survey of Research in Effective Schools (3). A survey of research in the school as it pertains to effective teaching, learning, and leadership.

ADM 645 Educational Resources Management (3). A survey of resources available to a public institution to support the mission of the institution and related programs. This is a general overview of public finance, site-based budgeting techniques, linking of resources to programs based on data and accountability. Identification and reallocation of resources will be tied to the learning mission of the unit. Resources other than financial will be included and special emphasis will be given to human resources including personnel and site-based councils.

ADM 650 Clinical Supervision (3). A study of clinical supervision principles and practices for the aspiring supervisor or principal. Topics include the nature and functions of supervision, strategies for use in supervision and the coaching nature of supervision as well as skills in observing and analyzing along with in-service programs and staff development. Field research project required.

ADM 655 Curriculum and Program Development (3). A study of the supervisory functions dealing with curricular and program evaluation and analysis and techniques for bringing about program and curricular change and improvement within the local school system. Field research project required.

ADM 656 School Improvement Processes for Teachers (3). Course provides educational leaders with an overview of the processes and tools for school improvement, including the standards and indicators of school improvement, professional learning communities, school improvement planning, standards for professional development, and the role of school-based decision-making in school improvement.

ADM 657 Educational Policy and Ethics (3). Course explores policy development at the local, state, and federal levels as related to school improvement, social justice and the ethical dimensions of leadership. Contemporary issues of educational policy and ethics at the local, state, and national levels will be highlighted in the course.

ADM 663 School Law (3). A study of the legal aspects of education. Critical legal content from constitutional law, court decisions, state statutes, state administrative regulations, attorney general opinions, and local school district policies will be covered. Note: Course may be taken as an elective by a person not pursuing an administrative certificate.

ADM 664 School Principal (3). A study of modern administrative theories, processes and techniques applicable to the school, grades P-12. The emphasis is on the principal's role as the instructional leader engaged in needs assessment, collection and use of data, formulation of educational goals, design and implementation of improvement strategies. Field research project required.

ADM 667 Pupil Personnel Accounting (3). The specific procedures in pupil accounting which are the responsibility of the director of pupil personnel. A study of systematized records management including some attention to machine data processing. Field research project required.

ADM 668 Practicum/Seminar in Educational Leadership (3). Managed field practicum experience where the student works with a building principal to

develop depth of experience in areas of responsibility such as scheduling, professional development, school improvement planning, etc. At intervals, students will be convened to share and gain a broader perspective on their experiences. This course is recommended to be taken last, but may be in the last nine hours. Repeatable to six hours of credit.

ADM 669 Seminar in School Administration (3). For advanced graduate students in school administration. Deals with current problems and issues and stresses independent investigation.

ADM 670 Topics in Educational Technology (3). Critical aspects of the management and administration of educational technology will be addressed. Topics covered may include administration and instruction, school and classroom management, networking, distance learning, statistical reporting, pupil scheduling, information retrieval systems, and technology policy issues.

ADM 671 Principal Internship II (3). This course prepares school leaders to engage stakeholders in the strategic dialogue regarding the vision and mission of the organization, and the allocation of resources and decision-making authority accordingly. Field experience required. Prerequisite: Admission to program.

ADM 672 Legal and Ethical Issues in Schools (3). This course addresses critical aspects of the legal system as related to school issues. Ethical dimensions of the role are explored. Prerequisite: Admission to program.

ADM 674 Directed Study in School Administration (1-3). Designed for advanced graduate students who want to do in-depth research on special problems. Requires advanced study and analysis of literature and preparation of substantial research documents. May be repeated for up to six hours of credit.

ADM 675 Introduction to Alternative Education Settings (3). Course serves as an overview to effective teaching and administrative practice in the alternative education settings. Students enrolled in the course must maintain a portfolio of course assignments and documentation of field experiences for evaluation for university credit. Field hours are required.

ADM 677 Crisis Management in Educational Settings (3). The content of this course provides educators with the skills and information to analyze safety data, plan for both school safety interventions and procedures and to manage crises in an educational setting. Field hours are required.

ADM 678 School Safety Assessment (3). Course develops competencies in the assessment of threats to student and faculty safety. Students will utilize research-based resources to assess individual threats due to violence, as well as environmental scans of threats due to poorly planned or maintained facilities. Field experience required.

ADM 679 Current Topics in School Safety (3). Course develops depth of understanding of safety-related issues that impact safety in schools. This is the capstone course for the School Safety Endorsement. Field experience required. Prerequisite: permission of instructor.

ADM 681 Instructional Leadership for Diverse Learners (3). This course addresses issues surrounding the needs of students and families from diverse backgrounds and of diverse abilities. Cultural proficient leadership practices, an understanding developmentally appropriate instructional practices, and school organization as related to students with disabilities and gifted/talented students is addressed. Prerequisite: admission to program.

ADM 682 Principal Internship III (3). This practicum is taken concurrent with ADM 681 and provides students with opportunities to implement and evaluate interventions for diverse learners, as well as support for the completion of the capstone project. Field experience required. Prerequisite: admission to program.

ADM 690 Roles & Functions of the Central Office (3). An in-depth study of the coordination and oversight of the following central office functions: state/federal grant resources, state/federal assessment programs, district technology, and state/federal personnel reporting. Transportation, food service, and facilities maintenance will be addressed more generally. The roles of the instructional supervisor, Director of Pupil Personnel, District Assessment

Coordinator, Director of Special Education and other central office support positions will be emphasized. Prerequisite: admission to program.

ADM 720 Advanced School Personnel Evaluation (3). A study and application of appropriate techniques used to evaluate the act of teaching. All ethical and legal aspects along with a sustained articulation methods, personnel records, and necessary personal skills will be covered. Study will exceed state and local evaluation systems and requirements.

ADM 723 Advanced School Program Evaluation (3). A study and application of appropriate techniques used to evaluate methods, programs, and strategies used in public elementary and secondary education. All legal and ethical aspects along with an accurate assessment of the results of school programs will be covered. Study will include the relationship of goals, objectives, and activities related to the learning outcomes. Extensive data will be collected, organized, analyzed and presented as a measurement of program effectiveness.

ADM 725 Advanced Methods of Quantitative Research in Education (3). A study of quantitative research methods and statistics used in educational studies. Preparation for quantitative research and conducting an abbreviated inquiry, collecting and analyzing data as well as improving professional writing skills are the focus of this class. Prerequisite: ADM 630 or comparable research course.

ADM 730 Advanced Educational Research (3). The knowledge and skill necessary to conduct educational research at an advanced level. Preparation to conduct research at the doctoral level is emphasized. Prerequisite: ADM 630 or equivalent.

ADM 735 Institutional Research, Assessment and Accreditation (3). Course provides an overview of best practices of institutional research. Additionally, students have the opportunity to develop strategies to investigate relevant trends or problems within an institution. Field experience required. Prerequisites: ADM 630.

ADM 739 Roles and Responsibilities of the School Superintendent (3). The role of the school district superintendent is analyzed with reference to job responsibilities of the position, and knowledge, skill, and dispositions necessary to serve successfully in the position. Field experience required.

ADM 745 Trends and Innovations in P-20 Education (3). The purpose of this course is to investigate contemporary issues impacting P-20 education. Current trends and innovations are critical themes for educational leaders to explore. Special topics explored in this course may include globalization, advances in technology and learning, college and career readiness initiatives, workforce development programs and best practices of P-20 initiatives.

ADM 749 School District Management (3). Course focuses on school system operations including financial management and policy, administration of auxiliary services, human resources planning and management, federal and state programs, facilities planning and management, school safety and governance support. Field experience required.

ADM 750 Philanthropy and Community Engagement: Institutional Advancement in Education (3). The purpose of this course is to refine the knowledge, skills, and dispositions needed to plan and execute innovative approaches to advance the educational institution's mission by increasing private and public financial support, promoting awareness of the institution to key publics, and involving constituents in the life of the institution. In this era of declining publicly appropriated funds for education at all levels, the role of outside private funds from alumni, friends, corporations, foundations, and other key community stakeholders is growing and increasingly important. Institutional advancement focuses on attracting and generating private support through the identification, research, cultivation, asking, closing, and stewardship of donors and private gifts.

ADM 755 The Role of Community Partnerships and Outreach in Education (3). The course is designed to equip innovative educational leaders with key strategies for developing partnerships among private and public sector organizations for the purposes of assessing and improving the educational climate and the community as a whole. Students explore strategies that mobilize and leverage community support services and incorporate diverse community

perspectives. Topics include collaborative leadership, coalition development, developing a constituency/partnership, and the role of an educational leader as an advocate.

ADM 759 Instructional Planning in Education (3). Course examines the planning processes used by leaders to direct educational change and instructional improvement. Field experience required.

ADM 760 Executive Leadership (3). Course offers an in-depth examination of factors that contribute to innovative executive leadership practice in a wide variety of educational and organizational settings. Topics in this course include authentic leadership presence, sustainability and leadership, strategic leadership, resiliency strategies and factors of life/work integration. In addition, attention will be placed on common challenges of executive-level leadership.

ADM 779 The Superintendency Capstone (1-3). The roles and responsibilities of the school district superintendent are explored with emphasis on change and instructional improvement. This is the capstone course. Field experience required.

ADM 798 Specialty Study (3). This course is designed to enable the student, with the supervision of his/her graduate faculty committee, to select a problem directly related to the student's area of concentration, survey the research literature, collect and analyze research data and prepare the research paper.

ADM 799 Specialty Study (3). Continuation of ADM 798.

ADM 800 Seminar in Individual Leadership Development (3). Course is designed as a professional leadership development seminar that operationalizes key elements of the doctoral program including program philosophy, signature pedagogy, and expectations of doctoral students. Additionally, the course focuses on individual leadership development and professional growth strategies for educational leaders.

ADM 810 Leadership and Ethics in a Diverse Society (3). The moral and ethical dimensions of leadership and diversity are the focus of this course. This course is designed to prepare educational leaders to meet the challenges of diversity and rapid societal change within P-20 organizations and learning communities. Techniques, tools and strategies that support ethical leadership and decision-making in the context of P-20 organizations will be examined.

ADM 820 Foundations of P-20 Education (3). Course examines the P-20 reform movement from a historical, philosophical, social, and economic perspective with emphasis on the practical manifestations in the current policy environment.

ADM 830 Development of P-20 Learners (3). Course examines the characteristics and needs of today's learners from early childhood to adulthood and the congruence of the current instructional systems and strategies in meeting learners' needs. The similarity of current and emerging practices at all levels of P-20 education will be examined from a developmental perspective.

ADM 900 Clinical Practice I: P-20 Leadership (3). This clinical experience offers intensive, field-based experiences for P-20 and community leaders. Students become immersed in the field of leadership practice where they have the opportunity to study effective leadership practices first-hand, be mentored by exceptional practitioners, and practice field-based problem solving. Students develop leadership abilities, administrative competencies and executive-level management skills. Field experience required. Prerequisite: permission of instructor.

ADM 910 Clinical Practice II: P-20 Learner (3). Course applies teaching and learning theories to practice through the design and alignment of learning outcomes, assessments, and teaching methods at the college level. The clinical instructional experience provides P-20 educational and community leaders an opportunity to explore issues related to P-20 instructions. Field experience required. Prerequisite: permission of instructor.

ADM 920 Dissertation Seminar I (3). Course is designed to familiarize students with the academic expectations and requirements for the doctoral dissertation, improve inquiry skills, and make significant progress toward successful completion of the dissertation. This course may be repeated for a total of six hours. Graded pass/fail. Prerequisite: candidacy status in the Ed.D. Program.

ADM 930 Dissertation Seminar II (3). The emphasis of this course is to develop and implement the methodology section of the dissertation. Students will conduct the study as outlined in the method and analyze collected data. This course may be repeated for a total of nine hours. Graded pass/fail. Prerequisite: ADM 920.

ADM 940 Dissertation Seminar III (1-3). The emphasis of this course is to develop the discussion and conclusion section of the dissertation. Students will complete a written manuscript and engage in an oral defense of the completed dissertation. This course may be repeated for a total of nine (9) hours. Graded pass/fail. Prerequisite: ADM 930.

AGRICULTURAL EDUCATION (AED)

AED 104 Ag Education, Leadership and Life Knowledge (3). An elective course for high school students interested in pursuing a career in agriculture education which will serve as a bridge class between high school and collegiate level teacher education courses. The course will include an exploration of the professional qualities and expectations of the teacher/educator. Roles, responsibilities, and challenges in the field of education, leadership, and Life Knowledge will be examined. Course will include a minimum of four full classroom observations for field experience. Prerequisite: permission of instructor.

AED 250 Special Problems in Agricultural Education (0). Individual study and projects in agricultural education requiring up to 25 hours of clinical and field experience. Graded pass/fail. Repeatable. Prerequisite: permission of instructor.

AED 380 Agricultural Education, Extension and Leadership (3). Essential aspects and fundamentals of career preparation, entry, adjustment and advancement in agricultural education, extension, and youth leadership careers. Prerequisite: Six prior credit hours in agriculture or permission of instructor.

AED 421 Student Teaching in Agricultural Education (8). The student teaches in a center selected by the university agricultural education staff and approved by the Kentucky Department of Education. Graded pass/fail. (Spring)

AED 501 Methods in Teaching Agricultural Education (3-6). Philosophy and objectives of teaching agricultural education in a comprehensive program. Course concepts include preparing and delivering lesson plans that involve problem-solving method, lecturing, and laboratory based modules. Additional methods include instruction in supervising occupational experience programs and coordinating FFA programs. Learning theory, multicultural education and education of the exceptional child are also included. Field and clinical experiences are also employed. May be repeated for a maximum of six hours credit. Prerequisite: AED 380.

AED 582 Supervision in Agricultural Education (3). Application of principles and techniques of supervising individuals and groups in the field of agricultural education. (With sufficient demand)

AED 593 Practicum in Agricultural Education, Extension, and Public Service Leadership (3). Comprehensive course including topics of instructional and operational methods for the discipline, extension field tours and mentoring experiences, supervised visits in an educational or public service setting or agency, and completion of practicum/professional clinical hours. Prerequisite: AED 380 or six hours of discipline specific courses within agriculture.

AED 601 Methods in Teaching Agricultural Education (3-6). Philosophy and objectives of teaching agricultural education in a comprehensive program. Course concepts include preparing and delivering lesson plans that involve problem-solving method, lecturing, and laboratory based modules. Additional methods include instruction in supervising occupational experience programs and coordinating FFA programs. Learning theory, multicultural education and education of the exceptional child are also included. Field and clinical experiences are also employed. May be repeated for a maximum of six hours credit. Prerequisite: AED 380.

AED 680 Research in Agricultural Education (3). Advanced individual problems of special interest in the field of agricultural education. May be repeated once for a maximum of six hours. (Fall, Spring or Summer)

AED 681 Supervising Student Teachers in Agricultural Education (3). Competencies needed by the local supervising teacher to develop effective techniques of working with student teachers in agricultural education. Orientation, communication, supervising and evaluating student teachers. (With sufficient demand.)

AED 682 Instructional Design for Agricultural Education (3). Developing and using four-year course of study for high school students in agricultural education. Includes gathering and interpreting local data as a basis for course building. (With sufficient demand.)

AED 683 Instructional Material in Agricultural Education (3). Selecting, procuring, developing and using instructional materials in the field of agricultural education. (With sufficient demand.)

AED 684 Beginning Teacher Workshop (1-2). Problems of beginning teachers of agriculture relevant to planning, developing, implementing and evaluating local instructional programs. May be repeated for a total of three credits. (Fall)

AED 685 Teaching Adults in Agriculture (3). Teaching and learning in formal and non-formal instructional programs for adult learners. Emphasis will be placed on teaching and training methods appropriate for use in agribusiness and industry, the Agricultural Extension System, and other non-youth education programs.

AED 686 Administration and Supervision in Agricultural Education (3). Principles of administration and supervision. Organizational structure of the various levels, including the state plan. Primarily for agriculture teachers, supervisors, counselors and school administrators. (With sufficient demand.)

AED 687 Teaching Agricultural Mechanics (3). Role of agricultural mechanics in the vocational agriculture curriculum. Course building, selecting, procuring, developing and using instructional aids in teaching agricultural mechanics with emphasis on demonstrating use of such materials. Building and equipment needs. (With sufficient demand.)

AED 688 Modern Problems in Agricultural Education (3). Classwork, not individual problem work, on modern problems in the field of agricultural education common to the group of students enrolled. May be repeated for a maximum of six credits. (With sufficient demand.)

AED 693 Practicum in Agricultural Education, Extension and Public Service Leadership (1-3). Individual problems in areas of special interest in the field of agricultural education. May be repeated up to six hours. (Fall, Spring or Summer)

AED 735 Qualitative Inquiry in Agricultural Education (3). An examination into the qualitative research methods genre as related to agricultural education. Students will develop skills and abilities related to case study, phenomenology, and other methods as a means to critically analyze and apply qualitative scholarly publications and methods. Prerequisite: must be admitted to the MS in Agriculture/Agricultural Education Concentration.

AED 791 Instructing Out-of-School Groups (3). Philosophy of vocational education for out-of-school youth and adults in agricultural occupations. Application of principles and techniques for organizing, conducting and evaluating instructional programs. Field-clinical experiences. (Spring)

AED 900 Trends and Advocacy in Agricultural Leadership (3). As a means to support sustainability in agricultural education, this course will engage students in the local, state, and national governmental structures, networking, legislative guidelines, and processing for testifying. Further focus will be placed on communicating the outcomes of an agricultural education program in an effective manner to community, administrative, and parental stakeholders. Prerequisite: admission to the agricultural education doctoral program.

AED 910 Agricultural Education Stewardship in Practice (3). An examination of the processes required to understand community needs, garnering a shared vision, program planning, and creating a preferred future for agricultural education on the local and state levels. Theories of stewardship and sustainability will be explored and placed into practice.

AED 920 Seminar in Agricultural Education Leadership (3). Students enrolled in this course will analyze and make application of concepts related to leadership theory in agricultural environment. This course will focus on key characteristics and elements of leadership.

AED 930 Training and Presentation Development Strategies for Agricultural Audiences (3). Students will develop skills in organizing and offering agricultural employee training and professional development for others. Emphasis will be placed on training, teaching, and demonstrating technical agricultural content.

AED 940 Agricultural Education Supervision in Practice (3). This course will provide students experiences in supervising preservice and new professionals as an onsite supervising teacher using practices grounded in the cognitive coaching model of theory, rehearsal, modeling, and feedback.

AGRICULTURE

(AGR)

AGR 100T Transitions (1). Course is designed to assist students in their transition to Murray State University. Content includes orientation to the specific area or major(s) and minor(s) within the academic program; university procedures, policies, and resources; strategies for personal and academic success, and extracurricular opportunities. Only one transitions course will count toward graduation. Course is required of all entering freshmen. Graded pass/fail. (Fall)

AGR 100 Animal Science (3). This is a basic course in animal science including the importance and place of livestock in agriculture; types, market classes and grades of beef, sheep, poultry and swine; origin and characteristics of breeds; and the judging of beef, sheep and swine.

AGR 101 Basic Stock Seat Horsemanship (3). Designed for students with previous experience in the handling and riding of horses. Includes instruction in grooming, saddling, bridling and mounting, and the development of basic riding skills at the walk, trot and canter. Prerequisite: permission of instructor.

AGR 102 Beginning Equitation I (0). Designed for beginner riders in their first year and for riders that are considered safe to ride an unfamiliar horse in a group at a canter. Heavy emphasis is placed on developing a competent rider with proper hunt seat equitation skills. Weekend participation in Intercollegiate Horse Show Association horse shows is mandatory. Participation in weekend riding clinics is required. Graded pass/fail. May be repeated as many times as taken. Prerequisite: permission of instructor.

AGR 103 Intermediate Hunt Seat Equitation (1). Designed for intermediate riders in their first or second year of riding and for riders that are considered safe to ride an unfamiliar horse in a group at a canter. A higher degree of proficiency at the walk, sitting trot, posting trot, two point, and canter is required more than in AGR 102. Emphasis is placed on learning suppling exercises for horse and rider in addition to developing a competent rider with proper hunt seat equitation skills. Weekend participation in Intercollegiate Horse Show Association horse shows is mandatory. Participation in weekend riding clinics is required. May be repeated for a maximum of three hours. Prerequisites: permission of instructor.

AGR 104 Advanced Hunt Seat Equitation (1). Designed for advanced riders that are considered safe to ride an unfamiliar horse in a group at a canter and gallop. A higher degree of proficiency at the walk, sitting trot, posting trot, two point, center and gallop is required more than in AGR 103. Emphasis is placed on the correct application of riders natural aids, suppling of the horse, collection and riding on the bit. To develop competent riders with professional equitation skills. Weekend participation in Intercollegiate Horse Show Association horse shows is mandatory. Participation in weekend riding clinics is required. Prerequisites: AGR 103 and permission of instructor. May be repeated for a maximum of three hours.

AGR 105 Introduction to Rodeo (2). An introduction to rodeo designed to develop a better understanding of the events and rules of the sport through lectures, demonstrations, rodeo films, and hands-on practice. The course will include instructions in equipment care and preparation and mental and physical training using weights, calisthenics, etc. May be repeated once for additional credit.

AGR 106 Beginning Equitation II (0). Designed for beginner riders in their first or second year of riding and for riders that are considered safe to ride an unfamiliar horse in a group at a lope. Emphasis is placed on developing a competent well-rounded stock seat rider with proper stock seat equitation skills. Weekend participation in Intercollegiate Horse Show Association horse shows is mandatory. Participation in weekend riding clinics is required. Graded pass/fail. May be repeated as many times as taken. Prerequisite: permission of instructor.

AGR 107 Intermediate Stock Seat Equitation (1). Designed for the intermediate rider in their first or second year of riding and for riders that are considered safe to ride an unfamiliar horse in a group at a canter. A higher degree of proficiency at the walk, jog or lope is required more than in AGR 106. Emphasis is placed on learning suppling exercises for horse and rider in addition to developing a competent rider with proper stock seat equitation skills. Weekend participation in Intercollegiate Horse Show Association horse shows is mandatory. Participation in weekend riding clinics is required. Prerequisite: permission of instructor. May be repeated for a maximum of three hours.

AGR 108 Advanced Stock Seat Equitation (1). Designed for the advanced rider that is considered safe to ride an unfamiliar horse in a group at a lope. A higher degree of proficiency at the walk, jog, and lope is required more than in AGR 107. Emphasis is placed on the correct application of the riders natural aids, suppling of the horse, collection, and riding on the bit. In addition to developing a competent stock seat equitation rider. Weekend participation in Intercollegiate Horse Show Association horse shows is mandatory. Participation in weekend riding clinics is required. Prerequisites: AGR 107 and permission of instructor. May be repeated for a maximum of three hours.

AGR 109 Beginning Horsemanship Experience (3). Designed for students with no previous riding or horse-handling experience. Prepares student for recreational horsemanship activities and for potential enrollment in Basic Horsemanship. Includes instruction in catching, haltering, grooming, saddling, and riding at the walk and trot.

AGR 110 Livestock Event Production and Venue Management (2). An introductory class designed to help individuals develop an understanding of the procedures and requirements involved with the production of a livestock related event, both sporting and show. The course will include instruction in contracts, budgets, advertising, liability requirements, arena setup, labor requirements, equipment needs, event production, etc.

AGR 111 Basic Forward Seat Equitation (3). Designed for students with previous experience in the handling and riding of horses. Includes instruction in grooming, saddling, bridling, mounting, and the development of basic riding skills at the walk, trot, and canter. Must have previous horse handling and riding experience. Prerequisite: permission of instructor.

AGR 130 Agricultural Economics (3). A study of fundamental principles of economics as applied to agriculture. Attention is given to resource use, economic growth, production fundamentals, economic institutions and agriculture in relation to national and world economics.

AGR 133 Field Applications for Agriculture (2). Course will teach students methods of solving many application problems that will be encountered in the field of agriculture using applied mathematical and logic skills. The emphasis will be to use practical mathematical skills already acquired from secondary education to address agricultural situations involving computations that are necessary for upper level courses in agriculture. Some knowledge of agricultural situations may be required. Possible field trips to the university farms during class time. Prerequisite: Declared area or major in agriculture or permission of instructor.

AGR 160 Horticultural Science (3). A study of the practical principles and practices used in horticulture.

AGR 170 Introduction to Agricultural Systems Technology (3). An introduction to agricultural systems including: power and machinery, electricity, precision agriculture, soil and water engineering, metallurgy and fabrication, and safety. Emphasis is placed on understanding the technology involved in operating, maintaining, and managing these systems.

AGR 180 Skill Development in Horticulture (3). Course will document that students can demonstrate the competencies and skill necessary for occupations in the landscaping industry, turf and lawn management, nursery management, and/or vegetable and flower production areas. Credit will be by challenge exam only according to university policy and will be granted upon successful completion of the state horticulture skills standards test and completion of a career major in horticulture at the secondary school level.

AGR 181 Skill Development in Agriculture Production and Agribusiness (3). Course will document that students can demonstrate the competencies and skill necessary for occupations in production agriculture and agribusiness. Emphasis will be placed on the development of scientific knowledge and skills pertaining to management of agribusinesses, farms, and cooperatives, and/or of the land and its effect on food and fiber production. Credit will be by challenge examination only according to university policy and will be granted upon successful completion of the State Agriculture Production Skills standards test and completion of a career major in horticulture, and/or successful completion of the State Agriculture Production Skills standards test and completion of a Career Pathway in that area at the secondary school level. May be repeated for a maximum of six credit hours.

AGR 182 Introduction to Veterinary Science (3). Course examines basic principles of veterinary science, including breeds, biology, veterinary tools parasitology, office management, animal control, and basic clinical exam techniques for large and small animals. The purpose of this course is to provide upper classmen agricultural education students, at the high school level, with an introduction to the basic principles of veterinary science. This requires students to understand the biology of both large and small breeds of animals, as well as specifics related to the area of veterinary medicine. This class will build a foundation for those high school students interested in the area of veterinary science while serving as a dual credit course to gain elective credit through Murray State University.

AGR 190 Basic Spanish and Culture for Agriculture (3). Introductory Spanish course with an emphasis on agricultural terminology designed for basic communication in Spanish between agricultural employers and their Spanish-speaking employees. It includes a study of Hispanic culture and the contribution of migrant workers to the U.S. agricultural industry. Students may not receive credit for both this course and SPA 105 or 106. (Same as SPA 106.)

AGR 199 Contemporary Issues in Agriculture (3). A course designed to increase the understanding, awareness, and critical analysis of contemporary agricultural issues and their effect upon the social, political, economic and cultural aspects of society. Topics will include environmental, bio-technology, animal, crop, career, economy and trade, agricultural policy, food quality/safety and international agriculture issues.

AGR 200 International Agriculture Experience (3). A course designed to enhance students' understanding of international agriculture and how it relates to the overall impact on world food processing and production through travel/study abroad. An emphasis is placed on experiences which have the potential to impact and add value to American/Kentucky agriculture, as well as those which hold key relationships to U.S. based agricultural trade and food development. Prerequisites: AGR 130 and at least one subject specific agriculture technical course.

AGR 201 Intermediate Horsemanship (3). Designed for students with previous experience in the handling of horses. Deals with instruction in hunt seat and stock seat with emphasis placed on bareback equitation skills. Prerequisites: AGR 101 or 111, and permission of instructor.

AGR 223 Introduction to Artificial Insemination for Cattle (3). The primary objective of this course is to instruct students in artificial insemination in cattle. Topics will include reproductive system, herd health and nutrition, semen handling, and estrus detection and synchronization.

AGR 240 Crop Science (3). A study of the fundamental principles underlying the production of agricultural crops. Lecture, two hours; laboratory, two hours per week.

AGR 247 Tobacco Production (3). An agriculture course designed for students who desire to expand their knowledge of tobacco production. Students will be introduced to the practical aspects of tobacco production in the Kentucky tobacco types.

AGR 261 General Pomology (3). General principles and practices involved in handling home and commercial planting of the major fruit crops.

AGR 262 Vegetable Crop Production (3). A study of the fundamental principles underlying commercial and home garden production of vegetables. (Spring, odd years)

AGR 263 Woody Plant Materials I (2). The identification and use of woody deciduous plant materials in the landscape.

AGR 269 Introduction to Forestry (3). A general introduction to the many aspects of forestry including dendrology, silvics, silviculture, and wood utilization. Some emphasis will be placed on the management of forest lands for recreation and wildlife purposes.

AGR 300 Principles of Animal Nutrition (3). A study of digestion, absorption and utilization of nutrients, characteristics of feedstuffs, nutritional disorders and nutrient requirements of animals. Prerequisite: AGR 100.

AGR 301 Livestock Judging and Evaluation (3). A study of types of purebred and commercial beef cattle, sheep and swine, both market and breeding classes. Special emphasis is placed on writing and giving oral reports. Prerequisite: AGR 100. (Fall)

AGR 302 Horse Science (3). Involves a study of the role of the light horse and the development of an equine vocabulary. Topics covered include the basic nutritional, housing and health requirements of the light horse. (Fall)

AGR 303 Advanced Horse Science (3). Deals with various topics of interest to the horseman including psychology, evaluation, anatomy and health care. Prerequisite: AGR 302. (Spring)

AGR 304 Advanced Stock Seat (3). This course is concerned with basic training techniques and the development of equitation skills using the western seat. Prerequisites: AGR 201 and permission of instructor. (Fall)

AGR 306 Advanced Forward Seat (3). This course presents equitation skills and techniques utilizing the forward seat. Included in the course are hunt seat, show seat, and other methods of English style equitation. Principles of schooling the jumping horses are emphasized. Prerequisites: AGR 201 and permission of instructor. (Spring)

AGR 308 Applied Equine Management (3). Practical application of management principles involving health, nutrition, grooming, and training of horses. Prerequisite: permission of instructor.

AGR 309 Equine Facility Management (3). A course designed for the equine student to study the economics and business related aspects of facility management. Students will be taught the value of short and long term planning and the decision making process that is involved in the operation of a commercial equine facility. Some weekend attendance will be required.

AGR 310 Applications in Animal Technology (3). The study of animal technology involving management, nutrition and health of small and large animal species. Lecture, two hours; laboratory, two hours. Pre- or corequisite: AGR 100.

AGR 311 Beef Science (3). A study of the history and importance of the beef cattle industry; phases of beef production, selection, breeding, feeding, and management of beef cattle. Lecture, two hours; laboratory, two hours. Prerequisites: AGR 100. (Spring)

AGR 312 Dairy Science (3). A study of dairy breeds, calf raising, herd replacements, milk production, nutrition and management of dairy herds. Prerequisite: AGR 100 and 300. (Spring)

AGR 313 Livestock Production Management Systems (3). Study of production management, nutrition, and breeding of farm animals. Will include on-the-farm training with livestock. Prerequisite: AGR 100.

AGR 314 Small Ruminant Science (3). A study of the history and importance of the goat and sheep industries, with emphasis on meat goat production; phases of production, selection, breeding, feeding, and management of goats and sheep will be covered. Prerequisite: AGR 100.

AGR 315 Equine Exercise Physiology (3). The study of conditioning of the equine athlete using the basic principles of exercise physiology, energetics, kinetics, and sports medicine. Emphasis on equine anatomical and physiological adaptations to exercise, assessment of physical fitness and conditioning in horses, nutrition and feeding requirements of working animals, moral and ethical considerations related to equine performance, and evaluation of common ailments and current therapies used in equine sports medicine. Prerequisite: AGR 303 and/or permission of instructor.

AGR 316 Dairy Cattle Selection and Evaluation (3). Origin, characteristics and developments of major breeds of dairy cattle. Improvement programs. Apply the principles involved in herd improvement to the selection of breeding animals for dairy herds. Fundamental aspects of evaluation of dairy cattle. Comparative terminology, decision-making and presentation of oral reasons. Lecture, two hours; laboratory, two hours. Prerequisite: AGR 100. (Fall)

AGR 317 Equine Health Care and Management (3). An in-depth study of the health and soundness of a horse and its relationship to growth, performance, and reproduction with emphasis on development of a horse health program. Emphasis on evaluation of health status for various ages and classes of horses, assessment of treatment options for common equine ailments, development of proficiency in practical techniques related to horse health care, and application of critical thinking to ethical issues related to equine care. Prerequisite: AGR 303 and/or instructor permission.

AGR 318 Equine Forage Management (3). A study of forage systems designed specifically for equine.

AGR 319 Equine Nutrition and Feeding (3). Course focuses on the study of anatomy and physiology of the gastro-intestinal system and its role in digestion and utilization of feeds, with particular emphasis on the horse. Students will develop rations to feed various classes of horses and address the relationship of nutrition and health. Prerequisite: AGR 303 or permission of instructor.

AGR 320 Livestock Behavioral Analysis (3). A study of species specific to livestock handling techniques based upon proven techniques, methods and livestock behavioral patterns. This class will include on the farm training with livestock. Prerequisite: AGR 100.

AGR 321 Poultry Science (3). An introductory study of the various phases of poultry production, diagnosis and treatment of diseases, nutrition, processing and management practices for commercial poultry operations. Prerequisite: AGR 100. (Spring)

AGR 322 Introductory Veterinary Laboratory I (4). An introductory course to the veterinary laboratory for the veterinary technologist. This course is designed to introduce the veterinary technology student to basic concepts, theories, and techniques of veterinary clinical pathology laboratory. Laboratory safety, microscopy, specimen collection, diagnostic analysis, laboratory instrumentation and techniques are taught for development of proficient laboratory skills. Three one-hour lectures; one two-hour laboratory. Prerequisite: AGR 310 with a minimum grade of C.

AGR 324 Veterinary Diagnostic Imaging (3). Students will be exposed to learning appropriate diagnostic imaging skills needed in the field of veterinary technology. Students will learn handling and restraint techniques of small and large animals, as it relates to diagnostic imaging in areas of radiology, ultrasonography, and endoscopy. Students will also learn utilization of radiographic equipment, safety measures, equipment maintenance, along with proper positioning and exposures with small and large animals. Each week there will be two 1-hour lectures and one 2-hour lab. Prerequisite: AGR 310 and 322 with a minimum grade of C.

AGR 325 Small Animal Science (3). A study of the history and importance of the small and exotic animal industry; breeds, selection and management are topics which will be covered; Prerequisite: AGR 310 and a minimum grade of C.

AGR 326 Swine Science (3). Basic principles and their application in pork production — breeding, selection, nutrition, housing, equipment and economic management. Lecture, two hours; laboratory, two hours. Prerequisite: AGR 100. (Fall)

AGR 328 Statistics for Food and Agriculture (3). A course designed to enhance the quantitative skills of agriculture students. Techniques include descriptive statistics, probability, analysis of variance, and regression analysis. Discussion, examination and use of these techniques will cover and be limited to agriculturally related topics.

AGR 329 Introductory Veterinary Laboratory II (3). A course designed to advance the knowledge of the veterinary technology student to laboratory diagnostic techniques and procedures. This course will provide an emphasis in common procedures conducted in both a veterinary practice, as well as in a veterinary diagnostic laboratory. This course will provide the student with both lecture and hands-on exposure to areas of veterinary microbiology, parasitology, and cytology. Prerequisites: AGR 310 with a minimum grade of C.

AGR 330 Principles of Agribusiness Management (3). The organization of agribusiness, its development in local communities, and the roles played by farmers, farm suppliers, processors, wholesalers, retailers, consumers and government. Analysis of the job opportunities in agribusiness. Prerequisite: AGR 130 or ECO 231. (Spring)

AGR 331 Small Animal Diseases (3). A study of the more common and important diseases of dogs and cats. The clinical signs, life cycles of pathogenic organisms, progression of symptoms and control of the diseases will be discussed. Prerequisite: AGR 310 with a minimum grade of C.

AGR 332 Veterinary Nursing (3). Course designed to teach veterinary technology students the essentials of clinical animal nursing as it relates to the appropriate theories, practices, procedures, and skill development utilized in veterinary medicine. Two one-hour lectures; one two-hour laboratory. Throughout the semester, mandatory outside skill building assignments/activities will also be required, resulting in additional time required outside of class/laboratory. Prerequisites: AGR 310 and 322 with a minimum grade of C.

AGR 333 Agribusiness Records and Analysis (3). Fundamental principles necessary to keep farm and agribusiness firm accounts and to analyze these accounts for profitability. Budgeting, amortization, depreciation and the application of microcomputer technology to the management and financial control of the agribusiness firm. (Fall)

AGR 334 Entrepreneurship in Agribusiness (3). A study of fundamental principles of entrepreneurship as applied to agribusinesses. Attention is given to entrepreneurial creativity, business plans, marketing, accounting and finance, and management practices and strategies in small businesses. Prerequisite: AGR 130.

AGR 335 Farm Systems Management (3). This course focuses on the business aspects of production agriculture. Emphasis is on balance sheet and income statement analysis, capital and credit use, enterprise, partial and whole farm budgeting, and investment analysis. Economic principles and cost concepts as they relate to agriculture are also discussed. The student will learn to apply these tools to develop a farm management plan.

AGR 336 Agricultural Commodity Marketing (3). A study of the nature of food and fiber consumption and demand, production and supply of farm products, marketing margins and price determination for specific agricultural commodities. Prerequisite: AGR 130 or ECO 231. (Fall, odd years)

AGR 337 Agricultural Sales and Merchandising (3). A course designed to enhance the students' abilities to sell agriculturally related products. An emphasis is placed on agricultural customer and market knowledge and the skills required satisfying customer needs. Students are required to contact and spend time with agricultural sales professionals.

AGR 338 Rural Economic Development (3). An examination of the basic principles underlying the economic development of rural areas. The impact and role of agricultural and community organizations and their influence on the rural economy will be studied. Each student will make a special socioeconomic study of his/her community including a resource inventory and plan for economic development. (Summer, with sufficient demand)

AGR 339 Computer Applications for Agriculture (3). A course designed to develop an understanding and practical knowledge of the use of computers with respect to their application to problem-solving within agriculture. Students will receive hands-on experience in applying a variety of agriculture specific software to problems in agriculture and agricultural business management.

AGR 340 Veterinary Laboratory Sciences (3). This course is divided into four sections: veterinary science, toxicology, necropsy and laboratory animal science. Course is designed to acquaint the student with basic pharmacology and toxicology, submission of tissue samples to diagnostic laboratories, necropsy techniques and common practices associated with laboratory animals. Prerequisites: AGR 310, 322, 332 and eight hours of chemistry with a minimum grade of C in all prerequisite courses.

AGR 341 Seed Production and Technology (3). Special emphasis is given to the production and processing of seed, evaluation and testing for quality, and the study of viability during storage. (Spring)

AGR 342 Seed, Crop and Grain Analysis (3). Skills related to the evaluation of crops for quality relative to certification, viability, and marketing will be taught. The subjects that will be taught include seed analysis, plant and seed identification and grain grading. Prerequisite: AGR 240.

AGR 345 Soil Science (3). A general study of soil properties including classification development, use of fertilizers, and conservation. Corequisite: AGR 346.

AGR 346 Soil Science Laboratory (1). Consists of a number of lab exercises that support the course material in AGR 345. Corequisite: AGR 345.

AGR 350 Soil Survey (3). Principles of soils origin and classification including field mapping. Lecture, two hours; laboratory, two hours. Prerequisite: AGR 345. (Spring)

AGR 353 World Food, Agriculture, and Society (3). Course will provide students with a basic understanding of various world agriculture systems that provide food. Analysis of the role of society, historical, environmental, technological, socio-economic, and political factors that affect world food will be addressed. The course will also include topics on the evolution of agriculture, technology and food trends over the world as it has been shaped by society, culture, and world population growth. Specific issues on food poverty and malnutrition in developing countries, culture and food habits, climate changes impacting agriculture productions, and other constraints to world food production will be covered.

AGR 355 Soil Judging (0-2). Emphasis on recognition, description and classification of soil horizons in a soil profile and then placing this soil in the U.S. Classification System. This course is designed for those interested in conservation and teaching careers. May be repeated for a maximum of six credits. (Fall)

AGR 360 Greenhouse Production and Management (3). A study of producing plants under transparency. Includes greenhouse management problems; heating, cooling, and humidity control; also cultural practices of several different crops. Lecture, two hours; laboratory, two hours. Pre- or corequisite: AGR 160.

AGR 361 Horticulture and Greenhouse Management Practicum (3). A hands-on work study course that allows for the management and maintenance of all university greenhouse and horticultural components. Prerequisites: AGR 360 and permission of instructor.

AGR 362 Floral Design (3). Operation and management of a retail florist establishment with emphasis on floral design.

AGR 363 Woody Plant Materials II (2). The identification and use of woody evergreen plant materials in the landscape.

AGR 364 Nursery Management (3). A study of establishing and managing a nursery practice including field grown container stock, wholesale and retail nursery business practices, and employee management practices. Prerequisite: AGR 160.

AGR 365 Herbaceous Plant Materials (2). A study of characteristics, requirements, and potential uses of herbaceous ornamental plants in the landscape.

AGR 366 Horticultural Judging (1). An emphasis on woody and herbaceous plant morphology, fruit, vegetable, floral and production landscape plant judging. Course geared toward horticultural competitions and training agricultural education majors for FFA competitions. May be repeated for a maximum of two credits. Field trips will be required. Prerequisite: AGR 160 or concurrent enrollment or permission of instructor.

AGR 367 Residential Landscape Design (3). The application of principles of design to landscaping the home grounds. The identification, use and maintenance of ornamental plants and lawn grasses. Special attention will be given to the use of native plants for home beautification. Lecture, two hours; laboratory, two hours; field trips. Prerequisites: AGR 263 and 363. (Spring)

AGR 368 Landscape Construction (3). Understanding the process of landscape construction from initial planning stages to the actual installation of structures utilized within a landscape design.

AGR 371 Agricultural Buildings and Construction (3). Introduction to technical design, selection of materials, and modern construction techniques used in the agriculture industry. Emphasis on concrete and erection of pole frame and steel buildings.

AGR 372 Agricultural Metal Processes (3). Basic theories involving metallurgy and the metal working processes. Includes SMAW, GMAW, brazing, OA welding and cutting, and plasma arc process. Skill development emphasized. (Spring)

AGR 373 Animals in Disaster (2). This course is two fold. Module A is intended to increase awareness and preparedness among animal owners and care providers. Module B is intended to guide emergency management officials and animal owners, care providers, and industries in preparing community disaster plans. (Fall and Spring)

AGR 374 Livestock in Disaster (2). Course is designed to increase your awareness of what livestock producers, emergency managers, veterinarians, extension agents, and others can do to prevent and reduce the consequences of disasters. (Fall and Spring)

AGR 375 Animal Emergency Preparedness (3). Course focuses on educating animal owners, care providers, and participants in the companion and large animal industry on emergency and disaster planning, the incident management system utilized during emergency situations, and to assist those same groups in working with emergency management officials to develop community disaster plans.

AGR 376 Agricultural Chemicals (3). This course deals with the major weeds and insects, which attack field crops and stored grain and the associated herbicides and insecticides. An understanding is developed of how and why herbicides function.

AGR 377 Agriculture Safety (3). Study of the hazards, methods of injury prevention, safety education, regulations and advancing safety and health in the agriculture industry.

AGR 378 Agricultural Environmental Management Systems (3). Study of animal waste, pesticide, and nutrient management practices in agriculture to reduce and control soil and water pollution and comply with Federal and state regulations.

AGR 379 Field Equipment Technology Management (3). Course designed to develop a solid foundation of knowledge that can be used to make efficient field equipment technology management decisions and to help keep a farm enterprise competitive.

AGR 399 Professional Development Seminar I (1). Seminar for agriculture students focusing on the job search process, employment opportunities, and related problems. Recommended for students in the junior or senior year. Graded course.

AGR 400 Veterinary Microbiology (5). Orientation to the veterinary diagnostic laboratory environment, including familiarization with basic techniques in veterinary bacteriology and mycology, veterinary virology, and clinical serology and immunology. Lecture two hours; laboratory, six hours. Prerequisites: AGR 310, 322, 332, and eight hours of chemistry with a minimum grade of C in all prerequisite courses.

AGR 401 Equine Breeding and Management (3). A comprehensive study of the reproductive anatomy and physiology of the stallion and brood mare, as well as the care of the foal from birth to weaning. Special attention is given to current management concepts prevalent in the equine industry today. Prerequisite: AGR 302. (Spring)

AGR 402 Advanced Livestock Judging (3). Provides the student with guidelines for evaluation and selection procedures as applied to breeding and market swine, beef cattle and sheep. Special emphasis is placed on training students for livestock judging team. May be repeated for a maximum of six credits.

AGR 403 Equine Reproduction (3). A comprehensive study of the reproductive anatomy and physiology of the stallion and brood mare, as well as the care of the foal from birth to weaning. Special attention is given to current management concepts prevalent in the equine industry today. Prerequisite: AGR 302.

AGR 404 Selective Equine Breeding (3). Study of the hereditary traits in horses, breeding design, performance and progeny testing, marketing, and herd analysis.

AGR 405 Equine Behavior Modification (3). Fundamental methods of breaking and training the young horse. All students are assigned a horse for application of techniques. Prerequisites: permission of instructor. (Spring)

AGR 407 Equine Selection and Evaluation (3). Basic study of selection and evaluation of horses for various uses, including halter and performance. Prerequisite: AGR 302. (Fall)

AGR 408 Equine Wilderness Studies (3). Students will given a broader awareness of the opportunities offered in parks and wilderness areas throughout the United States. Students must be experienced in riding and handling of horses. Students will receive basic instruction concerning the Federal Wilderness Act, its origin and purpose, and various wilderness areas in the United States, their rules and regulations. Students will also study a specific wildness area, its history, flora and fauna, and related items of interest for that particular area. Students will receive instruction in knot tying, packing, and handling a pack string, Dutch oven cooking, and other necessary skills required while working for an outfitter. Classroom instruction will be followed by a working pack trip immediately after finals week in a wilderness area such as the Gila Wilderness Area. While on the pack trip students will be required to keep a journal as part of their grade. Prerequisite: permission of instructor.

AGR 410 Advanced Veterinary Hematology (4). Concepts of hematopoiesis and the effect of disease on blood cells will be covered. Cell counting, identifications of normal and abnormal blood cells, bone marrow examination, cytology, coagulation, and special hematology skills will be taught. Lecture, two hours; laboratory, four hours. Prerequisites: AGR 310, 322, 332, and eight hours of chemistry with a minimum grade of C in all prerequisite courses.

AGR 420 Veterinary Clinical Chemistry (2). Basic concept of clinical chemistry in animals as it relates to organ systems and specific diseases will be covered in lecture. The laboratory will emphasize clinical chemistry assays utilizing automated and manual techniques as well as urinalysis and use of laboratory equipment. Prerequisites: AGR 310, 322, 332, and eight hours of chemistry with a minimum grade of C in all prerequisite courses.

AGR 426 Experience in Swine Production (3). As an experientially-based course, students will be immersed in the decision-making process of managing a modern swine production facility. Students will have the opportunity to apply principles of facilities management, swine nutrition, swine genetics, swine reproduction, enterprise finance, and product merchandising within the

context of operating a production facility. Stages of production will include breeding, gestation, farrowing, lactation, nursery/growing, and finishing. Prerequisite: AGR 100.

AGR 430 Veterinary Parasitology (2). Basic concepts of parasitology including life cycles and mechanisms of pathogenicity will be covered during lecture. The laboratory portion will emphasize methods of identification of parasites in fecal, blood, and skin specimens. Lecture, two hours; laboratory, four hours for half a semester. Prerequisites: AGR 310, 322, 332, and eight hours of chemistry with a minimum grade of C in all prerequisite courses..

AGR 433 Farm Management (3). A study is made of the management functions and economics of farm organization and operation, including input-output relationships, enterprise combination, and budget analysis. Assignments are given which assist the student in applying economics and management principles to an individual case farm operation.

AGR 434 Food and Agriculture Marketing (3). An experiential learning course to develop skills in marketing agriculture, food and beverage products. Students will explore the marketing system for value-added agricultural products from household consumption back to production and agricultural inputs. Topics will include market analysis and selection, marketing research, sales forecasting, product policies, distribution channels, pricing, advertising and market control. Students will have an opportunity to apply principals within the development of a complete marketing plan for a new agriculture or food product. Students may be required to travel to area agribusinesses as part of the course requirements.

AGR 435 Interpretation of Agricultural Research (2). Students will access, analyze, evaluate and interpret agricultural research for occupational work. The course is oriented towards all fields within the agricultural sector.

AGR 436 Undergraduate Research in Agriculture (3-6). Agricultural research projects arranged individually with faculty members who agree to direct the research. A written plan of research must be filed with the school within two weeks of the beginning of the semester. May be repeated once for a maximum of six hours.

AGR 438 Seminar in Agricultural Systems (2). A course designed to enhance students' understanding of and experiences in, agricultural systems. The two emphases that will be available in this seminar are managing a successful agribusiness and production operation. This class is intended for students transferring to MSU through the Transfer Bridge program from the Agricultural Technology Program at KCTCS schools. Seminars and field experience outside of class required. The course may be taken for two credit hours as the agribusiness emphasis or for two credit hours as the production agriculture emphasis. The course can be repeated for a maximum of four hours credit by taking each emphasis.

AGR 439 Software Applications for Agriculture (3). A course designed to develop an enhanced understanding of software programs and techniques in a hands-on environment. Software studied will enhance student skills in farm, nutrient and livestock management as well as customer profiling, billing for custom application and technical communication. Prerequisite: AGR 339.

AGR 440 Behavior Modification Techniques for Domestic Animals (3). Course is designed to introduce students to techniques of behavior modification and the importance of behavior problem prevention in domestic animals. Basic understanding of normal behavior, principles of learning, and application of various behavior modification techniques will be explored. Prerequisite: AGR 310.

AGR 441 Principles of Animal Learning (3). Course designed to introduce students to the fundamentals of how animals learn. Emphasis will be placed on the importance of understanding learning theories. Observing animal behavior will also be a necessary part of this course.

AGR 444 Purebred Livestock Management and Marketing (3). A study of the management techniques unique to the purebred livestock industry including, but not limited to, animal selection and development, records, measures of performance and preparation for marketing. In addition, the course will include an in-depth look at advertising and marketing techniques common

to the livestock industry. Field hours required. Field trips outside of class time required. Prerequisite: AGR 100.

AGR 455 Soil Management (3). The control of erosion, organic matter maintenance, effects of fertilizer on the environment, evaluating fertility and fertilization of major crops are emphasized. (Spring)

AGR 460 Professional Experience in Horticulture (3). Designed to provide on-the-job training in various horticultural enterprises such as golf courses, florist shops, greenhouse operations and garden centers under supervision of a horticulture professor. May be repeated once if approved by faculty advisor. (Fall, Spring or Summer)

AGR 461 Plant Propagation (3). A study of the methods of propagating horticultural plants. Includes cutting, grafting, budding, layerage and seed propagation. Lecture, two hours; laboratory, two hours. Prerequisites: AGR 160 and 360.

AGR 462 Fine Turf Management (3). A detailed study of varieties of fine turf grasses and establishment and maintenance of fine turf, including soil and turf relationship, fertilizing and liming, and drainage and irrigation. Lecture two hours; laboratory, two hours. Prerequisite: AGR 160.

AGR 463 Horticultural Therapy (3). Exploring the therapeutic modality that focuses on improving human health and functioning through the use of horticultural programs. The profession of horticultural therapy is based on medical model and is used both nationally and internationally. This course studies the different client populations that benefit from the therapy and how to set treatment goals based on a client's need.

AGR 470 Soil and Water Engineering (3). Surveying, mapping, and determining areas of farm land; designing farm drainage systems; farm ponds; controlling water erosion with terraces and other mechanical structures. Lecture, one hour; laboratory, four hours. (Fall)

AGR 471 Applications in Precision Agriculture (3). Designed to understand the acquisition and analysis of geographically referenced data for the management of crop production systems, data formats, geographic information systems, grid sampling, soil fertility and physical properties, herbicide management, combine yield monitoring, variable-rate application, crop modeling and economics. Prerequisite: AGR 339. (Fall)

AGR 477 Agricultural Power Units (3). A study of small power units relative to agriculture. Includes servicing, maintenance, repair, use, types and applications of electrical motors, pumps, and small internal combustion engines. (Fall, even years)

AGR 488 Cooperative Education/Internship (1-3). A meaningful, planned, and evaluated work experience related to the career and educational objectives of the student for which he/she may receive academic credit and possible financial remuneration. May be repeated for a maximum of six hours from any 488/489 courses. Graded pass/fail. Prerequisite: permission of co-op instructor.

AGR 489 Cooperative Education/Internship (1-3). A meaningful, planned, and evaluated work experience related to the career and educational objectives of the student for which he/she may receive academic credit and possible financial remuneration. May be repeated for a maximum of six hours from any 488/489 courses. Prerequisites: AGR 100, 300, 310, 322, 324, 331, 332, 540, and 550.

AGR 497 Advanced Practicum in Equine Management (1-12). This course will allow the student to obtain experience in a pre-approved animal or equine company or organization during the junior or senior year as an undergraduate student. Students will be supervised by a professional at the company or organization, as well as a university coordinator. For each credit taken, a minimum of one week and 40 clocked hours are required. Graded pass/fail. May be repeated for a total of up to 12 hours. Prerequisites: junior or senior status and permission by instructor.

AGR 498 Agronomy Practicum (12). Course will allow the student to obtain experience in a pre-approved agronomic company or organization during the senior year as an undergraduate student. Students will be supervised by an agronomist at the company or organization, as well as a university coordinator. Student access to internet and computer equipment capable of online video conferencing is required. This will be a 15-week placement with 525 clock hours required. Graded pass/fail. Students with AGR 488 or 489 credits are not eligible to enroll in this course.

AGR 499 Leadership/Professional Development Seminar II (1). Seminar for agriculture students focusing on the leadership development and the transition to the world of work and related problems. Recommended for students in the junior or senior year. Graded course. May be repeated up to three hours.

AGR 502 Advanced Nutrition (3). A study of physical and chemical properties of feeds. Digestion, absorption and metabolism of nutrients and factors affecting these functions are emphasized. The nutrient requirements of farm animals and effects of nutrient deficiencies are also studied. (Fall)

AGR 503 Genetics and Animal Breeding (3). Study of hereditary traits in livestock, breeding designs, progeny testing and herd analysis. (Spring)

AGR 504 Diseases of Livestock (3). Distribution, general nature, methods of dissemination, sanitation, prevention and eradication of common infectious and parasitic diseases of domestic animals; hygiene and preventive medicine, with emphasis on the transmissible diseases. Prerequisites: AGR 100, 300, and 310 with a minimum grade of C in all prerequisite courses. (Fall)

AGR 506 Reproductive Physiology (3). A study of the reproductive processes in mammals with primary emphasis on domestic farm animals. Will include the anatomy, endocrinology, behavior and general physiology of the reproductive processes. Artificial insemination, estrous control, ova transplants and other practical production practices will be covered. Lecture, two hours; laboratory, two hours. Prerequisites: AGR 100, 300, and 310 with a minimum grade of C in all prerequisite courses.

AGR 510 Animal Anatomy and Physiology (3). Deals with the anatomy of body systems, how these systems interrelate, and the physiology of body organs. Species covered include porcine, bovine, equine, canine and feline. Prerequisite: AGR 310 with a minimum grade of C.

AGR 511 Animal Anatomy and Physiology Laboratory (2). Deals with the anatomy of body systems, how these systems interrelate, and the physiology of body organs. Species covered include porcine, bovine, equine, canine and feline. Two hour laboratories twice per week. Prerequisites: AGR 310, 324, and 332 with a minimum grade of C in all prerequisite courses. (Spring)

AGR 512 Beef Cattle Management Systems (3). A study of beef production, forage management and marketing systems. Lecture, one hour; laboratory, four hours. Prerequisites: AGR 100 and 311. (Fall)

AGR 514 Teaching Methods in Equine Science (3). Philosophy and objectives of teaching in the areas of equine management, equine science, or horsemanship. Concepts include preparing and delivering lesson plans appropriate to the audience, testing methods, and course evaluation techniques. Students will serve as a teaching assistant in an approved course and will be required to develop and conduct at least one lesson during the semester. Prerequisite: permission of instructor.

AGR 523 Artificial Insemination Techniques for Cattle (3). Designed to train students to become competent A.I. technicians. Topics discussed will include reproductive processes, health, nutrition, facilities and management of breeding herd. Techniques concerning semen handling, heat synchronization and heat detection will be taught. Laboratories will be designed to give students actual experience in inseminating cattle. (Summer, with sufficient demand.)

AGR 528 Agriculture, Food, and Rural Law (3). A course designed to introduce students to law and legal issues related to agriculture, agribusiness, and property as related to rural living and the food production system. It is not a course designed to give students legal advice and the materials taught should not be interpreted as such. Topics to be covered include judicial process and

types of law, tort law and product liability related to agricultural enterprises and the food system, inheritance law, and other legal issues facing owners or operators of our nation's natural resources.

AGR 529 International Trade and Agriculture (3). Changing role of U.S. agriculture in a dynamic world economy; national and international policies and institutions affecting agriculture; exchange rates, tariffs, and non-tariff barriers. Prerequisites: junior or senior; AGR 130 or equivalent.

AGR 530 Advanced Agricultural Commodity Marketing (3). An advanced course designed to provide an in-depth treatment of how the futures markets can be used to improve the agricultural commodity marketing timing decisions. The purpose of the course is to familiarize the students with the history and characteristics of the commodity future markets and understand the importance of marketing as a farm management tool. Both fundamental and technical aspects of charting and how to use these techniques as price forecasting tools. Prerequisite: AGR 336.

AGR 531 Agricultural Finance (3). A study of the needs and problems of financing farm and farm service businesses, including a study of credit institutions serving American agriculture. (Fall)

AGR 532 Farm and Land Appraisal (3). A study of the methods and procedures of land and farm property valuation with attention to appraisal programs of the credit and farm service institutions. Prerequisite: AGR 130. (Fall)

AGR 533 Seminar in International Agriculture Systems (3). A course designed to enhance student's understanding of international agriculture systems and how they relate to the overall impact on world food processing and production. An emphasis is placed on systems which have the potential to impact and add-value to American agriculture, as well as those which hold key relationships to U.S. based agricultural trade and food development.

AGR 534 Types and Systems of Farming and Agribusiness (3). Includes a general statistical analysis of U.S. agriculture with attention to major agricultural regions of the nation and types of farming areas of Kentucky. Special emphasis is given to the organization of West Kentucky and regional farms and agribusinesses. Field trips, interviews and financial analysis of successful firms. (Summer, with sufficient demand.)

AGR 536 Quantitative Methods for Agribusiness (3). A study of the use and theory of mathematics as it applies to the fields of agriculture, finance and economics. Attention is given to the elementary uses of algebra, matrix algebra and the calculus as they apply to optimization problems in resource use efficiency. The same mathematics will be applied to time value of money topics. Prerequisites: ECO 230, 231 and MAT 140. (Spring, odd years)

AGR 537 Seminar in Agricultural Business Systems (2). Course designed to enhance student's understanding of, and experience in, agricultural business systems. Emphasis will be placed on strategies of managing a successful agribusiness operation and /or farmer-owned cooperatives. Prerequisite: AGR 130.

AGR 538 Seminar in Production Agricultural Systems (2). Designed to enhance student's understanding of, and experience in, production agriculture systems and how they relate to a successful farming operation. An emphasis is placed on systems, which have the potential to impact and add-value to the local, regional and national agriculture economy, through classroom as well as laboratory experiences.

AGR 539 Advanced Computer Applications for Agriculture (3). An intensive course designed to enhance the computer skills of agriculture students and to give them the skills necessary to generate useful information and solve a variety of agriculturally specific problems. Students receive instruction on advanced word processing concepts, budget generation, statistical analysis, agribusiness related software and global positioning systems in agriculture. Prerequisite: AGR 339.

AGR 540 Veterinary Surgery and Anesthesia (3). Clinical principles, practices and procedures involved in the field of veterinary medicine. For animal health technology students with senior standing. Prerequisites: AGR 310, 322, 324, 332, and MAT 140 or higher, with a minimum grade of C in all prerequisite courses.

AGR 541 Crop Physiology (3). Basic principles of crop physiology; the effect of environment and management practice on physiological processes, growth and development of crops. (Spring, odd years)

AGR 542 Plant Breeding I (3). Basic principles and methods used in the improvement of important agronomic and horticultural crops. (Fall, even years)

AGR 546 Integrated Pest Management (3). Principles of plant pest control as related to developmental stages of crop plants. Evaluation of pest problems, alternative control methods and effects on the ecosystem. Emphasis on economic control of insect and disease vectors that affect agricultural crops. (Spring, even years)

AGR 547 Crop Management (3). Study of the distribution, economic importance and management of forage, grain crops and tobacco. (Fall)

AGR 549 Weeds and Their Control (3). A study of the introduction, methods of dissemination, reproduction and control of weeds by the most reliable methods and techniques. Prerequisite: AGR 160 or 240. (Fall)

AGR 550 Applied Pharmacology (3). Advanced clinical principles, practices and procedures in the field of veterinary medicine. Prerequisites: AGR 310, 332, eight hours of chemistry, and MAT 140 or higher, with a minimum grade of C in all prerequisite courses.

AGR 551 Selected Studies in Agriculture (1-3). An intensive study of an agriculture topic that will vary from semester to semester. May be repeated to a maximum of six hours. (As demanded)

AGR 552 Agricultural Policy (3). The history, principles, setting objectives and means of policy as applied to agriculture in our society. Prerequisite: AGR 130. (Spring)

AGR 554 Soil and Plant Analysis (3). A study of the chemical and analytical procedures used on soils and plants along with instruction and theory of the use of common analytical equipment. Lecture, one hour; laboratory, four hours. Prerequisite: AGR 345. (Fall)

AGR 555 Advanced Soil Fertility (3). The chemistry of the essential elements in soils and the use and the manufacturing processes of various fertilizer materials are considered. Prerequisite: AGR 345. (Spring)

AGR 560 Advanced Veterinary Surgery and Anesthesia (3). Clinical principles, practices, and procedures involved in Veterinary Surgery and Anesthesia. There are two three hour labs per week. Because of the intensity and types of laboratories offered, there will be additional time required outside of the scheduled class time, for preparation, development of skills, and complete recovery of patients. Outside time will vary depending on particular laboratory.

AGR 561 Sustainable Agriculture (3). Course provides an overview of natural resource sustainability in agriculture. It is designed to view the sustainability of food production at farms, community, regional, national and global levels. The topics will cover a variety of biological, ecological, social, cultural and economic topics within the framework of sustainability. Travel to local farms required.

AGR 562 Principles of Agroecology (3). This course is designed to cover the basic ecological concepts and the application to agricultural practices and food production systems in the search for the sustainability or human and biological communities within dynamic and varied landscapes.

AGR 563 Arboriculture (3). Classification, identification and care of ornamental trees, shrubs and vines, including pruning, bracing, surgery, transplanting, insect and disease control, and fertilization, as related to large areas of organized plantings. Lecture, two hours; laboratory, two hours. Prerequisites: AGR 160, 263, and 363.

AGR 564 Public Garden Management (3). An overview of the principles involved with public garden management, plant curatorship, collection care, public education, facility design and long-range planning. Prerequisites: AGR 263, 363, or permission from instructor.

AGR 565 Public Garden Management Practicum (3). A hands-on work study course that allows for the management and maintenance of The Arboretum at Murray State and other horticulture components. Prerequisites: AGR 160 and 564 or permission of instructor.

AGR 566 Advanced Greenhouse Practicum (3). A study of the principles and practices used in the production of specific important greenhouse crops. Considerable emphasis will be placed on the manipulation of environmental conditions during production. Prerequisite: AGR 360.

AGR 567 Advanced Landscape Design (3). The application of design theories, principles and elements to solve landscape design objectives and concerns for residential properties. Attention will be given to site analyses, client concerns, client relationships and contractual agreements while completing the design process. Prerequisites: Grade of C or better in AGR 263, 363, 365, 367 or permission of instructor.

AGR 569 Interior Landscaping (2). A study of the basic plants used for interior design and decoration. This study includes identification, nomenclature, growing requirements, insect and disease problems and proper use of these plants in interiors.

AGR 570 AG Systems Technology Lab Management (3). This course is a study of theories involving agricultural mechanization and systems technology. Emphasis is placed on understanding the technology involved in operating, maintaining and managing power and machinery, electricity, precision agriculture, soil and water engineering, metallurgy and fabrication, and safety systems. Skill development emphasized. Prerequisite: AGR 170. (Fall)

AGR 571 Advanced Precision Agriculture (3). Designed for students who desire to apply and expand knowledge of the acquisition and analysis of geographically referenced data for the management of crop production systems, data formats, geographic information systems, grid sampling, soil fertility and physical properties, herbicide management, yield monitoring, variable-rate application, crop modeling and economics. (Spring)

AGR 572 Advanced Metal Work (3). Application of the principles of arc, MIG, TIG and oxyacetylene welding in design. Primarily for vocational agricultural teachers. Application of the principles of electric and oxyacetylene welding in design and construction of agricultural projects. (Spring, odd years)

AGR 573 Agricultural Processing Systems (3). An analysis of systems and methods for harvesting, processing and storing agricultural products. Includes drying and curing principles, grinding, mixing, cleaning, sorting, material handling and structural environmental design. (Fall)

AGR 574 Agricultural Irrigation and Water Systems (3). Includes determining water needs, water sources, pumps, fundamental pipeline hydraulics and designing a complete irrigation and/or water system for the farm. (Spring, even years)

AGR 575 Combine and Grain Handling Systems (3). Developing a complete grain harvesting, handling, drying and storage operation. A study of combine operation and the materials flow concept, closed loop handling, psychrometrics, grain drying, drying methods, facility layout and facility management. Combine comparison, selection and utilization. (Fall)

AGR 576 Agricultural Electrification Systems (3). Study of the basic principles of electricity, the fundamentals of wiring and selection, the operation and economics of agricultural electricity equipment. (Spring)

AGR 577 Tractor Power Principles (3). Study of the principles governing the selection and application of tractors and power driven machines. Emphasis is placed on operating systems of engines, including compression, ignition and carburetion. Mechanical principles of tractors and preventive maintenance included. (Fall, odd years)

AGR 578 Research and Development of Agriculture Tractors and Equipment (3). Tours of the major agriculture tractor and equipment industries. The tours include: research and development, engineering, foundries, and the assembly of engines, transmissions, final drives, combines, cotton pickers, and planting equipment. (Summer)

AGR 580 Veterinary Products (3). This course deals with old and new products currently available in the veterinary market. Market will include the ordering and purchasing of wholesale products, selling, inventory control, computer programming, marketing, and pricing of products utilized in a veterinary practice.

AGR 582 Veterinary Practice and Operations (3). Course will deal with the day to day events centered around the operation of a veterinary practice. Supervisory skills, communication skills, inventory, bookkeeping, planning, and advertising are the main areas stressed in this course.

AGR 583 Veterinary Law and Ethics (3). Course deals with law and ethics in the veterinary profession. The course will include a basic understanding of law, professional liability, legality of veterinary drugs, ethics and how they pertain to the treatment of animals, and medical records.

AGR 585 Specialized Journalism/RTV (1-3). Directed individual study. Can be a journalistic effort in areas such as science, sports, government, religion, graphics, etc., or a project in radio or television such as a major production or series, an extensive research project and paper, or other approved project. Prerequisites: permission of instructor and written approved proposal required prior to registration.

AGR 586 Training and Presentation Development Strategies for Agricultural Audiences (3). Students enrolled in this course will plan presentations intended for agricultural audiences and situations. Students will also develop skills in organizing and offering agricultural employee training and professional development for others. Emphasis will be placed on training, teaching, and demonstrating technical agricultural content.

AGR 590 Internship in Animal Technology (3-6). Practical full-time work experience to be arranged through an animal-related facility during the fall, spring or summer session. Site to be arranged by the student and approved by the course coordinator. May be repeated for a total of six credit hours. Prerequisites: AGR 100, 300, 310, 322, 324, 331, 332, 540, and 550 all with a minimum grade of C. Enrollment only by permission of instructor. (Fall, Spring or Summer)

AGR 599 Agriculture Senior Capstone (1). This is a senior capstone course culminating in students demonstrating general knowledge in the agriculture core curricula, demonstrating completed knowledge in the student's chosen option within agriculture science, and a lecture series from influential agriculture leaders. Students will also have an opportunity to share insight into the direction and future of the Hutson School of Agriculture by sharing comments on educational effectiveness. Prerequisites: All agriculture science core classes and option classes must be completed with passing grades in the Hutson School of Agriculture. Refer to the Department of Agriculture Science for a complete list of core and respective options courses.

AGR 602 Advanced Nutrition (3). A study of physical and chemical properties of feeds. Digestion, absorption and metabolism of nutrients and factors affecting these functions are emphasized. The nutrient requirements of farm animals and effects of nutrient deficiencies are also studied. (Fall)

AGR 603 Genetics and Animal Breeding (3). Study of hereditary traits in livestock, breeding designs, progeny testing and herd analysis. (Spring)

AGR 604 Diseases of Livestock (3). Distribution, general nature, methods of dissemination, sanitation, prevention and eradication of common infectious and parasitic diseases of domestic animals; hygiene and preventive medicine, with emphasis on the transmissible diseases. (Fall)

AGR 606 Reproductive Physiology (3). A study of the reproductive processes in mammals with primary emphasis on domestic farm animals. Will include the anatomy, endocrinology, behavior and general physiology of the reproductive processes. Artificial insemination, estrous control, ova transplants and other practical production practices will be covered. Lecture, two hours; laboratory, two hours. (Fall)

AGR 610 Animal Anatomy and Physiology (3). Deals with the anatomy of body systems, how these systems interrelate, and the physiology of body organs. Species covered include porcine, bovine, equine, canine and feline. Prerequisite: AGR 310. (Spring)

AGR 611 Animal Anatomy and Physiology Laboratory (2). Deals with the anatomy of body systems, how these systems interrelate, and the physiology of body organs. Species covered include porcine, bovine, equine, canine and feline. Two hour laboratories twice per week. Prerequisite: AGR 310. (Spring)

AGR 612 Beef Cattle Management Systems (3). A study of beef production, forage management and marketing systems. Lecture, one hour; laboratory, four hours. Prerequisites: AGR 100 and 311. (Fall)

AGR 614 Equestrian Instructional Methods (3). Designed for students interested in teaching techniques of teaching horsemanship. Course includes preparation and application of lesson plans. Prerequisite: permission of instructor. (Fall)

AGR 615 Equine Exercise Physiology (3). Course focuses on the study of conditioning the equine athlete using the basic principles of exercise physiology, energetics, kinetics, and sports medicine. Emphasis will be placed on equine anatomical and physiological adaptations to exercise, assessment of physical fitness and conditioning in horses, nutrition and feeding requirements of working animals, moral and ethical considerations related to equine performance, evaluation of common ailments, and current therapies used in equine sports medicine. Prerequisite: AGR 303 or permission of instructor.

AGR 619 Equine Nutrition and Feeding (3). Course focuses on the study of anatomy and physiology of the gastro-intestinal system and its role in digestion and utilization of feeds with particular emphasis on the horse. Students will develop rations to feed various classes of horses and address the relationship of nutrition and health. Prerequisite: AGR 303 or permission of instructor.

AGR 623 Artificial Insemination Techniques for Cattle (3). Designed to train students to become competent A.I. technicians. Topics discussed will include reproductive processes, health, nutrition, facilities and management of breeding herd. Techniques concerning semen handling, heat synchronization and heat detection will be taught. Laboratories will be designed to give students actual experience in inseminating cattle. Prerequisites: AGR 100 and AGR 311 or permission of instructor. (Summer, with sufficient demand)

AGR 628 Agriculture, Food and Rural Law (3). Course designed to introduce students to laws and legal issues related to agriculture, agribusiness, and property as related to rural living and the food production system. It is not a course designed to give students legal advice and the material taught should not be interpreted as such. Topics to be covered include judicial process and types of law, tort law, and product liability related to agricultural enterprises and the food system, inheritance law, and other legal issues facing owners or operators of our nation's natural resources.

AGR 629 International Trade and Agriculture (3). Changing role of U.S. agriculture in a dynamic world economy; national and international policies and institutions affecting agriculture; exchange rates, tariffs, and non-tariff barriers. Prerequisite: AGR 130 or equivalent.

AGR 630 Advanced Agricultural Prices (3). Methods of price analysis and forecasting. Index numbers, time series data commodity flows and statistical techniques as applied to price analysis. Special emphasis will be placed upon the use of commodity futures markets in estimating cash prices and in protecting producers from cash price fluctuations. (Fall, even years)

AGR 631 Agricultural Finance (3). A study of the needs and problems of financing farm and farm service businesses, including a study of credit institutions serving American agriculture. (Fall)

AGR 632 Farm and Land Appraisal (3). A study of the methods and procedures of land and farm property valuation with attention to appraisal programs of the credit and farm service institutions. Prerequisite: AGR 130. (Fall)

AGR 633 Production Economics for Agriculture (3). The techniques and principles of production theory as applied to the organization and allocation of resources in agricultural production. (Spring)

AGR 634 Types and Systems of Farming and Agribusiness (3). Includes a general statistical analysis of U.S. agriculture with attention to major agricultural regions of the nation and types of farming areas of Kentucky. Special emphasis is given to the organization of West Kentucky and regional farms

and agribusinesses. Field trips, interviews and financial analysis of successful firms. (Summer, with sufficient demand)

AGR 636 Seminar in International Agriculture Systems (3). A course designed to enhance student's understanding of international agriculture systems and how they relate to the overall impact on world food processing and production. An emphasis is placed on systems which have the potential to impact and add-value to American agriculture, as well as those which hold key relationships to U.S. based agricultural trade and food development.

AGR 637 Seminar in Agricultural Business Systems (2). Course designed to enhance student's understanding of, and experience in, agricultural business systems. Emphasis will be placed on strategies of managing a successful agribusiness operation and/or farmer-owned cooperatives. Prerequisite: AGR 130.

AGR 638 Seminar in Production Agricultural Systems (2). Designed to enhance student's understanding of, and experience in, production agriculture systems and how they relate to a successful farming operation. An emphasis is placed on systems, which have the potential to impact and add-value to the local, regional and national agriculture economy, through classroom as well as laboratory experiences.

AGR 640 Veterinary Surgery and Anesthesia (3). Clinical principles, practices and procedures involved in the field of veterinary medicine. For animal health technology students. Prerequisites: AGR 310, 322, 324, and 332. (Fall and Spring)

AGR 641 Crop Physiology (3). Basic principles of crop physiology; the effect of environment and management practice on physiological processes, growth and development of crops. (Spring, odd years)

AGR 642 Plant Breeding I (3). Basic principles and methods used in the improvement of important agronomic and horticultural crops. (Fall, even years)

AGR 646 Integrated Pest Management (3). Principles of plant pest control as related to developmental stages of crop plants. Evaluation of pest problems, alternative control methods and effects on the ecosystem. Emphasis on economic control of insect and disease vectors that affect agricultural crops. (Spring, even years)

AGR 647 Crop Management (3). Study of the distribution, economic importance and management of forage, grain crops and tobacco. (Fall)

AGR 649 Weeds and Their Control (3). A study of the introduction, methods of dissemination, reproduction and control of weeds by the most reliable methods and techniques. Prerequisite: AGR 160 or 240. (Fall)

AGR 650 Applied Pharmacology (3). Advanced clinical principles, practices and procedures in the field of veterinary medicine. Prerequisites: AGR 310, 332, and five hours of chemistry. (Fall and Spring)

AGR 651 Selected Studies in Agriculture (1-3). An intensive study of an agriculture topic that will vary from semester to semester. May be repeated to a maximum of six hours. (With sufficient demand.)

AGR 652 Agricultural Policy (3). The history, principles, setting objectives and means of policy as applied to agriculture in our society. Prerequisite: AGR 336. (Spring)

AGR 655 Advanced Soil Fertility (3). The chemistry of the essential elements in soils and the use and the manufacturing processes of various fertilizer materials are considered. Prerequisite: AGR 250. (Spring)

AGR 660 Advanced Veterinary Surgery & Anesthesia (3). Clinical principles, practices, and procedures involved in Veterinary Surgery and Anesthesia. There are two three hour labs per week. Because of the intensity and types of laboratories offered, there will be additional time required outside of the scheduled class time, for preparation, development of skills, and complete recovery of patients. Outside time will vary depending on particular laboratory.

AGR 661 Sustainable Agriculture (3). Course provides an overview of natural resource sustainability in agriculture. It is designed to view the sustainability

of food production at farms, community, regional, national and global levels. The topics will cover a variety of biological, ecological, social, cultural and economic topics within the framework of sustainability. Travel to local farms required.

AGR 662 Principles of Agroecology (3). Course is designed to cover the basic ecological concepts and the application to agricultural practices and food production systems in the search for the sustainability or human and biological communities within dynamic and varied landscapes.

AGR 663 Advanced Arboriculture (3). Classification, identification and care of ornamental trees, shrubs and vines, including pruning, bracing, surgery, transplanting, insect and disease control, and fertilization, as related to large areas of organized plantings. Lecture, two hours; laboratory, two hours. (Spring, odd years)

AGR 664 Advanced Public Garden Management (3). An overview of the principles involved with public garden management, plant curatorship, collection care, public education, facility design and long-range planning. Prerequisite: AGR 263, AGR 363, or permission from instructor.

AGR 666 Advanced Greenhouse Practicum (3). A study of the principles and practices used in the production of specific important greenhouse crops. Considerable emphasis will be placed on the manipulation of environmental conditions during production.

AGR 667 Advanced Landscape Design (3). The application of design theories, principles and elements to solve landscape design objectives and concerns for residential properties. Attention will be given to site analyses, client concerns, client relationships and contractual agreements while completing the design process. Prerequisite: AGR 367.

AGR 669 Advanced Interior Plantscaping (2). A study of the basic plants used for interior design and decoration. This study includes identification, nomenclature, growing requirements, insect and disease problems and proper use of these plants in interiors.

AGR 670 AG Systems Technology Lab Management (3). Course is a study of theories involving agricultural mechanization and systems technology. Emphasis is placed on understanding the technology involved in operating, maintaining and managing power and machinery, electricity, precision agriculture, soil and water engineering, metallurgy and fabrication, and safety systems. Skill development emphasized. Prerequisite: AGR 170. (Fall)

AGR 671 Advanced Precision Agriculture (3). Designed for students who desire to apply and expand knowledge of the acquisition and analysis of geographically referenced data for the management of crop production systems, data formats, geographic information systems, grid sampling, soil fertility and physical properties, herbicide management, yield monitoring, variable-rate application, crop modeling and economics.

AGR 672 Advanced Metal Work (3). Application of the principles of arc, MIG, TIG, and oxyacetylene welding in design. Primarily for vocational agricultural teachers. Application of the principles of electric and oxyacetylene welding in design and construction of agricultural projects. (Spring, odd years)

AGR 673 Agricultural Processing Systems (3). An analysis of systems and methods for harvesting, processing and storing agricultural products. Includes drying and curing principles, grinding, mixing, cleaning, sorting, material handling and structural environmental design. (Fall, even years)

AGR 674 Agricultural Irrigation and Water Systems (3). Includes determining water needs, water sources, pumps, fundamental pipeline hydraulics and designing a complete irrigation and/or water system for the farm. (Spring, even years)

AGR 675 Combine and Grain Handling Systems (3). Developing a complete grain harvesting, handling, drying and storage operation. A study of combine operation and the materials flow concept, closed loop handling, psychrometrics, grain drying, drying methods, facility layout and facility management. Combine comparison, selection and utilization.

AGR 678 Research and Development of Agriculture Tractors and Equipment (3). Tours of the major agriculture tractor and equipment industries. The tours include: research and development, engineering, foundries, and the assembly of engines, transmissions, final drives, combines, cotton pickers, and planting equipment. (Summer)

AGR 680 Veterinary Products (3). This course deals with old and new products currently available in the veterinary market. Market will include the ordering and purchasing of wholesale products, selling, inventory control, computer programming, marketing, and pricing of products utilized in a veterinary practice. (Fall)

AGR 682 Veterinary Practice and Operations (3). Course will deal with the day to day events centered around the operation of a veterinary practice. Supervisory skills, communication skills, inventory, bookkeeping, planning, and advertising are the main areas stressed in this course.

AGR 683 Veterinary Law and Ethics (3). Course deals with law and ethics in the veterinary profession. The course will include a basic understanding of law, professional liability, legality of veterinary drugs, ethics and how they pertain to the treatment of animals, and medical records.

AGR 686 Training and Presentation Development Strategies for Agricultural Audiences (3). Students enrolled in this course will plan presentations, apply appropriate presentation methods and techniques, and constructively critique presentations intended for agricultural audiences and situations. Students will also develop skills in organizing and offering agricultural employee training and professional development for others. Emphasis will be placed on training, teaching, and demonstrating technical agricultural content.

AGR 690 Internship in Animal Technology (3-6). Practical full-time work experience to be arranged through an animal-related facility during the fall, spring or summer session. Site to be arranged by the student and approved by the course coordinator. May be repeated for a total of six credit hours. Prerequisites: AGR 100, 300, 331, 332, 340, 351 and 400. Enrollment only by permission of instructor. May be repeated for a maximum of six hours of credit. (Fall, Spring or Summer)

AGR 700 Research in Agriculture (1-3). May be repeated for a total of six hours credit with approval of the department advisor. An approved proposal signed by the faculty member supervising the project must be submitted prior to registration. Requires a minimum GPA of 3.0. (Fall, Spring, or Summer)

AGR 701 Forage Management System (3). An intensive study of forage production and management systems for livestock. (Fall)

AGR 705 Advanced Ration Formulation (3). An advanced study in formulating balanced diets to meet the requirements for lactation, growth and reproduction in livestock. Practice in formulating least-cost rations and designing feeding programs. Prerequisite: AGR 300. (Spring)

AGR 713 Graduate Computer Applications (3). An intensive course designed to enhance the computer skills of agriculture students and to give them the skills necessary to generate useful information and solve a variety of agriculturally specific problems. Students receive instruction on advanced word processing concepts, budget generation, statistical analysis, agribusiness related software and global positioning systems in agriculture. Prerequisite: AGR 339.

AGR 720 Experimental Design and Statistical Analysis (3). An introduction to planning and designing agricultural experiments, stating the objectives, describing the experiment, outlining the statistical analysis, and interpreting quantitative results. Topics include random sampling, normal distribution, student's test, analysis of variance, mean separation, chi-square and simple regression analysis. (Fall)

AGR 722 Graduate Capstone Seminar (1). Reports concerning research projects, creative components, thesis defense, and/or work experience including student and/or faculty discussions. Graduate students must enroll in this course during the last semester of graduate enrollment. Prerequisite: admission to the agriculture graduate program.

AGR 735 Research Methodology (3). Selection, planning and conduct of investigation with reference to alternative scientific methods. Oriented toward all the disciplines of agriculture. Students present research problems coordinated with their advisor. (Fall)

AGR 739 Agribusiness Management (3). A study of the problems confronting agricultural marketing agencies and an application of alternative techniques of analyzing these problems; integration, new technology, selling, purchasing, warehousing, etc. (Summer, with sufficient demand)

AGR 744 Graduate Cooperative Education (3). May be repeated to a maximum of six credits. Graded pass/fail. Prerequisite: permission of chair.

AGR 745 Biotechnology and Agriculture (3). With the use of biotechnology, many new agricultural products are entering the market. This course is a descriptive study of biotechnology and its use in the production of these new products. The class would include basic information about this technology, current capabilities, current limitations, and future prospects.

AGR 748 Weed Science (3). A study of specific problem weeds of the region, their growth habits, life cycles, competitive effects, and the mode of action of herbicides used in their control.

AGR 776 Advanced Agricultural Electrification (3). Troubleshooting and repair of electric motors and controls. Their utilization in handling and processing of agricultural products. Lecture, one hour; laboratory, four hours. (Fall, odd years)

AGR 777 Advanced Tractor Power Principles (3). Analysis of agricultural machines, power units and equipment. Securing, adjusting and preventive maintenance in order to obtain maximum efficiency. Lecture, one hour; laboratory, four hours. (Fall, odd years)

AGR 798 Thesis (3).

AGR 799 Thesis (3).

ANTHROPOLOGY (ANT)

ANT 140 Introduction to Cultural Anthropology (3). A survey of the diverse ways human societies are organized with an analysis of how their cultures meet the common and distinctive needs of these societies, with emphasis placed upon non-literate peoples.

ANT 145 Introduction to Museum Work (3). Course designed to be an introduction to various facets of museum work, including museum administration, public relations work, fund raising, collection registration, exhibit production, deed of gifts, security, curation, and cataloguing and accessioning systems.

ANT 311 Anthropology of Complex Societies (3). An analysis of a range of societal types from sedentary tribes to chiefdoms to states. Primary emphasis will be placed on the processes that lead to the emergence of complex societies, the development of urbanism, and the comparative and cross-cultural perspective. Prerequisite: ANT 140 or permission of instructor.

ANT 315 Special Topics in Anthropology (3). This seminar will cover an important topic or related topics. Both student and faculty interest will determine the topic. Students will both contribute and lead discussions of the readings. Research paper is required. May be repeated for a maximum of nine credit hours.

ANT 320 Human Ecology (3). A cross-cultural examination of the influences that different environments have on biological and cultural adaptation. Focus will be given to environmental reconstruction, settlement patterns, land use, and the effects of migration and mobility on ancient and modern human populations. Current ecological and anthropological theories will be utilized to examine social evolution from hunting/gathering, pastoral, horticultural, agricultural, and industrial societies throughout human history. Prerequisite: ANT 140 or permission of the instructor. (Same as ARC 320.)

ANT 325 Biological Anthropology (3). The biological nature of man. A survey of man's physical origin, his primate background, and his evolution. Cultural association with fossil evidence and concepts of race. (Same as BIO 325.)

ANT 329 North American Indians (3). Introduction to Native American cultures north of Mexico. This course entails a survey of the cultural traditions of the indigenous populations of North America. Emphasis will be placed on traditional lifeways and the consequences of interactions between Native Americans and Euro-American populations.

ANT 343 Race and Ethnicity (3). Identity, goals, and organization of racial and ethnic groups; dynamics of racism and ethnocentrism; and processes of communication, conflict, and accommodation. (Same as SOC 343.)

ANT 344 The Black Experience (3). An analysis of the African American way of life utilizing anthropological and historical approaches. Major themes in black culture will include religion, family relations and political empowerment. Biographical, autobiographical and ethnographic materials will be utilized. (Same as SOC 344.)

ANT 356 The Art of Non-Western Cultures (3). Study of the arts of Asia, Oceania, Africa and the Pre-Western Americas. (Same as GDS, RGS 356.)

ANT 390 Applied Anthropology (3). A study of how anthropologists use their knowledge to solve special social and technical problems. Topics to be covered include the history of applied anthropology, the ethics of significantly altering the culture of the group, and the explanation of how and why behavioral systems change. Prerequisite: six hours of anthropology or permission of instructor.

ANT 488 Cooperative Education/Internship (1-3). A meaningful, planned, and evaluated work experience related to the career and educational objectives of the student for which he/she may receive academic credit and possible financial remuneration. May be repeated for a maximum of six hours from any 488/489 courses. Graded pass/fail. Prerequisite: permission of chair.

ANT 489 Cooperative Education/Internship (1-3). A meaningful, planned, and evaluated work experience related to the career and educational objectives of the student for which he/she may receive academic credit and possible financial remuneration. May be repeated for a maximum of six hours from any 488/489 courses. Prerequisite: permission of chair.

ANT 500 Directed Studies (1-3). Selected topics in anthropology as arranged by the student and a professor. May be repeated up to nine hours credit. Prerequisites: at least 12 hours of anthropology and permission of department chair.

ANT 596 The Minority Elderly (3). This course focuses on the minority elderly including racial, ethnic and lower income groups. Applicable concepts and theories in social gerontology will also be covered. Prerequisite: nine hours of anthropology, gerontology or sociology or permission of instructor. (Same as GTY 596.)

ARCHAEOLOGY (ARC)

ARC 150 Introduction to Archaeology (3). Survey of archaeology's contribution to humankind's knowledge of prehistoric and historic development on a worldwide basis with emphasis placed upon discoveries rather than methods of archaeology. ARC 150 will not fulfill the requirements of HON 150.

ARC 300 Archaeological Method and Theory (3). History theory, and methods of archaeology; introduction to problems and techniques of field and laboratory research (mapping, recording, artifact classification, reporting). Lectures and laboratory sessions. Prerequisite: ARC 150 or permission of instructor.

ARC 302 Archaeological Field Work I (1-6). Field training in the strategy and tactics of archaeological survey and excavation; intensive instruction in the recovery and documentation of cultural remains and data from archaeological sites. Six weeks continuous field work. Usually offered only during summer session. May not be repeated. Prerequisites: ARC 150 and 300, or permission of instructor.

ARC 304 Archaeological Laboratory Methods (1). Practical training in the organization and methods of archaeological laboratory procedures. Instruction

in processing, cataloguing, preliminary analysis, and preparation for curation/archival storage of cultural remains and records resulting from archaeological field work. Repeatable for a maximum of three credits. Prerequisites: ARC 150 and 302 or permission of the instructor.

ARC 306 Landscapes of the National Parks (3). This course explores the most distinctive and intriguing features of America's national parks. Emphasis is placed on the geology, ecology, and archaeology of each park, with emphasis placed on how each of these components influences the other in a dynamic feedback system. One Saturday field trip will be required. Prerequisite: GSC 102 or permission of instructor. (Same as GSC 306.)

ARC 314 Sediments and Soils (4). An in depth study of sediments and soils. Emphasis will be on the geologic formation, interpretation, and significance of sediments and soils in a variety of geologic, environmental, and archaeological contexts. Three hours lecture and two hours laboratory per week plus one required Saturday field trip. Prerequisite: GSC 102 or permission of the instructor. (Same as GSC 314.)

ARC 315 Special Topics in Archaeology (1-3). Seminar will cover an important topic or related topics. Both student and faculty interest will determine the topic. Students will contribute to class through discussions of assigned readings and research. The course has variable credit and may be repeated three times for a total of nine credit hours. Prerequisite: ANT 140 or ARC 150, or permission of instructor.

ARC 320 Human Ecology (3). A cross-cultural examination of the influences that different environments have on biological and cultural adaptation. Focus will be given to environmental reconstruction, settlement patterns, land use, and the effects of migration and mobility on ancient and modern human populations. Current ecological and anthropological theories will be utilized to examine social evolution from hunting/gathering, pastoral, horticultural, agricultural, and industrial societies throughout human history. Prerequisite: ANT 140 or permission of the instructor. (Same as ANT 320.)

ARC 321 Ancient Civilizations (3). An in-depth anthropological, archeological and historical examination of the origins of seven of the world's earliest civilizations (Southwest Asia, Egypt, India, China, Mesoamerica, Andean and North American).

ARC 325 Hunter-Gatherer Ethnoarchaeology (3). Hunting and gathering constituted the way of life for all humans during the majority of human evolution. This course is an examination of variability in adaptations of modern hunter-gatherer societies on a global scale, emphasizing subsistence, mobility, and social organization. The study of modern societies serves as the basis for understanding the adaptations of prehistoric hunter-gatherers. Prerequisites: ANT 140 and ARC 150 or permission of instructor.

ARC 330 North American Archaeology (3). A survey of prehistoric North American Indian cultures from 15,000 B.C. through historic contact. Emphasis placed on archaeological cultural histories of North America. Prerequisite: ARC 150.

ARC 335 Forensic Archaeology (3). An examination of the methods used by forensic anthropologists to determine the identity, age, sex and race of an individual from skeletal remains using archaeological and anthropological field and laboratory methods.

ARC 340 Archaeology of Africa (3). A survey of the archaeology of Africa, from human origins to the historic period. Emphasis placed on the archaeological evidence of African culture history before the advent of European colonization.

ARC 350 Public Archaeology (3). Introduction to the philosophy and mechanics of modern Cultural Resource Management (CRM), primarily from an archaeological perspective. Emphasis will be placed on gaining a practical working knowledge of CRM legislation, regulation, and process, as well as balancing business, research, ethics, and public interest issues. Two Saturday field trips will be required. Prerequisite: ARC 150 or permission of instructor.

ARC 357 Lithic Analysis (4). This course will introduce students to the technology and principles of stone tool manufacture, the identification and classifica-

tion of stone tools and debitage, and the primary methods of lithic analysis employed in archaeological research. The course will consist of three hours of lecture and two hours of laboratory per week. Prerequisite: ARC 150 or permission of instructor.

ARC 360 Historical Archaeology (3). A methodological survey of the archaeology of historical societies, with geographic concentration on North America. Emphasis on research strategies and special problems in the archaeological study of literate societies. Prerequisite: ARC 150 or permission of instructor.

ARC 370 Archaeology of the Eastern Woodlands (3). An intensive examination of eastern U.S. prehistory from 12,000 B.C. through A.D. 1700, covering major cultural traditions, e.g. Paleo, Archaic, Woodland (Adena and Hopewell), and post-Woodland Indian groups (Ft. Ancient and Mississippian). Course includes the study of general Midwestern U.S. and southeastern prehistory. Prerequisite: ARC 150.

ARC 380 Gender Archaeology (3). A survey of the history and theory of gender archaeology, including what men, women, and children were doing in the past. Attention to gender promotes a more detailed study of the complexity and diversity of past cultures and the interaction of all gender and age groups. Prerequisite: ARC 150 or permission of instructor.

ARC 385 Archaeology of Eastern Asia (3). A survey of the archaeology of Eastern Asia, from human origins to the historic period. Emphasis is placed on the archaeological evidence from the emergence of East Asian complex societies and culture history before the advent of European contact. Prerequisite: ARC 150 or permission of instructor.

ARC 389 Archaeology and Political Ecology of Empires (3). This course will explore empires from an archaeological and political ecological perspective. Will examine cross-cultural examples from the ancient, historic, and modern Old and New Worlds, and consider the dynamic culture contacts that occurred as those worlds collided during the era of global exploration and subsequent periods. We will pay particular attention to the historical, ecological, and cultural contexts important to imperial formation, the reasons for expansion, the strategies used during expansion, as well as the variable outcomes of expansion and subsequent colonial and post-colonial administration. Prerequisites: ARC 150 or ANT 140 or HIS 202 or POL 252 or consent of the instructor.

ARC 390 Geoarchaeology (3). Survey of geological methods and techniques used to answer archaeological research questions. Topics covered include sedimentary and geomorphic processes, depositional environments, site formation processes, environmental reconstruction, and radiometric dating techniques. One Saturday field trip will be required. Prerequisites: ARC 150 and GSC 101. (Same as GSC 390.)

ARC 395 Archaeology of Religion (3). A survey of the archaeological evidence for religions throughout the world, from the earliest expressions of spirituality to the modern world religions. Emphasis is placed on the archaeological evidence for recognizing religious expressions in general, and for the emergence of modern world religions. Archaeological interpretations of New World, African, and Australian religions will be considered in comparative perspective. Fieldwork to a house of worship or cemetery will be required. Prerequisite: ARC 150 or permission of instructor. (Same as RGS 395.)

ARC 402 Archeological Field Work II (1-5). Advanced field training in the methods of archeological survey and excavation; intensive instruction in the recovery and documentation of cultural remains and data from archeological sites, emphasizing individual initiative. One or more weeks of continuous field work (generally equivalent to one credit hour per every 37.5 hour week in the field.) Usually offered during summer session or during breaks. May not be repeated. Prerequisite: ARC 302, or permission of instructor.

ARC 425 Advanced Archaeological Laboratory Methods (3). Advanced training in the analysis of archaeological materials and writing of an archaeological study for professional presentation and publication. Prerequisites: ARC 300 and 304.

ARC 488 Cooperative Education/Internship (1-3). A meaningful, planned, and evaluated work experience related to the career and educational objectives of each student, for which he/she may receive both academic credit and financial

remuneration. May be repeated for a maximum of six hours for any 488/489 course. Graded pass/fail. Prerequisite: permission of instructor.

ARC 489 Cooperative Education/Internship (1-3). Continuation of ARC 488. A meaningful, planned, and evaluated work experience related to the career and educational objectives of each student, for which he/she may receive both academic credit and financial remuneration. May be repeated for a maximum of six hours for any 488/489 course. Prerequisites: At least three hours of ARC 488 and permission of instructor.

ARC 498 Museum Studies (3). Course will provide a broad introduction to the field of museum work. Topics included will be the history and philosophy of museums; the social, economic and political trends that shape museums; the staffing, management and financing of museums; and the multiple functions of museums—collection and care of objects, exhibition design and interpretation, educational programs, research activities and public relations. (Same as HIS 498.)

ARC 500 Directed Studies (1-3). Selected topics in archaeology as arranged by the student and a professor. May be repeated for up to nine hours. Prerequisites: At least 12 hours of archaeology and permission of department chair.

ARC 501 History of Archaeological Thought (3). A historical overview of the history and development of archeological thought from ancient times to the modern world. Prerequisite: ARC 300 or permission of the instructor.

ARC 510 Advanced Archaeological Field Work (1-5). Advanced field training in the strategy and tactics of archaeological survey and excavation. Intensive instruction in recovery and documentation of cultural remains and data from archaeological sites, the organization and logistics of archaeological field projects, and supervision of field crews. One or more weeks of continuous field work (generally equivalent to one credit hour per every 37.5 hour week in the field). Usually offered only during the summer session. May be repeated for up to five hours of credit. Prerequisite: ARC 402 or permission of instructor.

ARC 555 Archaeology of the Mid-South Region (3). An in depth study of prehistoric cultures of the Mid-South Region. Prerequisites: ARC 300, 330, 370, or permission of the instructor.

ARC 556 Geophysical Surveying (3). An overview of the application of terrestrial geophysical survey techniques and aerial remote sensing techniques in archaeological research. Emphasis will be placed on terrestrial geophysical survey methods with hands on training in the use of instruments such as ground penetrating radar and magnetic gradiometer. Weekend field trip to local archaeological sites are required. Prerequisite: ARC 300 or permission of instructor. (Same as GSC 556.)

ARC 600 Graduate Seminar in Archaeology (3). An examination of the development and current state of archaeological method and theory as well as consideration of current archaeological paradigms in the broader context of anthropology. Development of the practical archaeological research project.

ARC 602 Graduate Archaeological Field Work (1-5). Advanced field training for graduate students in the methods of archaeological survey, excavation, sampling, and data collection and recording. Intensive instruction in recovery and documentation of cultural remains and data from archaeological sites, the organization and logistics of archaeological field work, and supervision of archaeological field crews. One or more weeks of continuous field work (generally equivalent to one credit hour per every 37.5 hour week in the field.) Usually offered only during the summer session. May be repeated for up to five hours of credit.

ARC 604 Archaeological Laboratory Systems (1). Practical training in the organization and methods of archaeological laboratory procedures. Instruction in processing, cataloguing, preliminary analysis, preparation for curation/archival storage, and design of digital archives of cultural remains and records resulting from archaeological field work. Prerequisite: permission of the instructor.

ARC 605 Archaeological Information Systems (3). An exploration of the use of computer applications in archaeology, including data base design and management, electronic publication and digital archiving, use of internet

resources, virtual archaeology, and predictive modeling with GIS and CAD mapping techniques.

ARC 610 Landscape Archaeology (3). A survey of the concepts and methods of landscape archaeology, and its relationship with historical geography and historical ecology. The class will emphasize the investigation of cultural values embedded in landscapes and the ecological interactions of human societies and their environments as evident in the archaeological record.

ARC 615 Environmental Archaeology (3). The study of past human interactions with the natural world, including plants, animals, climate, and landscapes. Three hours lecture and two hours laboratory per week.

ARC 656 Geophysical Surveying (3). Course provides an overview of aerial and terrestrial remote sensing techniques including applications of these methods to archaeological research. Emphasis will be placed on terrestrial geophysical survey methods with hands on training in the use of instruments such as ground penetrating radar and magnetic gradiometer. Weekend field trip to local archaeological sites are required. (Same as GSC 656.)

ART AND DESIGN (ART)

Note: All prerequisite courses apply to students in art programs. Students not majoring or minoring in art may take any of the art courses listed if approved by the instructor and the Department of Art and Design.

ART 100T Transitions (1). Course is designed to assist students in their transition to Murray State University. Content includes orientation to the specific area or major(s) and minor(s) within the academic program; university procedures, policies, and resources; strategies for personal and academic success, and extracurricular opportunities. Only one transitions course will count toward graduation. Introductory seminar for all first-semester art majors, including transfer students. Graded pass/fail.

ART 101 Drawing I: Introduction to Drawing (3). Drawing with an emphasis on the development of visual perception. Six hours per week.

ART 105 Studio Art for Non-Majors (3). A studio course designed to introduce non-art majors to the processes of visual language and basic studio techniques that are fundamental to creating images. Six hours per week.

ART 111 Studio Practice (3). Studio Practice introduces students to a broad variety of basic materials, methods and concepts used in contemporary art practice, including modes of working which focus on surface (two-dimensional), space (three-dimensional) and time (four-dimensional). Ideation, design and critique are emphasized, along with the development of basic skill with hand and digital tools, and the development of an interdisciplinary workflow. Six hours per week.

ART 112 Studio Research (3). Studio Research introduces students to research and theme-based approaches to art making, including modes of working that focus on surface (two-dimensional), space (three-dimensional) and time (four-dimensional). Research of contemporary artists, topics, and themes will be emphasized, as well as collaborative approaches to art making, the public engagement of art and artists, and the development of a creatively self-sustaining art practice. Six hours per week.

ART 121 Art and Visual Culture (3). Surveys the various aspects of the visual and functional arts and their relationship to human life and society. A variety of art forms from different cultures and historical periods will be studied. Does not count toward art history minor. A student cannot have credit for both ART 121 and HON 161.

ART 201 Drawing II: Life Drawing (3). Figure drawing in varied media. Six hours per week. Prerequisite: ART 101 or permission of instructor.

ART 211 A Survey of Art from Antiquity to the Baroque (3). A survey of the history of art from Prehistory through the Baroque (17th century).

ART 212 A Survey of Art from the Enlightenment to the Present (3). A survey of the history of art from the Enlightenment (18th century) to the present.

ART 213 Art of Global Cultures (3). A survey of the history of art of non-western cultures.

ART 290 Special Problems in Studio Art (1-3). An independent problems course in studio art for undergraduates majoring in art under the direction of a faculty member. The student must submit and receive approval of a detailed study plan prior to registration. Prerequisites: consent of supervising faculty member and permission of department chair. May be repeated three times for credit.

ART 298 Mid-Degree Review Seminar (1). Assessment and enhancement of students' progress through weekly readings and discussions of issues in art and design, student writings about their own work, and a critique of their art by a jury of Art and Design faculty. Undergraduate and transfer students pursuing a baccalaureate degree in art must register for ART 298 immediately following the completion of 30 credit hours in art. This is a graded course.

ART 300 Drawing III (3). A conceptual study of both figurative and abstract approaches to drawing. Six hours per week. Prerequisites: ART 101 and 201 or permission of instructor.

ART 303 Drawing IV (3). Exploration of drawing ideas with emphasis on the development of personal expression. Six hours per week. Prerequisite: ART 300 or permission of instructor.

ART 304 Drawing V (3). Continuation of ART 303. Six hours per week. Prerequisite: ART 303 or permission of instructor.

ART 309 Introduction to Metalsmithing I (3). Metals in jewelry-making, holloware, small sculpture, and object-making with an emphasis on design and craftsmanship. Six hours per week. Prerequisites: ART 101 and 112 or permission of instructor.

ART 313 Woodworking II (3). Methods of construction and technique will be taught with an emphasis on proficiency in machine use. Six hours per week. Prerequisite: ART 310 or permission of instructor.

ART 311 Metalsmithing II (3). Introduction to several casting techniques as well as a continuation of skills learned in ART 309. Six hours per week. Prerequisite: ART 309 or permission of instructor.

ART 312 Metalsmithing III (3). Advanced problems in metalsmithing with an emphasis in ideation and conceptualization of content. Six hours per week. Prerequisite: ART 311 or permission of instructor.

ART 313 Woodworking II (3). Methods of construction and technique will be taught with an emphasis on proficiency in machine use. Six hours per week. Prerequisite: ART 310 or permission of instructor.

ART 314 Woodworking III (3). Advanced problems in woodworking. Introduction to increasingly complex joinery methods with an emphasis on development of personal voice. Six hours per week. Prerequisite: ART 313 or permission of instructor.

ART 315 (415) Greek and Roman Art (3). Topics in the history of the art and architecture of ancient Greece and Rome through the late Antique.

ART 316 (416) Medieval Art (3). Topics in the history of art from the Early Christian through the Gothic period.

ART 318 (418) Renaissance Art (3). Topics in the history of the Renaissance.

ART 319 (419) Baroque Art (3). Topics in the history of the art of the Baroque period, mainly in Europe.

ART 328 (428) Nineteenth-Century Art (3). History of 19th Century Western art.

ART 329 (429) Art from 1900 to 1960 (3). History of Western art from 1900 to 1960.

ART 330 Introduction to Painting I (3). This course covers basics of color theory and materials and techniques of painting in oil. Problems stress the mastery of the medium first, and then using it to render from observation. Six hours per week. Required course for teacher certification. Prerequisites: ART 101 and 111 or permission of instructor.

ART 333 Painting II (3). Continuation of ART 330. Six hours per week. Prerequisite: ART 330 or permission of instructor.

ART 334 Painting III (3). Continuation of ART 333. Six hours per week. Prerequisite: ART 333 or permission of instructor.

ART 341 Fundamentals of Elementary School Art (3). Survey of the profession of art education at the elementary school level. Provides students with a combination of clinical and field experiences. Includes laboratory and lecture experiences in elementary school art materials and teaching methods. This course is designed for the art major pursuing teacher certification in ART P-12. Six hours per week. Prerequisite: EDU 103 or permission of the instructor.

ART 342 Fundamentals of Secondary School Art (3). Survey of the profession of art education at the junior and senior high school levels. Provides students with a combination of clinical and field experiences. A course similar to ART 341 with emphasis upon teaching of art on the junior and senior high school levels. This course is designed for the art major pursuing teacher certification in ART P-12. Six hours per week. Field hours required. Prerequisite: EDU 103 or permission of the instructor.

ART 343 Art Materials and Techniques for the Classroom Teacher (3). A studio art education course emphasizing visual learning in all curricular areas of the elementary classroom. This course provides prospective elementary classroom teachers, early childhood educators, and special education teachers with the necessary art making skills in a variety of media and techniques. Class sessions include demonstration, experimentation, and manipulation of materials and techniques leading to reflective decision-making as well as critical assessment of finished work. Six hours per week. Prerequisite: EDU 103 or 104.

ART 350 Introduction to Graphic Design I: Digital Art (3). Introduction to the computer as a tool for fine art and illustration. Students are taught computer techniques and approaches to creating art. Six hours per week. Prerequisites: ART 101 and 111.

ART 351 Graphic Design II: Type and Image (3). Introduction to type and image production for graphic design. Students learn traditional and computer based problem-solving techniques. Six hours per week. Prerequisite: ART 350 or permission of instructor.

ART 352 Graphic Design III: Layout and Introduction to Design Systems (3). Intermediate level study in graphic design focusing on layout for publication. Six hours per week. Prerequisite: ART 350 (ART 351 is also recommended) or permission of instructor.

ART 353 Web Design (3). Course is intended to continue and emphasize the concepts and skills of graphic communication. Emphasis will be placed on learning professional design methods and applying them to designs for the web. Projects will stress considerations in design theory and the principles of typography, particularly as they apply to user interface design, site design, and navigation. Students will work in both an individual and a collaborative manner involving writing, electronic design, advertising, and photography. Prerequisite: ART 350.

ART 360 Introduction to Sculpture I (3). A study of form, space and surface through the development of 3-D sculptural assignments. Basic sculpture techniques involving additive and subtractive methods. Studio and lecture. Six hours per week. Prerequisites: ART 111 and 112 or permission of instructor.

ART 361 Sculpture II (3). Further exploration of form, space, and surface and an introduction to more advanced techniques and permanent materials. Studio and lecture. Six hours per week. Prerequisite: ART 360 or permission of instructor.

ART 362 Sculpture III (3). A continuation of ART 361. Studio and lecture. Six hours per week. Prerequisite: ART 361 or permission of instructor.

ART 370 Introduction to Ceramics I (3). Beginning ceramics introduces students to a broad spectrum of clay working including the making of functional pottery, the vessel as metaphor, and clay as a medium for sculpture. Students learn hand building, wheel throwing, and glazing among other basic ceramic techniques. Design, craftsmanship, and critical thinking are emphasized. Six hour per week. Pre- or Corequisite: ART 101 or 111 or 112 or permission of instructor.

ART 371 Ceramics II (3). Continued development of skills and concepts learned in ART 370 along with the introduction of advanced techniques including casting and kiln firing. Ideation, criticism and discussion are emphasized. Six hours per week. Prerequisite: ART 370 or permission of instructor.

ART 372 Ceramics III (3). Continued development of skills and concepts learned in ART 371 with an emphasis on individual investigation, technical finesse, concept, content, criticism and discussion. Six hours per week. Prerequisite: ART 371 or permission of instructor.

ART 379 Introduction to Printmaking I (3). Introduction to the techniques and materials of intaglio and relief printing, including collograph, drypoint, etching and linoleum cuts. Composition, craftsmanship, and technique are emphasized. Six hours per week. Prerequisites: ART 101, 111, or permission of instructor.

ART 380 Printmaking II (3). Introduction to the techniques and materials of lithography including stone, plate and photo lithography. Composition, craftsmanship, technique and individual investigation are emphasized. Criticism and discussion. Six hours per week. Prerequisite: ART 379 or permission of instructor.

ART 381 Printmaking III (3). Introduction to the techniques and material of silkscreen, including photo silkscreen. Composition, craftsmanship, technique and individual investigation are emphasized. Criticism and discussion. Six hours per week. Prerequisite: ART 380 or permission of instructor.

ART 382 Introduction to Photography I (3). Students will be introduced to the fundamentals of digital photography while exploring creative image making as a means of personal expression. By examining the basic formal foundations and concepts in photography through readings and lab based projects, as well as participating in discussion and critiques, students will build a visual literacy for application in daily life and for developing a deeper understanding of the medium and its history. Cameras are not supplied. Six hours per week.

ART 383 Photography II (3). Continuation and refinement of technical aspects presented in ART 382 with expanded emphasis on individual investigation. Discussion and criticism. Six hours per week. Prerequisite: ART 382 or permission of instructor.

ART 384 Photography III (3). Exploration of personal style and various photographic processes. Discussion and investigation of historical and current photographic concerns and trends. Six hours per week. Prerequisite: ART 383 or permission of instructor.

ART 385 Introduction to Video Art (3). An introduction to the fundamentals of video art with an emphasis on sound, performance, and the moving image as a means of creative expression. Students will gain basic familiarity with digital video and sound capture, and the editing software necessary to execute individual projects.

ART 390 Seminar (3). Special projects and activities course involving problems utilizing special talents of Department of Art and Design faculty and guest artists. Six hours per week. May be repeated up to three times for credit.

ART 393 Special Topics in 2D (3). Changing topics in two-dimensional studio art to be determined by the instructor and student interest. May be repeated up to 12 credit hours but only three credits may be counted toward the art area core. Six hours per week. Prerequisite: permission of instructor.

ART 394 Special Topics in 3D (3). Changing topics in three-dimensional studio art to be determined by the instructor and student interest. May be repeated up to 12 credit hours but only three credits may be counted toward the art area core. Six hours per week. Prerequisite: permission of instructor.

ART 397 Introduction to Bookbinding and Artist Books (3). Introduction to the techniques and basic principles of bookbinding, while expanding on the content of ones work through artist books. This class will use traditional, sculptural, and experimental structures. Formal elements, technique, craftsmanship, and content are emphasized. Six hours per week. Prerequisites: ART 101 and 111, or permission of instructor.

ART 399 Professional Practices (1). A survey of the resources, methods and skills employed by artists in a range of professions.

ART 403 Drawing VI (3). Six hours per week. Prerequisite: ART 303 or permission of instructor.

ART 404 Drawing VII (3). Six hours per week. Prerequisite: ART 403 or permission of instructor.

ART 411 Metalsmithing IV (3). Advanced problems in metalsmithing. Six hours per week. Prerequisite: ART 312 or permission of instructor.

ART 412 Metalsmithing V (3). Use of metals in jewelry-making, holloware, small sculpture, and/or object-making. Six hours per week. Prerequisite: ART 411 or permission of instructor.

ART 413 Woodworking IV (3). Advanced construction methods will be covered with an emphasis on understanding contemporary context. Six hours per week. Prerequisite: ART 314 or permission of instructor.

ART 414 Woodworking V (3). Advanced problems in woodworking. Advanced construction methods will be covered with an emphasis on understanding contemporary context. Six hours per week. Prerequisite: ART 413 or permission of instructor.

ART 420 (501) Special Topics in Art History (3). Changing seminar topics to be determined by the instructor and student interest. May be repeated up to nine credit hours. Prerequisites: ART 121, 211, 212 or HON 161; or permission of instructor.

ART 425 Art of Asia (3). A history of the art of India, Central and Southeast Asia, China, Korea, and Japan. Prerequisites: ART 121, 211, 212, 213 or HON 161; or permission of instructor. (Same as RGS 425.)

ART 430 Contemporary Art, 1960 to the Present (3). History of contemporary art from 1960 to the present. Prerequisite: ART 121 or 329; or permission of instructor.

ART 433 Painting IV (3). Advanced problems. Six hours per week. Prerequisite: ART 334 or permission of instructor.

ART 434 Painting V (3). Exploration of painting and ideas with emphasis on personal expression. Criticism and discussion. Six hours per week. Prerequisite: ART 433 or permission of instructor.

ART 451 Graphic Design IV: System Design (3). Advanced level design for multimedia and the Internet. Web page design and exploration of multimedia. Six hours per week. Prerequisite: ART 351, 352, or permission of instructor.

ART 452 Graphic Design V: Senior Portfolio (3). Terminal level study in graphic design involving directed research, portfolio preparation and group evaluation. Six hours per week. Prerequisite: ART 351, 352, or permission of instructor.

ART 461 Sculpture IV (3). Selected problems involved in the sculpture process. Opportunity for directed study and studio work in a variety of three-dimensional media or processes. Emphasis on developing a creative body of work. Studio and lecture. Six hours per week. Prerequisite: ART 362 or permission of instructor.

ART 462 Sculpture V (3). A continuation of ART 461. Six hours per week. Prerequisite: ART 461 or permission of instructor. Studio and lecture.

ART 471 Ceramics IV (3). Continued development of the skills learned in ART 372, largely through individually tailored and self-directed assignments. Students will be responsible for all aspects of the production of their work,

from mixing their clay and glaze to loading and firing kilns. Technical proficiency, criticism, discussion, and investigation of historical and contemporary ceramics will be emphasized. Six hours per week. Prerequisite: ART 372 or permission of instructor.

ART 472 Ceramics V (3). Continuation of ART 471. Six hours per week. Prerequisite: ART 471 or permission of instructor.

ART 480 Printmaking IV (3). Advanced problems and further exploration of the techniques, processes, tool and equipment related to intaglio, lithography, relief and silkscreen. Individual direction, technical proficiency and personal expression are emphasized. Criticism and discussion. Six hours per week. Prerequisite: ART 381 or permission of instructor.

ART 481 Printmaking V (3). Continuation of ART 480. Six hours per week. Prerequisite: ART 480 or permission of instructor.

ART 483 Photography IV (3). Investigation of nontraditional and/or new technology related to light-sensitive image-making. Refinement of personal visual direction. Research into new techniques and/or visual trends in society and industry. Six hours per week. Prerequisite: ART 384 or permission of instructor.

ART 484 Photography V (3). Concentrated study of selected photographic processes as related to student's professional goals. Individual explorations are to culminate in a unified body of work such as a book or portfolio, to help prepare the student for his/her senior show, and to facilitate entry into graduate school or the workplace. Prerequisite: ART 483 or permission of instructor.

ART 488 Cooperative Education/Internship (1-3). A meaningful, planned, and evaluated work experience related to the career and educational objectives of the student for which he/she may receive academic credit and possible financial remuneration. May be repeated for a maximum of six hours from any 488/489 courses. Graded pass/fail. Prerequisite: permission of chair.

ART 489 Cooperative Education/Internship (1-3). A meaningful, planned, and evaluated work experience related to the career and educational objectives of the student for which he/she may receive academic credit and possible financial remuneration. May be repeated for a maximum of six hours from any 488/489 courses. Prerequisite: permission of chair.

ART 490 Special Problems in Studio Art (1-3). An independent problems course in studio art for advanced undergraduates majoring in art under the direction of a faculty member. The student must submit and receive approval of a detailed study plan prior to registration. May be repeated for a maximum of nine credit hours. Prerequisites: consent of supervising faculty member and permission of department chair.

ART 491 Special Problems in Art History (3). An independent problems course in art history for advanced undergraduates majoring in art under the direction of the art history faculty. The student must submit and receive approval of a detailed study plan prior to registration. May be repeated once for credit. Prerequisites: consent of supervising faculty member and permission of department chair.

ART 492 Special Problems in Art Education (3). An independent problems course in art education for advanced undergraduates majoring in art under the direction of the art education faculty member. The student must submit and receive approval of a detailed study plan prior to registration. Does not count as a studio elective. May be repeated up to three times for credit. Prerequisites: consent of supervising faculty member and permission of department chair.

ART 498 B.F.A. Practicum Exhibition (3). Final project for the B.F.A. candidate taking an area in art. Documentation (slides/video) and written statement (which includes a description of the direction and influences upon the student's work) must accompany the practicum exhibition. Graded pass/fail. Prerequisite: ART 298 or permission of instructor.

ART 499 B.A./B.S. Practicum Group Exhibition (1). Final project for the B.A./B.S. candidate taking an area in art. Written statement, including description of the direction and influences upon the student's work, must accompany the work exhibited in the practicum exhibition. Graded pass/fail. Prerequisites:

ART 298 and senior year, the final semester of the student's program of study, or permission of instructor.

ART 503 Drawing VIII (3). Concentrated exploration of drawing with emphasis on personal expression. Criticism and discussion. Six hours per week. Prerequisite: two drawing courses or permission of instructor.

ART 504 Drawing IX (3). Continuation of ART 503. Six hours per week. Prerequisite: ART 503 or permission of instructor.

ART 511 Metalsmithing VI (3). A concentrated exploration of the use of metals in jewelry-making and holloware. Six hours per week. Prerequisites: two courses in metalsmithing or permission of instructor.

ART 512 Metalsmithing VII (3). Continuation of ART 511. Six hours per week. Prerequisite: ART 511 or permission of instructor.

ART 513 Woodworking VI (3). Advanced problems in woodworking. Advanced construction methods will be covered with an emphasis on understanding contemporary context. Six hours per week. Prerequisite: ART 414 or permission of instructor.

ART 514 Woodworking VII (3). Advanced problems in woodworking. Advanced construction methods will be covered with an emphasis on understanding contemporary context. Six hours per week. Prerequisite: ART 513 or permission of instructor.

ART 533 Painting VI (3). Concentrated exploration of painting with emphasis on personal expression. Criticism and discussion. Six hours per week. Prerequisites: two painting courses or permission of instructor.

ART 534 Painting VII (3). Continuation of ART 533. Six hours per week. Prerequisite: ART 533.

ART 551 Graphic Design VI (3). Additional refinement of graphic techniques, discussion and criticism. An emphasis on individual investigation concentrating on producing a unified body of work suitable for a portfolio or professional show. The student and the instructor will design a program of study directed toward this goal. Six hours per week. Prerequisite: ART 452.

ART 552 Graphic Design VII (3). Advanced specialization; continuation of ART 551.

ART 561 Sculpture VI (3). Selected problems involved in the sculpture process. Opportunity for directed individual study and studio work in a variety of three-dimensional media or processes. Emphasis on developing a cohesive, creative body of work. Studio and lecture. Six hours per week. Prerequisite: ART 462 or permission of instructor.

ART 562 Sculpture VII (3). A continuation of ART 561. Studio and lecture. Six hours per week. Prerequisite: ART 561 or permission of instructor.

ART 571 Ceramics VI (3). Concentrated exploration of selected ceramic processes with emphasis on personal expression. Six hours per week. Prerequisites: two courses in ceramics or permission of instructor.

ART 572 Ceramics VII (3). Continuation of ART 571. Six hours per week. Prerequisite: ART 571 or permission of instructor.

ART 580 Printmaking VI (3). Advanced problems. Concentrated study of selected printmaking processes with emphasis on personal expression. Individual direction and technical proficiency are emphasized. Criticism and discussion. Six hours per week. Prerequisites: two advanced courses in printmaking or permission of instructor.

ART 581 Printmaking VII (3). Advanced problems. Continuation of ART 580. Six hours per week. Prerequisite: ART 580 or permission of instructor.

ART 583 Photography VI (3). Concentrated exploration of individual problems, culminating in a unified body of work such as a book or portfolio. Individual expression, discussion and criticism. Six hours per week. Prerequisites: two courses in photography or permission of instructor.

ART 584 Photography VII (3). Continuation of ART 583. Six hours per week. Prerequisite: ART 583 or permission of instructor.

ART 690 Special Problems in Studio Art (3). An independent problems course in studio art for graduate students under the direction of a faculty member. The student must submit and receive approval of a detailed study plan prior to registration. May be repeated up to three times for credit. Prerequisites: permission of instructor and permission of department chair.

ART 691 Special Problems in Art History (3). An independent problems course in art history for graduate students under the direction of the art history faculty. The student must submit and receive approval of a detailed study plan prior to registration. May be repeated up to three times for credit. Prerequisites: consent of supervising faculty member and permission of department chair.

ART 692 Special Problems in Art Education (3). An independent problems course in art education for graduate students under the direction of the art education faculty. The student must submit and receive approval of a detailed study plan prior to registration. Does not count as a studio elective. May be repeated up to three times for credit. Prerequisites: permission of instructor and permission of department chair.

AMERICAN SIGN LANGUAGE (ASL)

ASL 101 American Sign Language Level I (3). American Sign Language (ASL) Level I is designed for the student who wants to acquire ASL skills to communicate with persons who are deaf. The course will focus on basic communication functions such as introducing oneself, exchanging personal information, making requests, talking about family and occupations, giving directions, attributing qualities to others and talking about routines. The course will also introduce students to deaf culture. The course will be taught without the use of voice.

ASL 102 American Sign Language Level II (3). American Sign Language (ASL) Level II is designed for the student who wants to acquire basic ASL skills to communicate with persons who are deaf. The course will build upon ASL I and focus on different types of numbering systems, cross-cultural communication, identifying and describing others, how to talk about routines, family, and occupations and how to make requests. The course will further introduce students to the Deaf culture and a brief history of Deaf America. The course will be taught without the use of voice. Prerequisite: ASL 101.

ASL 103 American Sign Language III (3). Course is designed to teach intermediate expressive and receptive ASL skills and the cultural features of the language and community. The course will focus on awareness of and respect for the Deaf Culture. The course will be taught without the use of voice. Prerequisite: ASL 102 with a C or better or permission of instructor.

ASL 104 American Sign Language Level IV (3). Course is designed to further develop intermediate expressive and receptive ASL skills and cultural features of language and community. The course will focus on the understanding of signing with meaning to move students toward intermediate plus level. Students will increase their awareness of and expand their respect for the Deaf Culture. The course will be taught without the use of voice. Students will attend three Deaf events. Prerequisite: ASL 103 with a minimum grade of C or instructor permission.

ASTRONOMY (AST)

AST 115 Introductory Astronomy (3). Descriptive examination of the objects of the solar system and the stellar universe. A brief historical presentation of the fundamental astronomical theories provides a basis for the examination. Multimedia presentations are used. Corequisite: AST 116.

AST 116 Introductory Astronomy Laboratory (1). Laboratory to accompany AST 115. Two hours laboratory per week. Corequisite: AST 115.

AST 215 General Astronomy (3). A mathematical study of the relative positions, motions, and physical characteristics of celestial objects. Lectures supplemented by occasional visits to the observatory. Not open to students with credit in AST 115. Prerequisite: MAT 130 or approved equivalent.

AST 216 Stars and Galaxies (3). Brief survey of radiation and spectra, geometric and radioactive properties of stars, multiple stars, variables, star clusters and associations. Prerequisites: AST 215, MAT 250.

AST 220 Astrophotography (2). Involves technique of photographing the lunar surface, the planets, interstellar media, and constellations as well as studies of photographic materials.

AST 306 Astrometry (3). Survey of the basic measurements related to astronomical observing. Plane and spherical coordinates celestial sphere, stellar positions, proper motion and time effects. Prerequisites: AST 215, MAT 250.

AST 316 Introductory Astrophysics and Space Physics (3). Introduction to astrophysics and space physics. Space physics is concerned with understanding the environment between the sun and the earth's upper atmosphere. Topics include coronal mass ejections, the solar wind, magnetospheric storms, and auroral precipitation. Astrophysics is the study of planetary system formation and evolution, stellar structure and evolution, galactic structure, and cosmology. Phenomena of interest include quasars, black holes, supernovas, and the cosmic microwave background radiation. Prerequisites: PHY 132 and 255. (Same as PHY 316.)

AST 515 Special Topics (1-3). This course is designed to fulfill special needs not met by other courses. It may be a lecture or seminar course. Prerequisite: permission of instructor.

ATHLETIC TRAINING (ATR)

ATR 500 Research and Evidence-Based Practice (3). Course designed to introduce the topics of evidence-based practice and outcome measures as it relates to patient care. Topics of discussion are designed to enhance students' understanding of the research process and include clinical research questions, design, implementation, and application. Prerequisite: STA 135.

ATR 501 Professional Aspects of Athletic Training (1). Course designed to introduce students to the profession of athletic training. Topics of discussion include a history of the profession and professional organizations, injury surveillance and epidemiology, and roles and responsibilities of the health care team.

ATR 503 Functional Anatomy in Athletic Training (3). Course designed to expand upon basic terminology by connecting anatomical concepts with the principles of movement and injury. Topics of discussion include appendicular and axial skeleton, muscle location and function, and physiological principles on contraction. Prerequisites: BIO 227, 228, 229, and 230 or equivalent.

ATR 504 Musculoskeletal Evaluation (3). Course designed to present orthopedic evaluation skills, documentation techniques, and cultural competence issues. Topics of discussion include injury evaluation software and documentation, clinical skills of palpation, goniometry, and neurological screening. Prerequisite: ATR 503.

ATR 505 Bracing, Splinting, and Taping (1). Course designed to discuss theories and apply clinical skills of bracing, splinting, and taping of musculoskeletal injuries. Topics include indications and contra-indications for various protective equipment, and clinical skill development in the application of braces, splints, and tape for the prevention and/or treatment of injuries.

ATR 506 Diagnostic Testing and Measurements (2). Course designed to introduce the use of imaging and modeling to enhance the accuracy of the evaluation and diagnosis. Topics of discussion will elaborate on the concepts of diagnostic accuracy and assessment, and include theories of diagnostic ultrasound, nerve conduction velocity, electromyography, and kinematic analysis. Prerequisite: ATR 503.

ATR 507 Emergency Care in Athletic Training (2). Course designed to introduce students to procedures and policies of responding to a medical emergency as an athletic trainer. Topics of discussion include emergency action plans, wound care, spine boarding and equipment removal, and responding to medical emergencies in nontraditional settings. Prerequisites: Certified in First Aid and CPR/AED for the Health Care Provider (verified by the instructor.)

ATR 508 Emergency Care in Athletic Training Laboratory (1). Course designed to introduce and develop competent clinical skills in responding to a medical emergency as an athletic trainer. Activities include executing emergency action plans, wound care, spine boarding, removing equipment, and responding to medical emergencies in non-traditional settings. Co- or Prerequisite: ATR 507.

ATR 520 Therapeutic Interventions (2). Course designed to provide a comprehensive overview of the healing process, pharmacological interventions, and therapeutic interventions using evidence-based practice. Prerequisite: ATR 501. Corequisite: ATR 521.

ATR 521 Therapeutic Interventions Laboratory (2). Course designed to provide opportunity for students to develop clinical decision-making skills and practical skills addressing the phases of healing using therapeutic and pharmacological intervention. Prerequisite: ATR 501. Corequisite: ATR 520.

ATR 535 Prevention and Health Promotion (3). Course designed to familiarize students with healthy behaviors, risk factors for unhealthy behaviors, common performance enhancing supplements, and ergogenic aids. The discussion topics will include recognition, referral, and management of chronic disease concepts. Prerequisite: permission of instructor.

ATR 541 Clinical Experience in Athletic Training I (2). Course designed to allow the athletic training student to integrate and apply content knowledge gained in the didactic setting and develop proficiency in the educational competencies required for athletic training certification. This course will focus on immediate care of the ill and injured, therapeutic interventions, and biomechanical evaluations. The athletic training student will be required to attend clinical experience as assigned. Prerequisites: ATR 507, 508, and admission to the Athletic Training Program.

ATR 542 Clinical Experience in Athletic Training II (3). Course designed to allow the athletic training student to integrate and apply content knowledge gained in the didactic setting and develop proficiency in the educational competencies required for athletic training certification. This course will focus on lower extremities therapeutic interventions and psychosocial interventions. The athletic training student will be required to attend clinical experience as assigned. Prerequisites: ATR 520, 521, 541, and admission to the Athletic Training Program.

ATR 551 Evaluation and Care: Foot, Ankle and Lower Leg (2). Course designed to prepare the student to prevent, evaluate, treat, and rehabilitate orthopedic injuries of the lower extremity. Specific areas of focus include the foot, ankle, and lower leg. Prerequisites: ATR 504, 505, 506, 520, and 521.

ATR 552 Evaluation and Care: Knee and Patellofemoral (2). Course designed to prepare the student to prevent, evaluate, treat, and rehabilitate orthopedic injuries of the lower extremity. Specific areas of focus include the knee and patellofemoral conditions. Prerequisite: ATR 504, 505, 506, 520, and 521.

ATR 585 Psychosocial Interventions (2). Course designed to provide an analysis of mental health recognition, management, and referral strategies associated with patients under the care of an athletic trainer. Topics addressed include motivation, goal setting, and sociocultural factors associated with injury or illness. Prerequisite: permission of instructor.

ATR 600 Research and Evidence-Based Practice (3). Course designed to introduce the topics of evidence-based practice and outcome measures as it relates to patient care. Topics of discussion are designed to enhance students' understanding of the research process and include clinical research questions, design, implementation, and application. Prerequisite: MAT 135 or equivalent.

ATR 601 Professional Aspects of Athletic Training (1). Course designed to introduce students to the profession of athletic training. Topics of discussion include a history of the profession and professional organizations, injury surveillance and epidemiology, and roles and responsibilities of the health care team.

ATR 603 Functional Anatomy in Athletic Training (3). Course designed to expand upon basic terminology by connecting anatomical concepts with the principles of movement and injury. Topics of discussion include appendicular

and axial skeleton, muscle location and function, and physiological principles of contraction. Prerequisites: BIO 227, 228, 229, and 230 or equivalent.

ATR 604 Musculoskeletal Evaluation (3). Course designed to present orthopedic evaluation skills, documentation techniques. And cultural competence issues. Topics of discussion include injury evaluation software and documentation, clinical skills of palpation, goniometry, and neurological screening. Prerequisite: ATR 603.

ATR 605 Bracing, Splinting, and Taping (1). Course designed to discuss theories and apply clinical skills of bracing, splinting, and taping of musculoskeletal injuries. Topics include indications and contraindications for various protective equipment, and clinical skill development in the application of braces, splints, and tape for the prevention and/or treatment of injuries.

ATR 606 Diagnostic Testing and Measurement (2). Course designed to introduce the use of imaging and modeling to enhance the accuracy of the evaluation and diagnosis. Topics of discussion will elaborate on the concepts of diagnostic accuracy and assessment, and include theories of diagnostic ultrasound, nerve conduction and velocity, electromyography, and kinematic analysis. Prerequisite: ATR 603.

ATR 607 Emergency Care in Athletic Training (2). Course designed to introduce students to procedures and policies of responding to a medical emergency as an athletic trainer. Topics of discussion include emergency action plans, wound care, spine boarding and equipment removal, and responding to medical emergencies in non-traditional settings. Prerequisite: Certified in First Aid and CPR/AED for the Health Care Provider (verified by the instructor).

ATR 608 Emergency Care in Athletic Training Laboratory (1). Course designed to introduce and develop competent clinical skills in responding to a medical emergency as an athletic trainer. Activities include executing emergency action plans, wound care, spine boarding, equipment removal, and responding to medical emergencies in non-traditional settings. Pre-Corequisite: ATR 607.

ATR 620 Therapeutic Interventions (2). Course designed to provide a comprehensive overview of the healing process, pharmacological interventions, and therapeutic interventions using evidence-based practice. Prerequisite: ATR 601. Corequisite: ATR 621.

ATR 621 Therapeutic Interventions Laboratory (2). Course designed to provide opportunities for students to develop clinical decision-making skills and practice skills addressing the phases of healing using therapeutic and pharmacological interventions. Prerequisite: ATR 601. Corequisite: ATR 620.

ATR 635 Prevention and Health Promotion (3). Course designed to familiarize students with healthy behaviors, risk factors for unhealthy behaviors, common performance enhancing supplements, and ergogenic aids. The discussion topics will include recognition, referral, and management of chronic disease concepts. Prerequisite: Instructor permission.

ATR 641 Clinical Experience in Athletic Training I (2). Course designed to allow the athletic training student to integrate and apply content knowledge gained in the didactic setting and develop proficiency in the educational competencies required for athletic training certification. This course will focus on immediate care of the ill and injured, therapeutic interventions, and biomechanical evaluations. The athletic training student will be required to attend clinical experience as assigned. Prerequisites: ATR 507, 508, and admission to the Athletic Training Program.

ATR 642 Clinical Experience in Athletic Training II (3). Course designed to allow the athletic training student to integrate and apply content knowledge gained in the didactic setting and develop proficiency in the educational competencies required for athletic training certification. This course will focus on lower extremity therapeutic interventions and psychosocial interventions. The athletic training student will be required to attend clinical experience as assigned. Prerequisites: ATR 620, 621, 641, and admission to the Athletic Training Program.

ATR 645 Clinical Experience in Athletic Training III (2). Course designed to allow the athletic training student to integrate and apply content knowledge gained in the didactic setting and develop proficiency in the educational competencies required for athletic training certification. The athletic training student will

be required to attend clinical experience as assigned. Prerequisite: ATR 551, 552, and admission to the Athletic Training Program.

ATR 646 Clinical Experience in Athletic Training IV (3-4). Course designed to allow the athletic training student to integrate and apply content knowledge gained in the didactic setting and develop proficiency in the educational competencies required for athletic training certification. The athletic training student will be required to attend clinical experience as assigned. Credit hours for this course are dependent upon clinical experience assignment; however, a total of nine credit hours must be accumulated between 646 and 647. Prerequisite: ATR 653, 654, and admission to the Athletic Training Program.

ATR 647 Clinical Experience in Athletic Training V (5-6). Course designed to allow the athletic training student to integrate and apply content knowledge gained in the didactic setting and develop proficiency in the educational competencies required for athletic training certification. The athletic training student will be required to attend clinical experience as assigned. Credit hours for this course are dependent upon clinical experience assignment; however, a total of nine credit hours must be accumulated between 646 and 647. Prerequisite: ATR 655, 656, 657, and admission to the Athletic Training Program.

ATR 648 Seminar in Athletic Training I (2). Course designed to address current topics in athletic training, advanced principles of professional development, and state regulatory and legislative efforts. Prerequisite: ATR 671 and admission to the Athletic Training Program.

ATR 649 Seminar in Athletic Training II (1). Course designed to serve as a preparatory course for students planning to sit for the Board of Certification (BOC) for the Athletic Trainer Exam and enter into the profession of athletic training. Prerequisite: ATR 648 and admission to the Athletic Training Program.

ATR 651 Evaluation and Care: Foot, Ankle, and Lower Leg (2). Course designed to prepare the student to prevent, evaluate, treat, and rehabilitate orthopedic injuries of the lower extremities. Specific areas of focus include the foot, ankle, and lower leg. Prerequisites: ATR 604, 605, 606, 620, and 621.

ATR 652 Evaluation and Care: Knee and Patellofemoral (2). Course designed to prepare the student to prevent, evaluate, treat, and rehabilitate orthopedic injuries of the lower extremities. Specific areas of focus include the knee and patellofemoral conditions. Prerequisites: ATR 604, 605, 606, 620, and 621.

ATR 653 Evaluation and Care: Thigh, Pelvis, and Lumbosacral Spine (2). Course designed to prepare the student to prevent, evaluate, treat, and rehabilitate orthopedic injuries of the lower extremity. Specific areas of focus include the thigh, pelvis, and lumbosacral spine. Prerequisite: ATR 504, 505, 506, 520, and 521.

ATR 654 Evaluation and Care: Shoulder and Upper Arm (2). Course designed to prepare the student to prevent, evaluate, treat, and rehabilitate orthopedic injuries of the upper extremity. Specific areas of focus include the shoulder and upper arm. Prerequisite: ATR 504, 505, 506, 520, and 521.

ATR 655 Evaluation and Care: Elbow, Wrist, Hand, Fingers (2). Course designed to prepare the student to prevent, evaluate, treat, and rehabilitate orthopedic injuries of the upper extremity. Specific areas of focus include the elbow, wrist, hand, and fingers. Prerequisites: ATR 504, 505, 506, 520, and 521.

ATR 656 Evaluation and Care: Head and Cervical Spine (2). Course designed to prepare the student to prevent, evaluate, treat, and rehabilitate orthopedic injuries and general medical conditions of the head and cervical spine. Prerequisites: ATR 504, 505, 506, 520, and 521.

ATR 657 Evaluation and Care: Thorax and Abdomen (2). Course designed to prepare students to prevent, evaluate, treat, and rehabilitate orthopedic injuries and general medical conditions of the thorax and abdomen. Prerequisites: ATR 504, 505, 506, 520, and 521.

ATR 671 Administration and Professional Development (2). Course designed to introduce administrative, legal, and leadership concepts in health care. The discussion topics will include professional development, risk management, regulatory organizations, facility design, and documentation requirements included in medical records. Prerequisite: ATR 501.

ATR 672 Graduate Project in Athletic Training I (1). Course designed to provide a comprehensive understanding to the development and regulations of conducting student research proposals. The discussion topics will include human subject rights and protection, reviews of the literature, and design of data collection methodology. Prerequisites: ATR 500 and admission to the Athletic Training Program.

ATR 673 Graduate Project in Athletic Training II (3). Course designed to focus on the completion of a graduate research project. The discussion topics will include strategies to recruit participants, data collection procedures, statistical analysis, and paper guidelines for publication. Prerequisites: ATR 672 and admission to the Athletic Training Program.

ATR 685 Psychosocial Intervention (2). Course designed to provide an analysis of mental health recognition, management, and referral strategies associated with patients under the care of an athletic trainer. Topics addressed include motivation, goal setting, and sociocultural factors associated with injury and illness. Prerequisite: instructor permission.

BUSINESS AND MARKETING EDUCATION (BED)

BED 510 Methods and Materials-Teaching Business/Marketing Education Subjects (3). A required course for business/marketing students emphasizing the latest methods and materials for teaching business and marketing subjects. Must be completed before doing student teaching. Field experience required. Field trips may be required. Prerequisite: CTE 503 or EDU 303.

BIOLOGY (BIO)

BIO 100T Transitions (1). Course is designed to assist students in their transition to Murray State University. Content includes orientation to the specific area or major(s) and minor(s) within the academic program; university procedures, policies, and resources; strategies for personal and academic success, and extracurricular opportunities. Only one transitions course will count toward graduation. Required of all entering freshmen. Graded pass/fail. (Fall only)

BIO 100 Introductory Biology Laboratory (1). Laboratory work for a non-majors general biology course. Open to transfer students with three hours of non-majors general biology without a laboratory or students who have taken BIO 102.

BIO 101 Biological Concepts (4). Biological principles are examined in an active learning mode. This course relates the significance of biology to individuals and society and establishes that this body of knowledge underpins agriculture, medicine, and environmental management. Laboratory required.

BIO 102 Introductory Biology (3). Biological principles are examined in an active learning mode. This on-line course relates the significance of biology to students and society, and establishes that this body of knowledge underpins agriculture, medicine, and environmental management. This course in combination with BIO 100, an on-campus lab, will meet the University Studies science course with lab requirement. Students may not receive credit for BIO 101 and 102.

BIO 103 Saving Planet Earth (3). A study of the problems faced by humans on the Earth, including human population growth, over-exploitation of natural resources, habitat destruction and extinction. The philosophical, ethical, and scientific basis of these problems and their solutions will be discussed. The course will also explore the potential for humans to live in a sustainable fashion on the planet, and emphasize the social responsibility and civic engagement required to do so.

BIO 109 Biology of Cancer (3). The exploration into the myths and facts of the biology of cancer and how various physical, genetic, environmental, and lifestyle factor influence one's chances of developing cancer. Topics will include basic cell, tumor, and human biology, the different strategies the health care system employs to detect, attack, and defeat cancer, and risk factor assessment.

BIO 115 The Cellular Basis of Life (3). An introduction to the concepts and foundations of modern biology. Intended to familiarize students with the mechanisms and terminology of biology at the cellular level, the topics presented and discussed act as a framework for successful succession into higher level biology courses. Emphasis is placed on the investigative methods used by

biologists leading to our current understanding of biological chemistry, cellular processes, cell interactions, genes and DNA technology. Prerequisite: Math ACT score of 21 or higher or MAT 097 with a minimum grade of C.

BIO 120 Scientific Etymology (1). A systematic study of the Latin and Greek origins of selected words. One lecture per week. (Fall)

BIO 149 Introduction to Wildlife and Conservation Biology (1). An initial survey of the fields of wildlife and conservation biology including topics for various careers, introduction to professional methods, methods for learning in lab-based natural history classes, and a brief introduction to the scientific process and an understanding of the importance of rigorous science to these fields. One class per week and approximately two required Saturday field trips. Prerequisite: open only to students pursuing an area in wildlife and conservation biology or a major in biology. (Fall)

BIO 154 Dendrology (3). Principles and art of identification of trees and shrubs in both summer and winter conditions. (Fall)

BIO 160 Plants and People (3). This interdisciplinary course draws from the biological and social sciences to investigate plant-human interactions, from both historical and modern points of view. Topics begin with an understanding of basic plant anatomy, physiology, and reproductive strategies. Using this foundation, modern and historical uses of plants in a variety of cultures will be explored, including plants as food, in medicine, as causes (in part) of territorial disputes, and in ritual and everyday life. Other topics include plant allergies, conservation, genetically modified plants, and predicted impacts of global climate change on plants, with human implications.

BIO 216 Biological Inquiry and Analysis (4). An inquiry-based introduction to concepts in biology. Research-oriented activities will emphasize the skills and attitudes necessary for understanding and conducting scientific inquiry. Three hours of lecture and two hours of laboratory per week. Prerequisites: ENG 105 either BIO 101 or 115, and Math ACT score of 21 or higher or MAT 097 with a minimum grade of C.

BIO 220 Clinical Terminology (1). A study of the terms, symbols, and abbreviations common to the clinically-oriented health professions. Prerequisites: BIO 120 and eight hours of biology. (Spring)

BIO 221 Zoology: Animal Form and Function (4). A study of the animal kingdom with emphasis on evolutionary and ecological relationships of animal groups, vertebrate anatomy and physiology, and evolutionary concepts. Three hours of lecture and three hours of laboratory per week. Prerequisite: Math ACT score of 21 or higher or MAT 097 with a minimum grade of C.

BIO 222 Botany: Plant Form and Function (4). A study of the evolution, anatomy, morphology, physiology, classification, and life cycles of major divisions of the plant kingdom. Three hours of lecture and three hours of laboratory per week. Prerequisite: Math ACT score of 21 or higher or MAT 097 with a minimum grade of C.

BIO 227 Human Anatomy Lecture (2). Basic morphology of the human body. Cannot be applied toward a biology major. Prerequisites: BIO 101 or BIO 115 and 216 (BIO 221 may be substituted). Corequisite: BIO 228.

BIO 228 Human Anatomy Laboratory (2). The basic morphology of the human body. Four hours laboratory per week. Cannot be applied toward a biology major. Prerequisites: BIO 101 or BIO 115 and 216 or BIO 221. Corequisite: BIO 227.

BIO 229 Human Physiology (3). A study of mammalian physiology with emphasis on humans. Three hours lecture per week. Concurrent enrollment in BIO 230 is suggested but not required. Course may not be counted toward the biology major. Prerequisites: BIO 227 and BIO 228 or EXS 250.

BIO 230 Human Physiology Laboratory (1). Experimental approach to the study of human systems physiology. Course may not be counted toward the biology major. Prerequisite: Concurrent enrollment or previous completion of BIO 229 with a passing grade.

BIO 240 Biological Applications of GIS (3). Course will provide an introduction into Geographic Information Systems (GIS), concentrating on the use of GIS in biology. Basic GIS theory will be offered, but the class will consist mostly of hands-on use of the GIS software in real-world situations. Students will also be introduced to the many ways that GIS can be used in ecological research.

BIO 290 Biomedical Research I (2). The student will be involved in biomedical research with a faculty member who agrees to direct them. The student will support the research of advanced students and their mentor and assist with experiments. In the process the student will be introduced to research and learn basic techniques. A minimum of 4 hours per week of research is expected. Prerequisites: admission into the biomedical sciences program and permission from a research mentor.

BIO 300 Introductory Microbiology (4). An introductory survey in general microbiology. Special emphasis is given to the study of the prokaryote microorganisms both in laboratory and lecture. Three hours of lecture and three hours of laboratory per week. Prerequisites: Eight hours of chemistry and eight hours of biology.

BIO 305 Introduction to Evolutionary Principles (3). Study of the theory of organic evolution including history, evidence, patterns, mechanisms and implications for humans. Prerequisites: BIO 101 or 115 and math ACT score of 21 or higher; or MAT 097 with a minimum grade of C.

BIO 308 Ethics in Biology (3). A comprehensive study of current ethical issues in biology, including topics in genetics and biotechnology, reproductive technology, species conservation, use of natural resources, and medicine and human/nonhuman interests. Understanding and application of value-choices and ethics is emphasized. One three-hour lecture per week. Prerequisites: BIO 115 and 216.

BIO 310 Vertebrate Natural History (4). An examination of the natural history of vertebrates, including identification, taxonomy, ecology, evolution, behavior, conservation, and management with an emphasis on species found in the eastern U.S. Four hours lecture/laboratory per week plus required field trips. Prerequisite: BIO 221 or permission of the instructor.

BIO 320 Comparative Vertebrate Anatomy (5). Dissection and study of representative chordate systems with emphasis on the anatomy and evolution of fishes, amphibians, reptiles, birds, and mammals. May require additional laboratory supplies fee. Eight hours of class per week. Prerequisites: BIO 115, 216, and 221 or permission of instructor. (Spring)

BIO 321 Cell Biology: Mechanisms (3). A detailed consideration of biological systems, their properties and interrelationships. Cellular and molecular biology are emphasized. Three lectures per week. Prerequisites: BIO 115, 216, 221, and 222 and two semesters of chemistry or permission of instructor.

BIO 322 Animal Physiology (4). Introductory study of animal physiology. The organ and systems approach is used to compare animals. Emphasis on vertebrates and certain invertebrates. Three lectures and three hours laboratory per week. Prerequisites: BIO 115, 216, either BIO 221 or 222, two semesters of chemistry, or permission of instructor; PHY 132 recommended.

BIO 323 Cell Biology: Systems (3). Discussion of the modern concepts of cell biology as applied to cell interactions in multi-cellular organisms. Prerequisites: BIO 115, 216, 222, and two semesters of chemistry or permission of instructor.

BIO 325 Biological Anthropology (3). The biological nature of man. A survey of man's physical origin, his primate background and his evolution. Cultural association with fossil evidence and concepts of race. (Same as ANT 325.)

BIO 330 Principles of Ecology (4). An introduction to the fundamental concepts of ecology as they pertain to plants and animals, including humans. Emphasis will be placed on the basic principles of evolutionary, population, community, and ecosystem ecology. Three lectures and two hours laboratory per week. Prerequisites: BIO 115, 216, either BIO 221 or 222, or permission of instructor.

BIO 333 Genetics (4). An introduction to molecular and classical genetics with laboratory experiments involving various organisms used extensively in genetic studies. Three hours of lecture and three hours of laboratory per week. Prerequisites: BIO 221 or 222 and either BIO 101 with a minimum grade of *B* or BIO 115 and 116.

BIO 350 Systematic Botany (4). Discussion of the vascular plants with emphasis on classification and phylogeny. Laboratory and field studies of the vascular plants of West Kentucky focusing on their identification, habitats, distribution and ecological role in this region. Prerequisite: BIO 222.

BIO 380 Wildlife Techniques (4). A survey and application of methods and techniques used in wildlife management; examples — biotelemetry, live trapping, etc. Three hours of lecture and three hours of laboratory per week. Prerequisites: BIO 149, 222, 320, and 330; or permission of instructor.

BIO 382 Scientific Communication for the Biologist (2). Course concentrates on the methods for preparation and presentation of specific papers, posters, and oral communication. Students will utilize a dataset relevant to wildlife and conservation biology to produce a publication quality manuscript, a poster suitable for a scientific meeting. Topics covered include abstracts, the nature of scientific writing, structure and organization of scientific publication, use of literature, graphic, and graphic design, and methods of polishing the oral presentation. Prerequisite: BIO 216; corequisite BIO 380.

BIO 387 International Experience in the Biological Sciences (3). A study abroad course that includes meetings during the regular session as well as a short-term (10-14 days of travel) study abroad experience highlighting selected areas in biological inquiry in another country and culture (e.g., ecosystems and conservation issues in another biome; visiting museums, universities and laboratories of foreign scientists). The course includes pre- and post-travel meetings, lectures, readings and discussions. This course can be taken more than once if travel is to different countries but can only be counted once toward the biology degree. BIO 115, 216, and 330 recommended. Prerequisite: permission of instructor.

BIO 388 Biomedical Research II (3). The student will be involved in biomedical research with faculty members who agree to direct them. The student will work on a project under the direction of the research mentor. The student will write a research proposal including background information, specific aims and methods to be turned in near the end of the semester. The project will be initiated and a progress report will be submitted at the conclusion of the semester. A minimum of six hours per week of research is expected. Prerequisites: admission into the biomedical sciences program, permission from a research mentor, and completion of BIO 290.

BIO 389 Biomedical Research III (3). The student will be involved in biomedical research with faculty members who agree to direct them. The student will work on a project under the direction of the research mentor. The student will continue the project initiated in Biomedical Research II. The student will submit a research paper with an introduction, results and discussion, and methods, and make an oral presentation to the biomedical research group. A minimum of six hours per week of research is expected. Prerequisites: admission into the biomedical sciences program, permission from a research mentor, and completion of BIO 290 and BIO 388.

BIO 391 (491) Undergraduate Research I (1). Research projects arranged individually with faculty members who agree to direct the research. A written plan of research must be filed with the chair within two weeks of the beginning of the semester. (A maximum of three credit hours total from BIO 483, 484, and BIO 391, 392, 493 and 494 may be used toward the minimum requirements for the biology major or minor.)

BIO 392 (492) Undergraduate Research II (2). Research projects arranged individually with faculty members who agree to direct the research. A written plan of research must be filed with the chair within two weeks of the beginning of the semester. (A maximum of three credit hours total from BIO 483, 484, and BIO 391, 392, 493 and 494 may be used toward the minimum requirements for the biology major or minor.)

BIO 420 Vertebrate Embryology (4). Comparative, developmental anatomy of the vertebrates with emphasis on the embryological development of humans. Two lectures and four hours laboratory per week. Prerequisite: BIO 320 and 333. BIO 321 recommended.

BIO 421 Vertebrate Histology (4). A course designed for the identification and comparative study of cells, tissues, and organs of representative mammals. Two lectures and four hours laboratory per week. Prerequisites: BIO 115, 216 and 221.

BIO 438 Biomedical Research IV (4). The student will be involved in biomedical research with faculty members who agree to direct them. The student will work on a project under the direction of the research mentor. The student will write a research proposal including background information, specific aims and methods to be turned in near the end of the semester. The project will be initiated and a progress report will be submitted at the conclusion of the semester. A minimum of 8 hours per week of research is expected. Research with a mentor other than the mentor used in BIO 388 is encouraged. Credit for this course will be offered in the summer to biomedical science students who are conducting off-campus research at an affiliated research site. Prerequisites: admission into the biomedical sciences program, permission from a research mentor, and completion of BIO 290 and BIO 388.

BIO 439 Biomedical Research V (4). The student will be involved in biomedical research with faculty members who agree to direct them. The student will work on a project under the direction of the research mentor. The student will continue the project initiated in BIO 438. The student will submit a research paper with an introduction, results and discussion, and methods, and make an oral presentation to the biomedical research group. A minimum of eight hours per week of research is expected. Credit for this course will be offered in the summer to biomedical science students who are conducting off-campus research at an affiliated research site. Prerequisites: admission into the biomedical sciences program, permission from a research mentor, and completion of BIO 290 and BIO 438.

BIO 450 Exercise Physiology (3). Students will become acquainted with general concepts in exercise physiology. Some topics to be included are cardiovascular function, neural control, musculo-skeletal responses, and respiratory function. Lab activities will be integrated. Students will collect data, compile results and complete laboratory reports. Each student will review and summarize at least one research article from approved refereed journals in the field. Prerequisites: BIO 227 and 228 or EXS 250, BIO 229 and 230 or consent of the instructor.

BIO 460 Principles of Biomathematics (3). The study of biological and mathematical models is united in this research-based course. A variety of quantitative biological models and their underlying mathematics are studied, with an emphasis on population dynamics and evolutionary biology. Students engage in research and communicate their results. Laboratory experiences and short-distance field trips are required. Only one of BIO 460 and BIO 461 may count as an elective for the biology major or minor. Prerequisites: BIO 216 and MAT 250 or permission of instructor. (Same as MAT 460.)

BIO 461 Biomathematics in the Biomedical Sciences (3). A variety of quantitative biological models and their underlying mathematics are studied, with an emphasis on epidemiology, genetics, and physiology. Students engage in research and communicate their results. Laboratory experiences and short-distance field trips are required. Only one of BIO 460 or BIO 461 may count as an elective for the biology major or minor. Prerequisites: MAT 250 and BIO 216 or consent of instructor. (Same as MAT 461)

BIO 467 General Parasitology (4). A study of the principles of parasitology, including the morphology, taxonomy, life history and ecology of parasites. Laboratory will involve identification of important parasite groups, methods for host examination, diagnosis, and microtechniques. Two hours of lecture and four hours of laboratory per week. Prerequisite: BIO 221.

BIO 483 Undergraduate Teaching Methods I (3). Designed for students interested in teaching in the life sciences, especially students working towards teaching certification. The course provides students with the opportunity to learn and apply teaching techniques in the classroom under the direct supervision of a faculty member. Teaching experiences are arranged individually with a faculty member. (A maximum of three credit hours total from BIO 483,

484, 491, 492, 493 and 494 may be used toward the minimum requirements for the biology major or minor.) Prerequisite: junior or senior standing as a major within the College of Science and permission of the instructor and academic advisor.

BIO 484 Undergraduate Teaching in Biology (4). Designed for students interested in teaching in the life sciences, especially students working towards teaching certification. The course provides students with the opportunity to learn and apply teaching techniques in the classroom under the direct supervision of a faculty member. Teaching experiences are arranged individually with a faculty member. (A maximum of 3 credit hours total from BIO 483, 484, 491, 492, 493 and 494 may be used toward the minimum requirements for the biology major or minor.) Prerequisite: junior or senior standing as a major within the College of Science and permission of the instructor and academic advisor.

BIO 488 Cooperative Education/Internship (1-3). A meaningful, planned, and evaluated work experience related to the career and educational objectives of the student for which he/she may receive academic credit and possible financial remuneration. May be repeated for a maximum of six hours from any 488/489 courses. Graded pass/fail. Prerequisite: permission of chair.

BIO 489 Cooperative Education/Internship (1-3). A meaningful, planned, and evaluated work experience related to the career and educational objectives of the student for which he/she may receive academic credit and possible financial remuneration. May be repeated for a maximum of six hours from any 488/489 courses. Prerequisite: permission of chair.

BIO 493 Undergraduate Research III (3). Research projects arranged individually with faculty members who agree to direct the research. A written plan of research must be filed with the chair within two weeks of the beginning of the semester. (A maximum of three credit hours total from BIO 483, 484, and BIO 391, 392, 493 and 494 may be used toward the minimum requirements for the biology major or minor.)

BIO 494 Undergraduate Research IV (4). Research projects arranged individually with faculty members who agree to direct the research. A written plan of research must be filed with the chair within two weeks of the beginning of the semester. (A maximum of three credit hours total from BIO 483, 484, and BIO 391, 392, 493 and 494 may be used toward the minimum requirements for the biology major or minor.)

BIO 499 Senior Biology Seminar (1). The course exposes biology students to various career options through participation in the departmental seminar series, provides a review of biological concepts through directed study, and provides an assessment of the department's academic programs with a nationally standardized test. Weekly seminar and/or discussion. Prerequisites: BIO 222, 333, biology major, and senior standing.

BIO 501 Immunology (4). A discussion of immune response, formation of antibodies, structure of antibodies, antigen-antibody reactions, hypersensitivity, and allergic response. Laboratory includes techniques and methods for production and detection of antigen-antibody reactions. Two lectures and four hours of laboratory per week. Prerequisite: BIO 300. BIO 321 recommended.

BIO 504 Medical Cell Biology (3). A discussion of cell biology as related to the field of medicine and clinical knowledge. Emphasis is placed on the most recent applications of cellular and molecular techniques used in the research, diagnosis and treatment of clinical conditions. Considerations will be given to a wide range of topics, including cancer, neural regeneration, wound healing, aging, gene therapy, congenital deformation, AIDS and other prevalent disease states. Three hours of lecture per week. Prerequisite: BIO 321.

BIO 506 Advanced Field Biology (4). For students who wish to learn the identification principles and actual identification of living organisms. Course work will include a study of the ecological aspects of the various organisms and their distribution. Techniques of teaching about nature will be emphasized. Prerequisite: junior or senior standing for science education majors.

BIO 514 Scanning Electron Microscopy (4). This course is designed to teach students the theory, principles and applications of scanning electron microscopy (SEM). After a predetermined number of instructional hours, the student is expected to successfully complete a test which measures the competency

of the individual in SEM operation. Subsequently, the student is required to complete a short research project utilizing SEM. Prerequisites: permission of instructor.

BIO 521 Cell Biology Laboratory (3). An experimental approach to modern laboratory techniques in Cell Biology. An emphasis will be placed on the mastery of common cellular and molecular techniques used in clinical, industrial and research settings. Six hours of laboratory per week. Prerequisite: BIO 321.

BIO 522 Pathophysiology (3). Introduction to physiological abnormalities in disease. For advanced students in, or headed for, careers in health related fields. Four hours of lecture per week. Prerequisites: BIO 228 and 229, or BIO 322, or equivalent.

BIO 525 Biogeography (3). The roles of geological, climatological, and biotic factors in explaining the past and current diversity and distribution of Earth's plants and animals will be studied. Underlying processes, current theory, and applications are stressed over actual diversity and distribution patterns themselves. Prerequisite: BIO 101 or 115, plus nine additional hours of biology and/or geosciences or consent of instructor.

BIO 528 Neurobiology (3). Examines vertebrate and invertebrate nervous systems at the cellular and systems levels. Topics include: (1) cellular processes of neurons and glial cells, (2) synapses and synapse formation, (3) sensory systems, (4) motor systems, and (5) learning and memory. Three hours of lecture per week. Prerequisites: BIO 321 or 322 recommended.

BIO 529 Teaching Science Through Inquiry (4). Students will learn and apply current inquiry based instructional methods and assessment strategies to teach science. Students will also gain the basic data management and analytical skills necessary to conduct action research. The course will follow a workshop style format modeling inquiry based methods. A significant amount of independent and group work is expected outside of class meetings. Prerequisite: admission to teacher education.

BIO 531 International Experience in the Biomedical Sciences (3). A half spring semester plus short-term (10-14 days of travel) study abroad program highlighting biomedical sciences by interacting with leading medical scientists and attending medical school classes in Japan or other selected countries. In the spring semester, students discuss current topics in biomedical science and develop in-depth projects. The students integrate their new knowledge from their study abroad activities and experience into their projects. Prerequisite: consent of the instructor.

BIO 532 Quantitative Ecology (4). An introduction to ecological data analysis and interpretation. Emphasis is placed on the understanding of ecological data structure and analytical methods. Major topics include sampling, diversity analysis, resemblance measurements, formal classification techniques, and pattern recognitions. Prerequisites: BIO 330 and STA 135 or consent of instructor.

BIO 533 Molecular Genetics (3). A lecture course which involves discussions of general concepts of DNA structure, replication and translation. Current concepts in bacterial and bacteriophage genetics, such as gene transfer, recombination, gene regulation, and recombinant DNA technology will be examined. Prerequisites: BIO 300 and 333, or permission of instructor.

BIO 534 Molecular Genetics Laboratory (3). The laboratory covers classical bacterial and viral genetics such as transduction, conjugation, mutagenesis, and mutant analysis by complementation, as well as recently developed recombinant DNA techniques. The student will get hands-on experience in DNA and RNA purification, restriction, endonuclease mapping, cloning, and expression of foreign DNA in *E. coli* and DNA sequencing. These techniques and a clear understanding of the processes involved in gene expression will equip the student well for either a position in industry or graduate study. Prerequisite: Previous or concurrent BIO 533.

BIO 536 Evolution (3). A study of evolutionary concepts. Prerequisite: BIO 333.

BIO 538 Animal Behavior (3). An introduction to the principles of animal behavior. Ecological and evolutionary implications of animal behavior are emphasized. Prerequisite: BIO 221 and 330, or permission of instructor.

BIO 539 Animal Behavior Laboratory (1). An introduction to testing hypotheses in animal behavior. Ecological and evolutionary implications of animal behavior are emphasized. Three hours of laboratory per week. Prerequisites: BIO 221 and 330, or permission of the instructor; BIO 538 or concurrent enrollment.

BIO 540 Field Biometry (4). Students will learn and practice descriptive statistics, experimental design, regression, ANOVA, ANCOVA, and data management. In contrast to other statistics courses, students will spend more of their time in the field than in the classroom. Prerequisites: any field biology course, BIO 330, or permission of instructor.

BIO 542 Watershed Ecology (3). The study of the movement of water through the environment and its relationship to biotic systems. Areas emphasized include the hydrologic cycle and its influence on groundwater, lotic, and lentic systems; the effect of water on plant and animal communities; and the influence of human activity on watershed structure and function. Prerequisite: BIO 330 or permission of instructor. (Same as GSC 542.)

BIO 546 Stream Ecology (4). The interactions of stream organisms with each other and their abiotic environments will be examined. An area stream will be used as an example for physical and chemical characteristics of a stream and adaptations of organisms to their environments. One weekend field trip required. Prerequisite: BIO 330.

BIO 548 Principles of Managing Disease in Wildlife (3). An exploration of the principle of disease transmission, disease maintenance, and how biologists monitor for and manage for disease in free-living wild animals species. The effects on the individual animals, wildlife population, and human will be discussed. Current issues in wildlife diseases will highlight how these principles are applied in the field. Three hours of lecture per week. Prerequisite: one course from AGR 300, BIO 216, HEA 311, or NUR 301.

BIO 549 Fisheries Techniques (4). Course will provide instruction in many techniques used by fishery scientists. Students will learn about field sampling, laboratory analysis, computer modeling, and statistical analysis of fisheries data. The course will take advantage of the Hancock Biological Station to provide extensive hands-on practice in all techniques. Three lectures plus four hours lab per week. Prerequisite: BIO 330.

BIO 553 Field Botany (4). A survey of the flora of West Kentucky and surrounding states. This course should be of interest to anyone interested in the plants of the region. Emphasis will be placed on field identification of common species, identification using keys, collection, and preparation of herbarium specimens, and general plant ecology of the region. Prerequisite: BIO 222.

BIO 554 Dendrology and Forest Conservation (4). Course is designed to teach students two main bodies of knowledge. First is an ability to identify common tree species in the eastern US and to know their natural histories and their value as timber and habitat. Second is an understanding of how these various species interact with each other and their environment to compose functioning forests, along with forest management strategies for a wide range of natural resource goals. With this knowledge, students will "see both the forest and the trees." Class will comprise three hours of lecture and four hours of field-oriented lab per week. Prerequisites: BIO 216 and BIO 222; or permission from instructor. A course in ecology is recommended.

BIO 557 Systematics and Bioinformatics (4). This course will focus particularly on systematics and phylogenetic analyses, although other bioinformatics-related topics such as genomics and geographic information systems will be included. Students will search bioinformatic data sources, retrieve and edit data, and perform computer analysis on protein, DNA, and morphological data. Underlying biological processes will also be discussed. Three hours lecture and two hours computer lab per week. Prerequisite: BIO 333.

BIO 561 Freshwater Invertebrates (4). Functional anatomy, ecology and taxonomy of the freshwater invertebrates. Emphasis will be placed on collection, preserving and identifying invertebrates of this region. Two lectures and four hours of laboratory per week. Prerequisite: BIO 221.

BIO 563 Aquatic Entomology (4). The study of the ecology, natural history, life cycles, taxonomy and systematics of lotic and lentic insects. The class will include several field trips to aquatic habitats and the preparation of a working collection. Two hours lecture and four hours laboratory per week. Prerequisite: BIO 330 or permission of instructor.

BIO 564 Entomology (4). The introduction to the study of insects. Students become acquainted with about 200 Families of insects living in the terrestrial and aquatic habitats of the Midwest. Lectures include classification, identification, evolution, ecology, agriculture, epidemiology, and forensics. Laboratory activities include identification, field sampling, specimen preparation, and insect behavior. Each student conducts a small laboratory or field project on some aspect of insect ecology, behavior, or natural history. Prerequisite: BIO 330.

BIO 565 Biogeochemistry (3). Survey and discussion of the scientific literature on global cycles of carbon, nitrogen, phosphorus and man-made chemicals with special emphasis on the biogeochemical and ecological processes that affect terrestrial and aquatic ecosystems. The course will focus on interdisciplinary themes that incorporate new research results from the fields of biology, chemistry, and geosciences. Prerequisite: junior or higher standing in biology, chemistry or geosciences. (Same as CHE/GSC 565.)

BIO 568 Wetland Ecology (4). An introduction to the hydrology, geomorphology, and biogeochemical processes of wetlands, and to the population, community and ecosystem ecology relevant to wetland habitats. The course places a dual emphasis on understanding: 1) the processes underlying important wetland functions and 2) the evolutionary ecology organisms that inhabit these terrestrial/aquatic ecotones. Laboratory exercises will train students to identify, delineate and assess the health of wetlands and to perform original research in wetland environments. Prerequisite: one 4-credit ecology course and one botany course, or instructor permission.

BIO 570 Ichthyology (4). Natural history of fishes, their systematics, and some anatomical and physiological relationships with the environment. One weekend field trip required. Three lectures and one lab per week. Prerequisite: BIO 221.

BIO 572 Herpetology (4). A study of the taxonomy, morphology and natural history of reptiles and amphibians. Emphasis is placed on those species occurring in the central United States. Two lectures and four hours of laboratory per week. Prerequisite: BIO 221 and 330 or permission of instructor.

BIO 573 Ornithology (4). Study of avian biology with emphasis on anatomy, physiology and classification of birds. Three lectures and two laboratory hours per week. Requires weekend field trip. Prerequisite: BIO 221 and 330.

BIO 574 Mammalogy (4). A study of the classification and biology of mammals. Identification and collection of mammals, particularly those of the central United States, will be emphasized in laboratory. Two lectures and four hours of laboratory per week. Some weekend and Saturday field trips required. Prerequisite: BIO 221 and 330.

BIO 577 Population and Conservation Genetics (3). An advanced study of the theories of genetic change in populations. Emphasis will be placed on theoretical aspects of change in gene frequencies as well as practical applications in the field of conservation biology. Prerequisites: BIO 330 and 333.

BIO 578 Conservation Biology (4). An advanced study of the conservation of life at numerous levels of organization. Emphasis will be placed on modern empirical and theoretical studies of the maintenance, loss, and restoration of biological diversity, endangered species, and habitats. Three one-hour lectures and three hours of laboratory per week. Prerequisite: BIO 330.

BIO 580 Principles of Wildlife Management (4). Application of ecological principles of management of wild animals, wildlife agencies and their function in wildlife management; economic, social, biological and other values of wildlife. Three lectures and two hours of laboratory per week. Requires Saturday field trips. Prerequisite: BIO 380.

BIO 581 Applied Natural Resources Economics, Policy, and Administration (3). Course concentrates on the application of microeconomic theory to natural resources policy, administration, and decision making in areas such as

endangered species management, wildlife damage management, non-game management, and game management. This course will also discuss how the public uses economics to make personal decisions about natural resources. Prerequisite: ECO 231.

BIO 582 Fisheries Management (4). Ecology and management of freshwater fishes. Methods of fishery investigation will be emphasized. Three lectures and four hours of laboratory per week. Prerequisites: BIO 330.

BIO 584 Wildlife Policy and Administration (3). Emphasis is placed on the management of natural resources with particular focus on fish and wildlife. Topics will include an overview of natural resources agency structures and functions, the planning and management cycles, and ethical public relations techniques for multiple-use management in the public domain. Prerequisite: BIO 330 or permission of instructor. (Spring, odd years)

BIO 586 Limnology (4). A study of the interrelationships of the physical, chemical and biological features of lakes and streams. Prerequisite: BIO 330.

BIO 587 Freshwater Biology (4). Study of the aquatic organisms, their biology, distributions, and ecology in natural aquatic communities and habitats in Kentucky Lake, streams, springs, and wetlands near the Hancock Biological Station. Aquatic organisms to be surveyed include bacteria, algae, aquatic plants, invertebrates, and vertebrate animals. Includes two lectures and four hours of laboratory per week. Prerequisite: BIO 330.

BIO 588 Reservoir Ecology (4). An examination of the variation in chemical and biological phenomena that characterize river impoundments. Literature reading and discussion is followed by 1) learning techniques of observation to identify pattern and process in nature, and 2) designing and conducting field experiments to assess cause and effect relationships.

BIO 590 Disturbance Ecology (3). Relationships among organisms and with their environment are often heavily influenced by ecological disturbances that damage and kill individuals and thereby alter dynamics of entire ecosystems. This class will examine a wide range of ecological disturbances in terms of 1) the physical phenomena, 2) the effects of those phenomena on organisms, and 3) the response of organisms in terms of population-, community-, watershed- and ecosystem-dynamics. The course will examine the following disturbances in ecological terms within the context of global environmental change: fires, hurricanes, tornados, ice storms, floods, droughts, habitat fragmentation, invasive species, and others of the students' own choosing. Prerequisite: BIO 330 or equivalent, or permission of instructor.

BIO 595 Wildlife/Fisheries Internship (1-4). A practical experience/study situation where the student works a 40-hour week in the field under the supervision of a wildlife biologist. Bimonthly progress reports are required to be submitted to both the university staff and the wildlife biologist. Students must have junior standing to be considered. (Summer)

BIO 596 Field Studies in Ecology (4). Two weeks or more will be spent living at a field site(s) studying the ecology of a selected ecosystem(s) (e.g., tropical rainforest, coral reef, mangrove swamp, pine forest). Students will gain an understanding of the selected ecosystem's structure and function, including the roles of human cultural and economic influences. Studies are expected to occur in geographic areas other than western Kentucky.

BIO 597 Topics in Advanced Molecular Biology (3). Taught from the current literature, this course focuses on new topics in cell and molecular biology. A combination of lecture and student seminars. Prerequisites: BIO 533 and CHE 310, or permission of instructor.

BIO 598 Topics in Advanced Evolutionary and Organismal Biology (2-4). Students explore topics in biology in the fields of evolutionary and organismal biology. Learning experiences will include a combination of lecture, laboratory work, library assignments, and discussions of literature. Course may be repeated once for credit, for a maximum of eight (8) hours among BIO 597, 598, and 599. Prerequisites: BIO 305 or 310.

BIO 599 Topics in Advanced Ecological Sciences (2-4). Students explore topics in biology in the fields of population, community, or landscape ecology under direction of an individual faculty member. Learning experiences

will include a combination of lecture, laboratory work, library assignments, and discussions of literature. Course may be repeated once for credit, with a maximum of eight credit hours in combination with other topics courses. Prerequisite: BIO 330.

BIO 604 Medical Cell Biology (3). A discussion of cell biology as related to the field of medicine and clinical knowledge. Emphasis is placed on the most recent applications of cellular and molecular techniques used in the research, diagnosis and treatment of clinical conditions. Considerations will be given to a wide range of topics, including cancer, neural regeneration, wound healing, aging, gene therapy, congenital deformation, AIDS and other prevalent disease states. Prerequisite: BIO 321.

BIO 606 Advanced Field Biology (4). For students who wish to learn the identification principles and actual identification of living organisms. Course work will include a study of the ecological aspects of the various organisms and their distribution. Techniques of teaching about nature will be emphasized.

BIO 614 Scanning Electron Microscopy (4). Course designed to teach students the theory, principles and applications of scanning electron microscopy (SEM). After a predetermined number of instructional hours, the student is expected to successfully complete a test which measures the competency of the individual in SEM operation, specimen preparation, and remote operations. Subsequently, the student is required to complete a short research project utilizing SEM that includes applications to remote operations. Prerequisite: Permission of instructor.

BIO 620 Advanced Physiology (3). A detailed discussion of physiology from the cellular and molecular level to the systems level. Prerequisite: Previous course in physiology recommended.

BIO 621 Cell Biology Laboratory (3). An experimental approach to modern laboratory techniques in Cell Biology. An emphasis will be placed on the mastery of common cellular and molecular techniques used in clinical, industrial and research settings. Six hours of laboratory per week. Prerequisite: BIO 321.

BIO 622 Pathophysiology (3). Introduction to physiological abnormalities in disease. For advanced students in, or headed for, careers in health related fields. Four hours of lecture per week. Prerequisites: BIO 229 and 230, or BIO 322, or equivalent.

BIO 623 Physiological Ecology (3). An examination of physiological diversity in relation to the environments in which organisms live or have lived. This encompasses aspects of behavior, morphology, biochemistry and evolutionary biology among other fields. Problem-solving approaches involving problem posing, problem probing, and peer persuasion will be stressed to promote the learning of strategies of scientific research. Students will design and conduct research projects. Prerequisite: BIO 330; BIO 322 is recommended.

BIO 625 Biogeography (3). The role of geological, climatological, and biotic factors in explaining the past and current diversity and distribution of Earth's plants and animals. Underlying processes, current theory, and applications are stressed over actual diversity and distribution patterns themselves. Three hours lecture per week. Prerequisite: three hours of biology and 12 of biology and/or geosciences, or consent of instructor.

BIO 629 Teaching Science Through Inquiry (4). Students will learn and apply current inquiry based instructional methods and assessment strategies to teach science. Students will also gain the basic data management and analytical skills necessary to conduct action research. The course will follow a workshop style format modeling inquiry based methods. A significant amount of independent and group work is expected outside of class meetings. Students will develop, implement and assess an inquiry based module outside of class.

BIO 630 Animal Ecology (4). Ecological principles in relation to animal populations, including human populations. Emphasis is placed on recent literature and the approach involves lecture, seminar and field activities. Prerequisite: BIO 330.

BIO 631 Plant Ecology (4). A general study of the interactions of individual plants and plant communities with their environment, emphasizing the nature and energetics of environment-organism interrelationships and species-com-

munity dynamics. Methods of analysis and interpretation of field data are stressed. Field work comprises an integral part of the course. Two lectures and four hours of laboratory per week. Prerequisites: BIO 330 and either BIO 154, 350, or 553.

BIO 632 Quantitative Ecology (4). An introduction to ecological data analysis and interpretation. Emphasis is placed on the understanding of ecological data structure and analytical methods. Major topics include sampling, diversity analysis, resemblance measurements, formal classification techniques, and pattern recognitions. Two lectures and four hours of computer lab per week. Prerequisites: BIO 330 and STA 135.

BIO 633 Molecular Genetics (3). A lecture course which involves discussions of general concepts of DNA structure, replication and translation. Current concepts in bacterial and bacteriophage genetics, such as gene transfer, recombination, gene regulation, and recombinant DNA technology will be examined. Prerequisites: BIO 300 and 333, or permission of instructor.

BIO 634 Molecular Genetics Laboratory (3). The laboratory covers classical bacterial and viral genetics such as transduction, conjugation, mutagenesis and mutant analysis by complementation, as well as recently developed recombinant DNA techniques. The student will get hands-on experience in DNA and RNA purification, restriction, endonuclease mapping, cloning and expression of foreign DNA in *E. coli* and DNA sequencing. These techniques and a clear understanding of the processes involved in gene expression will equip the student well for either a position in industry or graduate study. Prerequisite: Previous or concurrent BIO 633.

BIO 636 Evolution (3). A study of evolutionary concepts. Prerequisite: BIO 333.

BIO 638 Animal Behavior (3). An introduction to the principles of animal behavior. Ecological and evolutionary implications of animal behavior are emphasized. Two lectures and four hours of laboratory per week. Prerequisite: BIO 221 and 330 or permission of instructor.

BIO 639 Animal Behavior Laboratory (1). An introduction to testing hypotheses in animal behavior. Ecological and evolutionary implications of animal behavior are emphasized. Three hours of laboratory per week. Prerequisites: BIO 221 and 330 or consent of the instructor; BIO 638 or concurrent enrollment.

BIO 640 Field Biometry (4). Students will learn and practice descriptive statistics, experimental design, regression, ANOVA, ANCOVA, and data management. In contrast to other statistics courses, students will spend more of their time in the field than in the classroom. Prerequisites: any field biology course; BIO 330, or permission of instructor.

BIO 642 Watershed Ecology (3). The study of the movement of water through the environment and its relationship to biotic systems. Areas emphasized include the hydrologic cycle and its influence on groundwater, lotic, and lentic systems; the effect of water on plant and animal communities; and the influence of human activity on watershed structure and function. Prerequisite: BIO 330 or permission of instructor. (Same as GSC 642.)

BIO 644 Graduate Cooperative Education (3). A meaningful, planned and evaluated work experience related to the career and educational objectives of the student for which both pay and graduate credit may be received. Graded pass/fail. Prerequisite: permission of chair.

BIO 645 Microbial Ecology (4). A study of the basic principles, concepts and function of microbes (eubacteria, archaebacteria and cyanobacteria) in the environment. Emphasis will be placed on energy relationships and the role of microbes in mineral cycling in soils, sediments, and fresh water. Two 75-minute lectures and one 2-hour lab per week. Prerequisite: BIO 300 or permission of instructor.

BIO 646 Stream Ecology (4). The interactions of stream organisms with each other and their abiotic environments will be examined. An area stream will be used as an example for physical and chemical characteristics of a stream and adaptations of organisms to their environments. One weekend field trip required. Prerequisite: BIO 330.

BIO 648 Principles of Managing Disease in Wildlife (3). An exploration of the principles of disease transmission, disease maintenance, and how biologists monitor for and manage for disease in free living wild animal species. The effect on the individual animal, wildlife population, and human will be discussed. Current issues in wildlife diseases will highlight how these principles are applied in the field. 3 hours of lecture per week. Prerequisite: one course from AGR 300, BIO 216, HEA 311, or NUR 301; or permission of instructor.

BIO 649 Fisheries Techniques (4). Course will provide instruction in many techniques used by fishery scientists. Students will learn about field sampling, laboratory analysis, computer modeling, and statistical analysis of fisheries data. The course will take advantage of the Hancock Biological Station to provide extensive hands-on practice in all techniques. Three lectures plus four hours lab per week. Prerequisite: BIO 330.

BIO 650 Advanced Cell and Molecular Biology (3). Course intended to give students an in-depth understanding of a variety of regulative strategies cells use to maintain existence. Topics included will be selected from modern interpretations of cell systems; including metabolic strategies, differentiation, cell energetics, and gene control systems. The course will be taught from a perspective of applied bioinformatics as related to genome diversity. A specific emphasis will be placed on the most recent advances in the field of cell and molecular biology, as revealed by current primary literature sources.

BIO 651 Molecular Mechanisms in Biosystems (3). This course will highlight the most current understanding of the molecular mechanisms that govern life of multicellular organisms. The role and function of biologically important molecules in cell specification and development of complex organisms will be discussed. The course will present concepts and data from different disciplines and provide a comprehensive mechanistic view of biological systems from the perspective of developmental genetics, cellular biology, biochemistry and structural biology. Library work will be required.

BIO 653 Field Botany (4). A survey of the flora of West Kentucky and surrounding states. This course should be of interest to anyone interested in the plants of the region. Emphasis will be placed on field identification of common species, identification using keys, collection, and preparation of herbarium specimens, and general plant ecology of the region. Prerequisite: BIO 222.

BIO 654 Dendrology and Forest Conservation (4). Course is designed to teach students two main bodies of knowledge. First is an ability to identify common tree species in the eastern U.S. and to know their natural histories and their value as timber habitat. Second is an understanding of how these species interact with each other and their environment to compose functioning forests, along with forest management strategies for a wide range of natural resource goals. With this knowledge, students will “see both the forest and the trees.” Class will comprise of three hours of lecture and four hours of field-oriented lab per week. Prerequisite: a general undergraduate botany class; or permission of instructor. A course in ecology is recommended.

BIO 655 Molecular Evolution (3). Advanced study of the theories of genetic change on the molecular level. Emphasis will be placed on theoretical aspects of change in DNA sequence (change at the nucleotide level), the evolution of macromolecules and the reconstruction of evolutionary history of genes and organisms. Prerequisite: BIO 333.

BIO 657 Systematics and Bioinformatics (4). This course will focus particularly on systematics and phylogenetic analyses, although other bioinformatics-related topics such as genomics and geographic information systems will be included. Students will search bioinformatic data sources, retrieve and edit data, and perform computer analysis on protein, DNA, and morphological data. Underlying biological processes will also be discussed. Three hours lecture and two hours computer lab per week. Prerequisite: BIO 333.

BIO 661 Freshwater Invertebrates (4). Functional anatomy, ecology and taxonomy of the freshwater invertebrates. Emphasis will be placed on collection, preserving and identifying invertebrates of this region. Two lectures and four hours of laboratory per week. Prerequisite: BIO 221.

BIO 663 Aquatic Entomology (4). The study of the ecology, natural history, life cycles, taxonomy and systematics of lotic and lentic insects. The class will include several field trips to aquatic habitats and the preparation of a working

collection. Two hours lecture and four hours laboratory per week. Prerequisite: BIO 330 or permission of instructor.

BIO 664 Entomology (4). The introduction to the study of insects. Students become acquainted with about 200 Families of insects living in the terrestrial and aquatic habitats of the Midwest. Lectures include classification, identification, evolution, ecology, agriculture, epidemiology, and forensics. Laboratory activities include identification, field sampling, specimen preparation, and insect behavior. Each student conducts a small laboratory or field project on some aspect of insect ecology, behavior, or natural history. Prerequisite: BIO 330.

BIO 665 Biogeochemistry (3). Survey and discussion of the scientific literature on global cycles of carbon, nitrogen, phosphorus and man-made chemicals with special emphasis on the biogeochemical and ecological processes that affect terrestrial and aquatic ecosystems. The course will focus on interdisciplinary themes that incorporate new research results from the fields of biology, chemistry, and geosciences. (Same as CHE 665.)

BIO 667 Advanced Parasitology (3). This course is designed to cover current topics in all aspects of parasitology. Emphasis is placed on each individual student reviewing selected topics in detail. Library work comprises an integral part of the course. Prerequisite: BIO 467.

BIO 668 Wetland Ecology (4). An introduction to the hydrology, geomorphology, and biogeochemical processes of wetlands, and to the population, community and ecosystem ecology relevant to wetland habitats. The course places a dual emphasis on understanding: 1) the processes underlying important wetland functions and 2) the evolutionary ecology organisms that inhabit these terrestrial/aquatic ecotones. Laboratory exercises will train students to identify, delineate and assess the health of wetlands and to perform original research in wetland environments. Prerequisite: one 4-credit ecology course and one botany course at the undergraduate or graduate level, or instructor permission.

BIO 669 Biological Limnology (3). A study of the structure and function of aquatic communities and the influence of physicochemical and biological factors on the occurrence and distribution of aquatic organisms. Emphasis will be on lake and reservoir communities. Prerequisite: permission of instructor.

BIO 670 Limnological Analysis Laboratory (4). This course will provide a conceptual framework and techniques for measurement of physical, chemical and biological phenomena in lakes and reservoirs. Emphasis will be placed on experimental approaches to field and laboratory studies. Prerequisite: permission of instructor. Should follow BIO 586 or GSC 665 and BIO 669.

BIO 671 Ichthyology (4). Natural history of fishes, their systematics and some anatomical and physiological relationships with the environment. One weekend field trip required. Three lectures and one afternoon of lab per week. Prerequisite: BIO 221.

BIO 672 Herpetology (4). A study of the taxonomy, morphology and natural history of reptiles and amphibians. Emphasis is placed on those species occurring in the central United States. Two lectures and four hours of laboratory per week. Prerequisite: BIO 221 and 330 or permission of instructor.

BIO 673 Ornithology (4). Study of avian biology with emphasis on anatomy, physiology and classification of birds. Three lectures and two laboratory hours per week. Requires weekend field trip. Prerequisite: BIO 221 and 330.

BIO 674 Mammalogy (4). A study of the classification and biology of mammals. Identification and collection of mammals, particularly those of the central United States, will be emphasized in laboratory. Two lectures and four hours of laboratory per week. Some weekend and Saturday field trips required. Prerequisite: BIO 221 and 330.

BIO 678 Conservation Biology (4). An advanced study of the conservation of life at numerous levels of organization. Emphasis will be placed on modern empirical and theoretical studies of the maintenance, loss, and restoration of biological diversity, endangered species, and habitats. Three one-hour lectures and three hours of laboratory per week. Prerequisite: BIO 330.

BIO 680 Principles of Wildlife Management (4). Application of ecological principles of management of wild animals, wildlife agencies and their function in wildlife management; economic, social, biological and other values of wildlife. Three lectures and two hours of laboratory per week. Requires Saturday field trips. Prerequisite: BIO 380.

BIO 681 Applied Natural Resources Economics, Policy, and Administration (3). Course concentrates on the application of microeconomic theory to natural resources policy, administration, and decision making in areas such as endangered species management, wildlife damage management, non-game management, and game management. This course will also discuss how the public uses economics to make personal decisions about natural resources. Prerequisite: ECO 231 or permission of instruction.

BIO 682 Waterfowl Management (4). Ecological principles and techniques involved in management of waterfowl with emphasis on habitat and hunter manipulation. Readings in current research. Includes all-day Saturday field trips to refuges. Three lectures and two hours of laboratory per week. Prerequisite: BIO 580.

BIO 683 Fisheries Management (4). Ecology and management of freshwater fishes. Methods of fishery investigation will be emphasized. Three lectures and four hours of laboratory per week. Prerequisite: BIO 330.

BIO 684 Wildlife Policy and Administration (3). Emphasis is placed on the management of natural resources with particular focus on fish and wildlife. Topics will include an overview of natural resources agency structures and functions, the planning and management cycles, and ethical public relations techniques for multiple-use management in the public domain. Prerequisite: BIO 330 or permission of instructor.

BIO 686 Limnology (4). A study of the interrelationships of the physical, chemical and biological features of lakes and streams. Two lectures and four hours of laboratory per week. Prerequisite: BIO 330.

BIO 687 Freshwater Biology (4). Study of the aquatic organisms, their biology, distributions, and ecology in natural aquatic communities and habitats in Kentucky Lake, streams, springs, and wetlands near the Hancock Biological Station. Aquatic organisms to be surveyed include bacteria, algae, aquatic plants, invertebrates, and vertebrate animals. Includes two lectures and four hours of laboratory per week. Prerequisite: BIO 330.

BIO 688 Reservoir Ecology (4). An examination of the variation in chemical and biological phenomena that characterize river impoundments. Literature reading and discussion is followed by 1) learning techniques of observation to identify pattern and process in nature, and 2) designing and conducting field experiments to assess cause and effect relationships.

BIO 689 Introduction to Graduate Study (1). The objective of this course is to orient the new graduate student to graduate study. Topics include the library, literature search, the research plan, choosing a research topic, scientific graphics and photography, scientific writing, scientific presentation seminars. The course is usually team-taught and offered in the evening. Prerequisite: Admission to the graduate program.

BIO 690 Disturbance Ecology (3). Relationships among organisms and with their environment are often heavily influenced by ecological disturbances that damage and kill individuals and thereby alter dynamics of entire ecosystems. This class will examine a wide range of ecological disturbances in terms of 1) the physical phenomena, 2) the effects of those phenomena on organisms, and 3) the response of organisms in terms of population-, community-, watershed- and ecosystem-dynamics. The course will examine the following disturbances in ecological terms within the context of global environmental change: fires, hurricanes, tornados, ice storms, floods, droughts, habitat fragmentation, invasive species, and others of the students' own choosing. Note: Prior coursework in ecology is strongly recommended. Prerequisite: BIO 330 or equivalent, or permission of instructor.

BIO 691 Topics in Biology I (1). Students explore topics within the biological sciences under the direction of individual faculty. These individually arranged learning experiences may include various combinations of library assignments, conferences, laboratory and field investigation. Written descriptions of the course of study must be approved by the student's advisor and be filed with

the chair within two weeks of the beginning of a term. This course sequence may contribute no more than eight credit hours toward the graduate degree requirements.

BIO 692 Topics in Biology II (2).

BIO 693 Topics in Biology III (3).

BIO 694 Topics in Biology IV (4).

BIO 695 Biological Research (4). This course provides research experiences for students pursuing the non-thesis option. The course entails selection of a research problem, collection and interpretation of data, and submission of results in a research paper. Prerequisite: approval of graduate committee.

BIO 696 Understanding Scientific Communication (2). The course concentrates on the methods for preparation and presentation of scientific papers and oral communications. Students will utilize a data set to produce 1) a publication-quality manuscript, and 2) a 15-minute presentation such as would be given at a scientific meeting. Topics covered include abstracts, nature of scientific writing, structure and organization of scientific publication, use of literature, graphics and graphic design, and methods of polishing the oral presentation. The course is required of all biological sciences graduate students in their first spring semester of residence and is open to all other graduate students with permission of instructor. One two-hour course meeting per week. (Same as GSC 696.)

BIO 697 Seminar (1). Graduate students anticipating completion of the thesis or BIO 695 must register for this course and defend their research before the department faculty and their fellow graduate students.

BIO 698 Thesis I (3).

BIO 699 Thesis II (3).

BACHELOR OF INTEGRATED STUDIES (BIS)

BIS 301 Integrated Studies Research I (3). Course will provide students with tools and skills required to understand research terminology and assess valid research. Emphasis will be placed on understanding various research methods, evaluating credible sources, and proper APA format.

BIS 302 Integrated Studies Research II (3). Course guides the student through the steps leading to a formal proposal for the B.I.S. field of study project, including annotated bibliography, internet research techniques, review of literature, and the formal written project proposal.

BIS 399 Seminar in Integrated Studies (3). Seminar for students in the Bachelor of Integrated Studies (BIS) program. Investigation and discussion of current issues in adult and distance learning. Topics include curriculum information in BIS program, distance learning technologies, problems experienced by and subjects of interest to adult students. A minimum grade of C is required in this course to continue in the BIS program. Prerequisites: junior standing, acceptance into BIS program, and consent of BIS advisor or instructor.

BIS 437 Senior Project (6). The course guides the student through the completion of the field of study senior project, which is a baccalaureate senior thesis required for completion of the Bachelor of Integrated Studies degree. A student must earn a minimum grade of C in this course to receive a Bachelor of Integrated Studies. Prerequisites: admission to B.I.S. program, senior standing, BIS 301 and 302 (or completion of two approved courses in the field of study research preparation), and a grade of C or better in ENG 105 (or equivalent), or by permission of instructor.

BUSINESS (BUS)

BUS 100T Transitions (1). Course is designed to assist students in their transition to Murray State University. Content includes orientation to the specific area or major(s) and minor(s) within the academic program; university procedures, policies, and resources; strategies for personal and academic success, and extracurricular opportunities. Only one transitions course will count toward graduation. Graded pass/fail.

BUS 140 Foundations of Business (3). An introduction to the various functions of business such as finance, management, marketing, personnel, etc. Open only to students who have not completed a business course above the 200 level.

BUS 200 Collegiate Leadership and Service (1-2). Course introduces students to basic leadership concepts and practices in business and public affairs. Student skills in the area of leadership will be enhanced through the use of class presentations, discussion, freshman orientation responsibilities, and participation in collegiate and university activities. This course may be repeated for a total of three hours. A maximum of six hours credit may be earned or scheduled from any combination of GUI 251, 252, and 450 and BUS 200. Prerequisite: permission of instructor.

BUS 215 Business Communication (3). This course is designed to acquaint the student with the principles of business communication and give him/her practice in solving business problems through the use of written communications, research and report writing, and oral communications. Prerequisite: a minimum grade of C in ENG 105, or ENG 101 and 102, or ENG 150, or the equivalent.

BUS 296 Topics in International Business (3). Course is designed to give participants exposure to cultures and business practices outside the United States. The course is offered in conjunction with a study abroad program and includes travel, study, visits to corporate and governmental offices, and experiential assignments in various countries. At the instructor's discretion, the course may focus on a specific topic or theme.

BUS 355 Information Systems and Decision Making (3). This course is a brief overview of information systems and the roles they play in support of decision making. Specific topics include information technology hardware and software, business intelligence, database management and data warehouses, e-commerce, decision support systems, IT infrastructures and controls, and computer crime and forensics. A significant component of this course also includes skill development in spreadsheet and database software. A student may receive credit for only one of the following courses: ACC 308, BUS 355, or CIS 307. Prerequisites: junior standing; ACC 200 and 201; CSC 199 or equivalent.

BUS 396 International Business Seminar (3). Only those student who are enrolled in the International Business Seminar study abroad program are permitted to enroll in this course. Designed to give participants firsthand exposure to cultures and business practices outside the United States. The seminar includes travel, study, visits to corporate and governmental offices, and other experiential assignments in various countries. At the instructor's discretion, the seminar may focus on a specific topic or theme. May be repeated once with advisor's approval. Prerequisite: consent of instructor.

BUS 442 Business Ethics and Environments (3). This course involves a study of modern and classical approaches to both business and personal ethics as well as the other major components of the business environment: the political, international, legal, ecological, social and cultural environments. This course also studies the principles and practices of corporate governance. Prerequisites: LST 240, MGT 350, FIN 330, MKT 360, and senior standing. (Same as PHI 442.)

BUS 485 Geospatial Tools in Business (3). The continuing development of Geographic Information Systems (GIS) technologies and the rapid migration of these technologies to Web-based platforms across enterprises have created powerful geospatial tools for analysis, communication, and promotion. In this course, students expand their knowledge of these technologies and develop skills in applying them to these core business functions. Traditional learning activities are augmented with projects in which students learn how to use geospatial tools in analysis, communication, and promotion and how to share these tools and resources throughout organizations. Prerequisite: BUS 140 or MKT 360 or MGT 350 or consent of instructor.

BUS 488 Cooperative Education/Internship (1-3). A meaningful, planned, and evaluated work experience related to the career and educational objectives of the student for which he/she may receive academic credit and possible financial remuneration. May be repeated for a maximum of six hours from any 488/489 courses. Graded pass/fail. Prerequisite: permission of chair.

BUS 499 Senior Seminar in Business (1). Seminar for students of business administration programs with a primary focus on preparation of seniors for a

variety of employment environments and professional development. Recommended for students enrolled in their next to last undergraduate semester, but with approval could be taken in last undergraduate semester. Prerequisite: senior standing.

BUS 515 Communicating in an International Business Environment (3). This course is designed to acquaint students with the challenges of international business communication, provide guidelines for successful cross-cultural business communication, and give practice in solving international business problems through the use of the guidelines.

BUS 540 Legal Obligations of Business (3). Course will provide a basic understanding of the laws that relate to business with emphasis on the law of contracts, sales, negotiable instruments, and secured transactions. Prerequisite: LST 240.

BUS 595 Special Problems (3). Prerequisite: permission of instructor.

BUS 605 Research Methods in Business (3). Will introduce students to research methods used in business. The class will examine research projects which involve a variety of data collection and analysis methods. Topics include research proposals, research design, survey writing, sources and collection of data, data analysis, and presentation of research results. The class will develop students' oral and written communication skills.

BUS 615 Communicating in an International Business Environment (3). This course is designed to acquaint students with the challenges of international business communication, provide guidelines for successful cross-cultural business communication, and give practice in solving international business problems through the use of the guidelines.

BUS 640 Legal Obligations of Business (3). Course will provide a basic understanding of the laws that relate to business with emphasis on the law of contracts, sales, negotiable instruments, and secured transactions. Prerequisite: LST 240.

BUS 684 Seminar in Geospatial Tools in Business (3). The continuing development of Geographic Information System (GIS) technologies and the rapid migration of these technologies to Web-based platforms across enterprises have created powerful geospatial tools for analysis, communication, and promotion. In this course, students expand their knowledge of these technologies and develop skills in applying them to these core business functions. Traditional learning activities are augmented with projects in which students learn how to use geospatial tools in analysis, communication, and promotion and how to share these tools and resources throughout organizations. Students will also design, conduct, and manage a customized geospatial research project for an external organization. Prerequisite: MKT 360 or consent of instructor.

BUS 695 Special Problems (3). Prerequisite: permission of instructor.

BUS 696 International Business Seminar (3). Only those student who are enrolled in the International Business Seminar study abroad program are permitted to enroll in this course. Designed to give participants firsthand exposure to cultures and business practices outside the United States. The seminar includes travel, study, visits to corporate and governmental offices, and other experiential assignments in various countries. At the instructor's discretion, the seminar may focus on a specific topic or theme. This course includes an individual research project approved by the instructor.

COMMUNICATION DISORDERS (CDI)

CDI 100T Transitions (1). Course is designed to assist students in their transition to Murray State University. Content includes orientation to the specific area or major(s) and minor(s) within the academic program; university procedures, policies, and resources; strategies for personal and academic success, and extracurricular opportunities. Only one transitions course will count toward graduation. Graded pass/fail.

CDI 205 Introduction to Communication Disorders (3). An introduction to the areas of speech-language pathology and audiology. An integral part of the course is observation of therapy with speech, language, and hearing disorders.

CDI 215 Clinical Phonetics (3). Application of the informational and perceptual domains of phonetics in the clinical setting. Includes transcription using the International Phonetic Alphabet. Prerequisite: 3.0 overall GPA.

CDI 292 Communication Disorders for Special Educators (4). A survey course of speech and language acquisition, disorders and remediation. The course is specifically designed for the special educator and classroom teacher and will center on information and remedial procedures particularly applicable to a classroom situation.

CDI 310 Anatomy and Physiology (3). Lecture course dealing with the structure and functions involved in speech and the peripheral hearing mechanism. Prerequisite: CDI 205 (may be taken concurrently) and 3.0 overall GPA.

CDI 315 Speech Science (3). Study of speech sound production and perception. Prerequisite: CDI 310 and 3.0 overall GPA.

CDI 325 Pediatric Speech Disorders I (3). Designed to provide fundamental knowledge of the nature of speech disorders in children, including etiologies and characteristics as well as anatomical/physiological, linguistic and developmental correlates. Prerequisites: CDI 215, 310, 340 and admission to CDI program.

CDI 340 Speech and Language Development (3). A survey of speech and language acquisition in children. Primarily a lecture course with required clinical observation.

CDI 345 Pediatric Language Disorders I (3). Designed to provide fundamental knowledge of the nature of language disorders in children, including etiologies and characteristics as well as psychological, linguistic, developmental and cultural correlates. Prerequisites: CDI 340 and admission to CDI program.

CDI 405 Audiology (3). An introduction to the field of audiology. Specific emphasis on basic testing procedures and causes and types of hearing loss. Clinical observation and practice are required. Prerequisite: admission to Communication Disorders program.

CDI 440 Neurogenic Communication Disorders (3). Course is designed to provide the student with a solid foundation of the neurologic basis, causes, and characteristics of frequently encountered neurologic cognitive-communicative disorders of adults. The major disorders included are aphasia, apraxia of speech, dysarthria, dementia, right hemisphere syndrome and traumatic brain injury syndrome. The basic principles and practices of assessment and intervention are introduced. Prerequisite: CDI 465.

CDI 451 Aural Rehabilitation (3). Study of psychosocial, educational, vocational and communication implications of hearing impairment with emphasis upon intervention strategies. Includes clinical observation and/or practice. Prerequisites: CDI 325 or 345 and CDI 405.

CDI 452 Signing Exact English I (3). This course serves as an introduction to Signing Exact English, a form of manual communication used primarily by children. The course includes study of manual communication and development of basic skills in finger spelling and signing.

CDI 465 Neuroanatomy and Physiology for Applied Health Sciences (3). A study of the organization of tissues and gross structural elements of the human nervous system and current knowledge of the physiology of neural transmission. The course will cover the neural substrates for cognition, communication, and movement and will explore clinically relevant pathology related to function. Prerequisites: cumulative GPA of 2.5 and admission to Communication Disorders program. For all others, advisor approval. (Same as EXS 435.)

CDI 470 Pediatric Speech Disorders II (3). A course dealing with assessment and treatment techniques appropriate to speech sound disorders. This is an applied course and consists of reading, discussion, and guided practice as well as limited lecture. Some activities will take place in the clinic. Prerequisite: CDI 325. Corequisite: CDI 474.

CDI 472 Pediatric Language Disorders II (3). A course dealing with assessment and treatment techniques appropriate to child language disorders. This is an applied course and consists of reading, discussion, and guided practice as well

as limited lecture. Some activities will take place in the clinic. Prerequisite: CDI 345. Corequisite: CDI 474.

CDI 474 Elementary Clinical Skills (1-3). Observation, shadowing of graduate clinicians, or individual clinical assignment in communication disorders. May be repeated up to four hours. Corequisite: CDI 470 or 472.

CDI 480 School Services for Communication Disorders (3). This course is an in-depth study of roles and responsibilities of the speech-language pathologist and speech-language pathology assistant practicing in the schools. Prerequisite: admission to Communication Disorders program.

CDI 482 Augmentative-Alternative Communication (3). A study of communication modalities available to meet the communication needs of persons across the life-span with severe communication disorders. The course will emphasize augmentative and alternative communication strategies, techniques, technologies, and characteristics of communication partners based on research and theory. Prerequisites: CDI 340 and 345.

CDI 598 Directed Study (1-3). Available for students who want to investigate special problems. Can be repeated up to six credit hours. Prerequisites: senior standing and permission of instructor directing the study.

CDI 601 Professional Issues (2). Advanced course for students in speech-language pathology will foster professional growth and competence in the skills necessary for professional success. Professional issues addressed will include ethics, accreditation, certification, licensure, reimbursement, and applications of evidenced-based practice. Prerequisite: documentation of the acquisition of basic knowledge and skills as outlined in the standards for the Certificate of Clinical Competence.

CDI 611 Seminar in Current Trends and Issues (1-3). Extensive review and discussion of current issues and trends in the profession. Topics will include state-of-the-art research, technology, healthcare, education, etc., to be determined by shared professional concerns of instructor and students. May be repeated up to eight credit hours. Prerequisite: admission to speech-language pathology or permission of instructor.

CDI 615 Instrumental Methods for SLPs (3). An investigation of technologies and methodologies for assessing and documenting human communication processes. Demonstration and training are provided for evidence-based practice and research. Prerequisite: admission to speech-language pathology or permission of instructor.

CDI 620 Phonological Disorders (3). Course will include advanced education in diagnosis and treatment for speech sound disorders. Includes an extensive review of current literature. Prerequisite: admission to speech-language pathology or permission of instructor.

CDI 621 Student Teaching in Speech Language Pathology (5). The study and clinical practice of speech-language pathology in the public schools. A seminar component includes current issues in certification, licensure, ethical and legal aspects of service delivery, program administration and interaction with allied professionals.

CDI 624 Disorders of Voice (3). Study of voice pitch, quality, and intensity, including etiology, diagnosis and therapy for functional and organic problems. Course includes a study of laryngeal speech. Prerequisite: admission to speech-language pathology or permission of instructor.

CDI 625 Fluency Disorders (3). A study of theories and varying characteristics of stuttering, including therapy programs, methods, procedures and materials for treatment of stuttering of different ages and with different characteristics. Prerequisite: admission to speech-language pathology or permission of instructor.

CDI 635 Graduate Seminar in Communication Disorders (1-3). Topical seminar in speech and hearing. May be repeated to a maximum of six hours.

CDI 640 Individualized School Placement (4-6). Provides opportunities for students to participate in all activities and duties generally expected of a speech-language pathologist in the public schools. Specific supervision will

be provided. This course is designed for students with at least one year of teaching experience and seeking a new certificate (students with less than one year of experience must take CDI 621). Course activities include planning, preparation and therapy under on-site supervision. Prerequisite: admission to speech-language pathology or permission of instructor.

CDI 646 Research Methods for Speech-Language Pathologists (3). Review of research procedures and designs that have relevance to special populations. Special emphasis will be given to those skills (understanding, assumption, reading and abstracting articles, interpreting data, and evaluating results) needed to understand the relationships between research strategies, clinical problem solving and the assessment of clinical effectiveness in speech-language pathology. Prerequisite: admission to speech-language pathology or permission of instructor.

CDI 647 Early Language Development and Disorders (3). A study of language development, disorders and intervention in infants, toddlers, and preschool children. Prerequisite: admission to speech-language pathology or permission of instructor.

CDI 648 School-Age Language Disorders (3). A study of theories of language development and language disorders affecting school children. Prerequisite: admission to speech-language pathology or permission of instructor.

CDI 651 Neuromuscular Disorders (3). The study of pathology, etiology, diagnosis and speech rehabilitation of cerebral palsy and other neuromuscular disorders. Prerequisite: admission to speech-language pathology or permission of instructor.

CDI 656 Advanced Audiology (3). An in-depth study of audiology and hearing science as they relate to speech communication. Emphasis will be on clinical theory and application for special problems in audiology. Prerequisite: admission to speech-language pathology or permission of instructor.

CDI 660 Motor Speech Disorders (3). A study of dysarthria and apraxia of speech with emphasis on differential diagnosis and current clinical theory and application. The course will also include assessment and treatment of swallowing disorders. Prerequisite: admission to speech-language pathology or permission of instructor.

CDI 664 Introduction to Clinical Practicum (3). Supervised and directed clinical practice in communication disorders. Emphasis is on developing initial skills in clinical procedures, case management, and self-evaluation. Prerequisite: admission to speech-language pathology or permission of instructor.

CDI 665 Neuroanatomy for Allied Health Professionals (3). A study of the organization of tissues and gross structural elements of the human nervous system and current knowledge of the physiology of neural transmission. The course will cover the neural substrates for cognition, communication and movement and will explore clinically relevant pathology related to function. The course will include specific study of the mechanisms of injury to the brain associated with acquired neurological disorders. Acceptance into the program for a Interdisciplinary Brain Injury Studies Graduate Certificate or instructor permission.

CDI 670 Practicum Seminar (1). This seminar is a companion course to the graduate practicum experiences in communication disorders. It explores topics on the assessment, diagnosis, and treatment of communication problems of individuals across all ages. This course also serves as a forum for introduction and discussion of current professional issues that impact diagnosis and treatment. One hour lecture, two hours clinical practicum. Graded pass/fail. Prerequisite: admission to speech-language pathology or permission of instructor.

CDI 672 Diagnostic Methods (3). In-depth study and practical use of contemporary tests used by the speech-language pathologist. Includes formal and informal evaluation procedures. Prerequisite: admission to speech-language pathology or permission of instructor.

CDI 674 Clinical Practicum (1-3). Supervised clinical practice with communication disorders. May be repeated up to seven hours. Prerequisite: admission to speech-language pathology or permission of instructor.

CDI 676 Medical/Clinical Placement (5). Supervised clinical practice within medical and health care settings including hospitals, rehabilitation centers, home health and private practice. Assessment and treatment population will be mainly adults with neurogenic communication disorders. May be repeated to a maximum of 10 hours. Prerequisite: admission to speech-language pathology or permission of instructor.

CDI 677 Clinical Pathologies (3). Course will include a review of the various pathologies that the master's level clinician will encounter. Also included will be an overview of relevant educational and medical issues pertinent to the speech pathologists. Prerequisite: admission to speech-language pathology or permission of instructor.

CDI 680 Adult Neurogenic Communication Disorders (3). An in-depth study of the characteristics of aphasia, right hemisphere disorders, and dementia. The cognitive, linguistic, and communicative aspects of each disorder will be explored as the foundation for differential diagnosis and clinical intervention. Prerequisite: admission to speech-language pathology or permission of instructor.

CDI 684 Craniofacial Anomalies (3). A study of etiology, assessment and treatment of the oral cleft and other oro-facial anomalies. Includes a survey of the roles of various specialists represented on the oral cleft team. Prerequisite: admission to speech-language pathology or permission of instructor.

CDI 685 Communication Disorders of Aging (3). Course will include information relative to the effect of communication disorders on the aging population and to acquaint the student with intervention techniques appropriate for the communicatively handicapped older person. Prerequisite: admission to speech-language pathology or permission of instructor.

CDI 686 Swallowing Disorders (3). A study of normal and disordered swallowing processes. The course includes a review of the anatomy and physiology of the swallowing mechanism and the etiology of acquired swallowing disorders. Special emphasis is placed on current clinical theory, application, and technology in differential diagnosis and treatment. Prerequisite: admission to speech-language pathology or permission of instructor.

CDI 690 Interdisciplinary Leadership Project (2). This course provides advanced professional development integrating the cumulative knowledge and skills obtained over the duration of the Interdisciplinary Brain Injury Studies Graduate Certificate. The course primarily focuses on an individually designed leadership project that addresses the needs of persons with acquired injury and their families. May be repeated for up to four credits. Prerequisites: CDI 665 or consent of instructor.

CDI 694 Advanced Clinical Practicum (3). Supervised clinical practice in communication disorders. Course activities include supervised planning, preparation and therapy. Prerequisites: completion of CDI 670 and CDI 674. May be repeated for up to six hours of credit.

CDI 695 Independent Study (3). Available for selected students who desire to investigate a special area or problem. A final written paper will be submitted to the instructor. May be repeated up to six credit hours. Prerequisite: admission to speech-language pathology or permission of instructor.

CDI 698 Thesis (3).

CDI 699 Thesis (3).

CIVIL/CONSTRUCTION ENGINEERING TECHNOLOGY (CET)

CET 100T Transitions (1). Course is designed to assist students in their transition to Murray State University. Content includes orientation to the specific area or major(s) and minor(s) within the academic program; university procedures, policies, and resources; strategies for personal and academic success, and extracurricular opportunities. Only one transitions course will count toward graduation. Meetings with advisors, department personnel, service areas, and campus field trips comprise the main involvement. Availability of university resources is stressed with emphasis on personal needs. Graded pass/fail. (Fall)

CET 199 Environment Science and Technology Concepts (4). Pollution assessment and control introduction intended for general public awareness. Topics include basic environmental science and ecological principles; population dynamics and resource management; sampling and analytical techniques; regulatory considerations; and water treatment, air pollution control, solid waste handling, and hazardous waste management systems. Laboratory required.

CET 280 Plane Surveying (3). Field and office procedures necessary for measuring distances, elevations, horizontal and vertical angles. Boundary and area calculations and basic construction applications of survey procedures. Care and use of survey instruments. Two hours lecture and three hours lab. Prerequisites: MAT 130 and ITD 107.

CET 282 Construction Methods and Equipment (3). A study of the production rates and owning and operating costs of construction equipment along with methods used in heavy and building construction. Prerequisite: MAT 130. (Fall)

CET 284 Sustainable Design and Construction (3). Introduction to principles of sustainable design and construction of residential and commercial facilities. Topics include "green" building fundamentals and certifications, landscaping, energy, materials, indoor environmental quality, and economics. (Spring)

CET 298 Strength of Materials (3). A study of internal stresses and physical deformations caused by externally applied loads to structural members. Topics include normal and shearing stresses, stress and strain relationships, simple tension and compression of axial members, composition beams, inelastic bending, transverse shear stresses in beams, deflections, and elementary design of beams and shafts. Includes a laboratory investigation of mechanical properties of materials and structural elements. Prerequisites: ENT 287 and MAT 230.

CET 302 Structural Drawing (3). A study of methods and procedures used in architectural drawing and in graphical presentations of steel and concrete structures. Emphasis is placed on structural drawing and detailing with special emphasis on detailing of structural steel and reinforced concrete members of buildings. Six contact hours. Prerequisite: ITD 107 or equivalent. (Spring)

CET 310 Anatomy of Buildings (3). Study of the function, physical makeup, and working principles of various building systems, components, and materials. Emphasis on the basic design principles and interdependence of the structural, utility and climate control systems. This course is designed to enhance the student's knowledge of the total building process. (Spring)

CET 330 Water Quality Technology I (3). Course of study includes fundamental design and operation of water treatment and reclamation systems. Topics include analyses of water and wastewater characteristics, system design conforming to regulatory requirements, and related chemical, biological, and hydraulics concepts. Prerequisite: MAT 130. (Fall)

CET 331 Water Quality Technology II (3). A continuation of CET 330 and includes fundamental design and operation of water treatment and reclamation systems. Topics include analyses of water characteristics, system design, and related chemical, biological, and hydraulics concepts. Prerequisite: CET 330. (Spring)

CET 342 Air Quality Technology (3). Ecosystem air chemistry and dynamics are stressed. The impacts of natural and human-derived pollution, both indoor and outdoor, are studied. The impact of regulations upon industrial production is also addressed. Prerequisite: MAT 230. (Spring)

CET 353 Solid and Hazardous Waste Management (3). Generation and remediation of solid and hazardous wastes are examined. Transportation and recycling within legislative guidelines are studied. Waste management planning, recycling technologies and risk assessment are also included. The course scope includes municipal, industrial and forest/agricultural solid waste generation. Prerequisite: MAT 130. (Spring)

CET 370 Route Surveying (3). Field and office practice in surveys needed for road construction and improvement. Computer mapping, preparation of digital terrain models, earth volume and mass diagram computation. Radial staking using electronic distance measurement and total station surveying instru-

ments. Methods of free positioning on the construction site. Prerequisites: CET 280, MAT 230. (Spring)

CET 381 Boundary Surveying I (3). Field surveys and computational procedures necessary for boundary retracement and land subdivision in both metes and bounds and public lands states. Boundary law, subdivision ordinances, statutory requirement for boundary surveys. Two hours lecture and three hours lab. Prerequisites: CET 280 and MAT 230 or 250. (Spring)

CET 385 Construction Estimating I (3). Basic estimating procedures relating to quantity surveying, earthwork computations, and cost of labor and materials. CPM determinations of project durations and resources required for construction. (Fall)

CET 386 Construction Estimating II (3). Estimating and bidding large construction projects with an emphasis on reinforced concrete and structural steel work. Prerequisites: CET 385. (Spring)

CET 410 Transportation Systems and Design (3). Fundamentals and concepts of transportation engineering, including abroad overview and introduction of design tools and concepts. Prerequisite: CET 370.

CET 460 Geodesy (3). Basic elements of geometric and physical geodesy. Geodetic direct and inverse. Data adjustment. Observations using the global positioning system. Two hours lecture plus three hours lab. Prerequisites: CET 381 and MAT 308 or 330. (Fall)

CET 480 Construction Planning and Management (3). Project management including planning, scheduling, supervision, and emphasis on contracts and specifications. (Fall)

CET 481 Structural Steel Design (3). Elementary structural analysis and design of tension members, beams, columns and connections. Emphasis is placed on the AISC specifications. Prerequisite: CET 298. (Fall)

CET 482 Reinforced Concrete Design (3). Analysis and design of reinforced concrete beams, columns, footings and one-way slabs using the strength design method. Emphasis is placed on the ACI Building Code. Prerequisite: CET 298. (Spring)

CET 483 Construction Materials (4). Basic properties of materials used in construction concrete, asphalt, aggregates, and timber. Design procedures, field control, and adjustments. Three hours lecture and two hours laboratory. (Fall)

CET 484 Soil Mechanics and Foundations (4). Mechanical and physical properties of soils and their relations to engineering considerations, such as soil classification, permeability, shearing strength, consolidation, stress distribution, and bearing capacity of soils. Introduction to the analysis and design of shallow footings. Lecture and laboratory. Prerequisite: ENT 287. (Spring)

CET 485 Land Use and Watershed Protection (3). Focuses on impacts of land use on receiving waters, storm water management, erosion control, stream bank restoration, and reclamation of disturbed lands. Two hours lecture and three hours lab. Some weekend field trips required. Prerequisites: CET 280, ENT 286, and 382.

CET 486 Boundary Surveying II (3). Addresses field surveys and computational procedures necessary for land subdivision. Boundary retracement of state and municipal boundaries along with the colonial land system and Virginia/Kentucky land grant systems will also be components of the course. Two hours lecture and three hours lab. Additional field exercises are required. Prerequisite: CET 381.

CET 490 Construction Scheduling and Methods (3). Project management including planning, scheduling, and emphasis on construction methods and project delivery. Prerequisite: CET 480. (Spring)

CET 555 Environmental Regulatory Affairs (3). Laws and regulations pertinent to the management of water and wastewater, hazardous and toxic wastes, air contaminants, underground storage tanks and other timely environmental issues are studied. General legal concepts, the relationships among industries

and local, state, and federal agencies, environmental audits and community right-to-know requirements are among the topics included. Prerequisites: CET 331, 342 and 353. (Spring)

CET 585 Remediation Technology (3). Study includes process design and operations for biological and physical/chemical systems used to remove organic and inorganic contaminants from soil and groundwater. (Fall)

CET 587 Sustainable Environmental Technology (3). Course focuses on analysis and design of environmental systems that enhance sustainable development and conserve natural resources. Topics include bioresiduals land application, natural treatment systems, life cycle analysis, and environmental economics.

CET 589 Environmental Modeling (3). Computer modeling of environmental/ecosystem phenomena including predictive impact of pollution discharges and engineering hydrology will be stressed. Prerequisite: ENT 382.

CET 610 Geodetic Survey Systems (3). Mathematical and conceptual elements of advanced survey systems including instrument calibration and error detection, coordinate system rotation and translation, gyroscopic surveys, and applications of calculus to survey computations. Prerequisites: CET 381 and MAT 308.

CET 620 Advanced Geodetic Surveying (3). Concepts and procedures for advanced horizontal and vertical control surveys designed to support geographic information systems; least squares adjustment of both traditional and Global Positioning System observations; digital terrain modeling using triangulated irregular networks and various polynomials. Prerequisite: CET 381.

CET 655 Environmental Regulatory Affairs (3). Laws and regulations pertinent to the management of water and wastewater, hazardous and toxic wastes, air contaminants, underground storage tanks and other timely environmental issues are studied. General legal concepts, the relationships among industries and local, state, and federal agencies, environmental audits and community right-to-know requirements are among the topics included. Prerequisites: CET 341, 342 and 353 or permission of instructor.

CET 681 Pollution Assessment and Control (3). A seminar/laboratory class that covers selected course areas within the environmental technology field. Pollution assessment and control will be introduced and specific topics will include environmental science and ecological principles; sampling and analytical techniques; regulatory considerations; and natural wastewater treatment systems.

CET 682 Industrial Ecology (3). The focus includes study of environmental planning and design to effect Total Quality Environmental Management (TQEM). Industrial economic impacts amid regulatory agency prescriptions and philosophical trade-off regarding energy conversion and pollution remediation and/or avoidance are addressed.

CET 685 Remediation Technology (3). Study includes process design and operations for biological and physical/chemical systems used to remove organic and inorganic contaminants from soil and groundwater. Prerequisite: CET 341 or permission of instructor.

CET 687 Sustainable Environmental Technology (3). Course focuses on analysis and design of environmental systems that enhance sustainable development and conserve natural resources. Topics include bioresiduals land application, natural treatment systems, life cycle analysis, and environmental economics. Prerequisite: CET 341 or permission of instructor.

CET 689 Environmental Modeling (3). Computer modeling of environmental/ecosystem phenomena including predictive impact of pollution discharges and engineering hydrology will be stressed. Prerequisite: ENT 382.

CHEMISTRY (CHE)

CHE 100T Transitions (1). Course is designed to assist students in their transition to Murray State University. Content includes orientation to the specific area or major(s) and minor(s) within the academic program; university procedures, policies, and resources; strategies for personal and academic success, and

extracurricular opportunities. Only one transition course will count toward graduation. Graded pass/fail.

CHE 101 Consumer Chemistry (4). A brief course in chemistry for those who plan to take no more chemistry. Designed specifically to satisfy the University Studies physical science requirement. Explores social and cultural issues associated with science and technology to provide knowledge of resource conversion in a world dominated by an information explosion. Considers the impact of chemistry and technology on history, art, and business. Three lectures and two hours of laboratory per week. Not applicable to major or minor.

CHE 105 Introductory Chemistry (4). A beginning course in general chemistry designed for students who plan to take additional chemistry courses. Three lectures and two hours of laboratory per week. Not applicable to major or minor. Math ACT score of at least 20 or MAT 097 (or the equivalent) strongly advised.

CHE 111 Essentials of Chemistry and Biochemistry (5). A course that covers the essentials of general chemistry, organic chemistry and biochemistry with an emphasis on health-related topics. Three hours of lecture, two hours of recitation, and two hours of laboratory work per week. Not applicable to major or minor. Students may not receive credit for both CHE 105 and CHE 111 or CHE 111 and 210. Prerequisites: MAT 140 and one of the following: EXS 100T, HEA 100T, NUR 100T or permission of instructor.

CHE 120 Chemical Laboratory Safety (1). A general course in laboratory safety. It is recommended for all students seeking chemistry degrees and students in other fields involving extensive laboratory work. This course does not count for University Studies credit. Corequisite: CHE 201 or permission of instructor.

CHE 201 General College Chemistry (5). A thorough course in inorganic chemistry emphasizing atomic structure, stoichiometry, thermochemistry, the gaseous state of matter, periodic classification, nuclear chemistry, and chemical bonding. Three lectures, two hours of laboratory, and two hours of recitation per week. Prerequisites: Math ACT score of 24, or MAT 150 with a grade of C or better, or both MAT 140 and 145 with a grade of C or better in each.

CHE 202 General Chemistry and Qualitative Analysis (5). A continuation of CHE 201 emphasizing thermochemistry, solution chemistry, oxidation-reduction reactions, chemical kinetics, chemical equilibrium, acid-base chemistry, thermodynamics, electrochemistry, and other selected topics. Three lectures, two hours of laboratory, and two hours of recitation per week. Prerequisite: CHE 201.

CHE 210 Brief Organic Chemistry (3). An elementary course in organic chemistry for non-majors emphasizing the nomenclature, properties and reactions of important classes of organic compounds. Three lectures per week. Prerequisite: CHE 105 or 202. Not applicable to major or minor.

CHE 215 Organic Chemistry Laboratory (1). Two hours of laboratory per week to accompany CHE 210 which is a co- or prerequisite. Not applicable to chemistry major or minor.

CHE 305 Analytical Chemistry (5). Fundamental principles and techniques of volumetric and gravimetric analysis. Two lectures and two three-hour laboratory periods per week. Prerequisite: CHE 202.

CHE 312 Organic Chemistry I (5). Introduction to organic chemistry, including structure, properties, methods of preparation, and selected reactions of aliphatic and aromatic hydrocarbons and halides. Stereochemistry and basic reaction mechanisms are also included. An introduction to the theory of modern instrumental techniques (GC, IR, NMR, GC/MS) used in the identification of organic species is also taught. An introduction to the theory and practice of organic chemical laboratory procedures and manipulations which include hands-on experience with the preparation, separation, purification, and identification of typical compounds. Three hours of lecture, one hour of recitation and three and one-half hours of lab per week. Prerequisite: CHE 202.

CHE 320 Organic Chemistry II (3). A continuation of CHE 312 including similar studies of other fundamental classes of organic compounds. Three lectures per week. Prerequisite: CHE 312 with a grade of C or better.

CHE 325 Organic Chemistry II Laboratory (3). A continuation of CHE 312 involving more complicated syntheses and compound identification. One hour of pre-lab lecture and four hours of laboratory per week. Prerequisite: CHE 320.

CHE 329 Molecular Visualization in Chemistry (1). Survey of the techniques and methods used to visualize biological and organic molecules. One hour of lecture per week. Corequisite: CHE 330, 530 or 540 or permission of instructor.

CHE 330 Basic Biochemistry (3). A basic course surveying the chemistry and metabolism of carbohydrates, proteins, lipids and nucleic acids, and the action of vitamins, hormones and enzymes. Three lectures per week. Credit for either CHE 330 or CHE 530, but not both, can count toward a major or minor in chemistry. Prerequisite: CHE 210 or equivalent. (Spring only.)

CHE 352 Basic Chemical Instrumentation (4). An introduction to chemical instrumentation and instrumental methods of analysis, including chromatographic, optical, and electrometric techniques. Three lectures and one three-hour laboratory period per week. Prerequisite: CHE 305. (Fall only.)

CHE 388 International Experience in Chemistry (3). A short-term (10-14 days of travel) study abroad experience highlighting selected historical and modern contributions to chemistry from another country and culture. The course includes pre- and post-travel meetings, lectures, readings, and discussions. This course may be repeated for up to nine hours of credit. These hours will not count toward either the major or minor. Letter-graded course. Prerequisites: CHE 105 or 201 or consent of the instructor.

CHE 400 Chemical Literature (1). An introduction to methods of locating and accessing chemical information, both in the library and through on-line searching of computerized chemical databases; instruction in the writing of technical papers and reports. Prerequisite: CHE 320.

CHE 401 Ethics for the Chemist (1). An ethics course designed primarily for chemistry majors that explores, discusses and debates ethical issues faced by scientists.

CHE 403 Basic Physical Chemistry (5). Broad coverage of physical chemistry with inclusion of biological applications. Topics include gas laws, kinetic theory, states of matter, thermodynamics, solutions, chemical kinetics, and quantum theory. Designed for students in biological, medical, veterinary, and allied health fields, and those who require one semester of physical chemistry. Four lectures and three hours laboratory per week. Prerequisites: CHE 305, MAT 250, PHY 132 and 133 or 255 and 256. (Spring only.)

CHE 410 Physical Chemistry I (4). Theoretical chemistry with mathematical involvement. Topics included are gas laws, kinetic theory, laws of thermodynamics, and states of matter. Three lectures and three hours of laboratory per week. Should be taken in junior year. Prerequisites: CHE 305, PHY 255 and 256, or PHY 132 and 133 with permission of instructor, and MAT 309. (Fall only.)

CHE 420 Physical Chemistry II (4). A continuation of CHE 410 including solution chemistry, electrochemistry, chemical kinetics, basic quantum chemistry, and basic statistical thermodynamics. Three lectures and three hours of laboratory per week. Prerequisite: CHE 410. (Spring only.)

CHE 435 Undergraduate Seminar (1). An undergraduate seminar program in which the student must attend all departmental chemistry seminars scheduled during the semester of enrollment. In addition, the student will present two short seminars in the departmental seminar program or at an approved professional meeting. Graded pass/fail. These hours will not count toward either the major or minor. Prerequisite: CHE 305 or 312 or permission of chair.

CHE 446 Physical Chemistry for the Technical and Engineering Sciences (3). A course in physical chemistry for students in technical and engineering fields. Topics include kinetic theory, thermodynamics, phase diagrams, solution chemistry, electrochemistry, kinetics, quantum theory, and spectroscopy. Prerequisites: CHE 305, MAT 309, PHY 255.

CHE 488 Cooperative Education/Internship (1-3). A meaningful, planned, and evaluated work experience related to the career and educational objectives of the student for which he/she may receive academic credit and possible financial remuneration. May be repeated for a maximum of six hours from any 488/489 courses. Graded pass/fail. Prerequisite: permission of chair.

CHE 489 Cooperative Education/Internship (1-3). A meaningful, planned, and evaluated work experience related to the career and educational objectives of the student for which he/she may receive academic credit and possible financial remuneration. May be repeated for a maximum of six hours from any 488/489 courses. Prerequisite: permission of chair.

CHE 495 Senior Research (3). Problems and hours arranged individually with staff members directing the research; minimum of nine hours per week. A valuable course for students entering the chemistry profession at the bachelor's degree level and for those who plan graduate study. A written report is required. Prerequisites: Approval of research director and department chair.

CHE 504 Fundamentals of Toxicology (3). This course surveys the scope and fields of toxicology, including the methods and design of toxicity studies with attention to toxic chemicals, their effects and regulatory considerations. Prerequisite: CHE 320 or permission of instructor.

CHE 509 Advanced Inorganic Chemistry I (3). Practical aspects of wave mechanics and bonding theories for covalent and ionic compounds; considerations of symmetry; properties and theories associated with the solid state, acids, bases, and coordination compounds. Limited descriptive chemistry. PES, NMR, IR, and UV/VIS spectroscopy applications in modern inorganic chemistry. Prerequisite: CHE 420 or its equivalent with a grade of C or better. (Fall only.)

CHE 510 Inorganic Chemistry Laboratory (2). Syntheses, characterization and introduction of techniques of inorganic chemistry. Four hours of laboratory per week. Prerequisite: CHE 509.

CHE 513 Environmental Chemistry (3). Studies related to chemicals in the environment as to origin, identification, distribution, modification and effect on biological systems. Prerequisite: CHE 320 or consent of the instructor.

CHE 517 Advanced Organic Chemistry (3). An intensive survey of modern organic chemistry with emphasis on theoretical concepts, reaction mechanisms and syntheses. Prerequisites: CHE 320 and 420 or permission of instructor. (Spring only.)

CHE 519 Instrumental Analysis (5). Theory, calculations, and use of modern analytical techniques, such as visible, ultraviolet, infrared and Raman spectrometry, flame methods, gas chromatography, electrometric methods of analysis and magnetic resonance. Two lectures and six hours of laboratory per week. Prerequisite: CHE 420 or permission of instructor. (Fall only.)

CHE 525 Biochemical Toxicology (3). A study of the basic biochemical aspects of toxicology including adverse chemico-biological interactions and chemical and biologic factors modulating these interactions, descriptions of effects of specific chemical classes, and biochemical mechanisms of toxic effects. Three lectures per week. Prerequisites: CHE 504 and 330, 530, or permission of instructor.

CHE 530 Fundamentals of Biochemistry I (3). Survey of the chemical properties and biological functions of proteins, carbohydrates, and nucleic acids. Topics include: protein structure and function, enzyme kinetics and mechanisms, and elements of organismal metabolism, including a description of glycolysis and the citric acid cycle. Three lectures per week. Credit for either CHE 530 or 330, but not both, can count toward a major or minor in chemistry. Prerequisite: CHE 320. (Fall only.)

CHE 537 Experimental Biochemistry (3). This course will emphasize a mastery of modern biochemical laboratory techniques and the analysis of experimental data. One hour of lecture and four hours of laboratory per week. Prerequisite: CHE 530 or permission of instructor.

CHE 540 Fundamentals of Biochemistry II (3). Continued study of the elements of metabolism, including their chemical reactions, energetics and regulation. Additional topics include hormones, biochemical function of various organs and replication, transcription and translation of genetic information. Three lectures per week. Prerequisite: CHE 530. (Spring only.)

CHE 545 Glassblowing (1). Laboratory demonstrations and exercises. Mastery of the different types of seals used in construction of scientific glass apparatus. Three hours of laboratory per week. Course restricted to chemistry majors.

Prerequisite: senior standing. Cannot be used as an elective for ACS-accredited area.

CHE 565 Biogeochemistry (3). Survey and discussion of the scientific literature on global cycles of carbon, nitrogen, phosphorus and man-made chemicals with special emphasis on the biogeochemical and ecological processes that affect terrestrial and aquatic ecosystems. The course will focus on interdisciplinary themes that incorporate new research results from the fields of biology, chemistry, and geosciences. Prerequisite: junior or higher standing in biology, chemistry or geosciences. (Same as BIO/GSC 565.)

CHE 569 Spectrometric Identification of Organic Compounds (3). Course dealing with the theory and applications of the following methods to the structural analysis of organic compounds: IR, NMR, UV-Vis, and MS. Three hours of lecture per week. Prerequisites: CHE 320 and 519.

CHE 576 Polymer Chemistry (3). The chemistry and physical properties of natural and synthetic polymers of practical importance, coupled with the instrumental and spectroscopic methods of their evaluation. Prerequisite: CHE 320.

CHE 591 Special Problems in Chemistry (1). Laboratory and/or library investigations on special topics. Minimum of three hours per week. May be repeated once for credit. Prerequisites: senior standing and permission of instructor.

CHE 592 Special Problems in Chemistry (2). Laboratory and/or library investigations on special topics. Minimum of six hours per week. May be repeated once for credit. Prerequisites: senior standing and permission of instructor.

CHE 593 Special Problems in Chemistry (3). Laboratory and/or library investigations on special topics. Minimum of nine hours per week. May be repeated once for credit. Prerequisites: senior standing and permission of instructor.

CHE 600 Chemistry of Fuels (3). An advanced study of the chemical basis of fuel technology. Topics may include alternatives to petroleum products, synthetic fuels, and electrochemical fuel cells.

CHE 601 Seminar (1). Reports concerning current chemical literature including student-faculty discussions.

CHE 602 Seminar (1). Reports concerning recent research carried out in the department including student-faculty discussions.

CHE 603 Industrial Chemistry (3). Discussion of the application of chemistry principles to industrial processes.

CHE 604 Fundamentals of Toxicology (3). This course surveys the scope and fields of toxicology, including the methods and design of toxicity studies with attention to toxic chemicals, their effects and regulatory considerations. Prerequisite: CHE 320 or permission of instructor.

CHE 609 Advanced Inorganic Chemistry I (3). Practical aspects of wave mechanics and bonding theories for covalent and ionic compounds; considerations of symmetry; properties and theories associated with the solid state, acids, bases, and coordination compounds. Limited descriptive chemistry. PES, NMR, IR, and UV/VIS spectroscopy applications in modern inorganic chemistry. Prerequisite: CHE 420 or its equivalent at another four-year institution with a grade of C or better.

CHE 610 Chemical Thermodynamics (3). Mathematical treatment of the laws of classical thermodynamics with special emphasis on the applications to chemical systems. Prerequisite: CHE 420.

CHE 611 Advanced Inorganic Chemistry II (3). A continuation of CHE 609 with increased emphasis on the descriptive chemistry of the various groups of elements as rationalized by bonding concepts and periodic trends studied in CHE 609. Prerequisite: CHE 509 or 609.

CHE 613 Environmental Chemistry (3). Studies related to chemicals in the environment as to origin, identification, distribution, modification and effect on biological systems. Prerequisite: CHE 320 or consent of the instructor.

CHE 617 Advanced Organic Chemistry (3). An intensive survey of modern organic chemistry with emphasis on theoretical concepts, reaction mechanisms and syntheses. Prerequisites: CHE 320 and 420 or permission of instructor.

CHE 619 Instrumental Analysis (5). Theory, calculations, and use of modern analytical techniques, such as visible, ultraviolet, infrared and Raman spectrometry, flame methods, gas chromatography, electrometric methods of analysis and magnetic resonance. Two lectures and six hours of laboratory per week. (Fall only.)

CHE 620 Chemical Kinetics and Mechanisms (3). Rate theory, experimental methods, treatment of data, simple and complex reactions, and reaction mechanisms. Prerequisite: CHE 420.

CHE 623 Radiochemistry (3). Theory of nuclear radiations, their interactions, detection and chemical applications. Laboratory experiments utilizing ionization chambers, Geiger counters, proportional gas-flow counters, solid crystal and liquid scintillation detectors, gamma ray spectrometers and experimental simulations. Two lectures and three hours laboratory per week. Corequisite: CHE 420.

CHE 625 Biochemical Toxicology (3). A study of the basic biochemical aspects of toxicology including adverse chemico-biological interactions and chemical and biologic factors modulating these interactions, descriptions of effects of specific chemical classes, and biochemical mechanisms of toxic effects. Prerequisites: CHE 530, 330 and 604 or permission of instructor.

CHE 627 Chemical Separations (3). An in-depth study of modern analytical and preparative separation techniques. Emphasis is placed on molecular and bulk processes that affect the overall performance of a separation, as well as on practical aspects of commonly-employed methods and instrumentation. Prerequisite: CHE 619 or permission of instructor.

CHE 628 Mass Spectrometry (3). Advanced study of the theory and practical aspects of molecular characterization by mass spectrometry. Topics will include molecular ionization and fragmentation, mass fragment separation, and fragment detection with an emphasis on accurate interpretation of resultant mass spectra. Prerequisite: CHE 619 or instructor consent.

CHE 629 Medicinal Chemistry (3). Course that emphasizes the role of organic chemistry in drug design and development and its correlation to the molecular mechanisms of drug action. Prerequisites: CHE 320; CHE 530 or 617 is recommended.

CHE 630 Electrochemical Methods of Analysis (3). A study of the applications of electrochemistry in chemical analysis. The course focuses on the behavior of electrochemical cells, oxidation/reduction reactions, and electrochemical reaction mechanisms, particularly under controlled-potential conditions. Various experimental techniques are emphasized, along with the variety of chemical information that can be obtained from such techniques. Prerequisite: CHE 619 or instructor consent.

CHE 637 Experimental Biochemistry (3). This course will emphasize a mastery of modern biochemical laboratory techniques and the analysis of experimental data. One hour of lecture and four hours of laboratory per week. Prerequisite: CHE 530 or permission of instructor.

CHE 640 Biochemistry II (3). Continued study of the elements of metabolism, including their chemical reactions, energetics and regulation. Additional topics include hormones, biochemical function of various organs and replication, transcription and translation of genetic information. Prerequisite: CHE 530.

CHE 641 Spectroscopy and Group Theory (3). Applications of group theoretical considerations of observed spectra. Spectra are discussed with emphasis on inorganic compounds. Prerequisite: CHE 509 or 609.

CHE 645 Computational Chemistry (3). This course concerns applications of quantum theory to solving problems in chemistry by means of advanced software and computer technology. It covers advanced quantum mechanical concepts, energy calculations, geometry optimization, potential energy surfaces, calculation of spectra, calculation of thermodynamic functions, and studying chemical reactions. Prerequisite: CHE 420 or instructor consent.

CHE 665 Biogeochemistry (3). Survey and discussion of the scientific literature on global cycles of carbon, nitrogen, phosphorus and man-made chemicals with special emphasis on the biogeochemical and ecological processes that affect terrestrial and aquatic ecosystems. The course will focus on interdisciplinary themes that incorporate new research results from the fields of biology, chemistry, and geosciences. (Same as BIO 665.)

CHE 669 Spectrometric Identification of Organic Compounds (3). Course dealing with the theory and applications of the following methods to the structural analysis of organic compounds: IR, NMR, UV-Vis, and MS. Three hours of lecture per week.

CHE 670 Special Topics in Inorganic Chemistry (1-3). Selected topics which may include chemical applications of group theory, coordination compounds, organometallic compounds, and chemistry of less familiar elements. May be repeated for credit as different topics are featured. One to three lectures per week. Prerequisite: CHE 509 or 609.

CHE 671 Special Topics in Physical Chemistry (1-3). Topics of current interest in physical chemistry. May be repeated for credit as different topics are featured. One to three lectures per week.

CHE 672 Special Topics in Analytical Chemistry (1-3). Topics of current interest in analytical chemistry. May be repeated for credit as different topics are featured. One to three lectures per week. Prerequisite: CHE 619.

CHE 673 Topics in Organic Chemistry (1-3). Advanced study in selected areas of organic chemistry. May be repeated for credit as different topics are featured. One to three lectures per week. Prerequisite: CHE 320 with 617 very strongly recommended.

CHE 674 Topics in Biochemistry (1-3). Advanced study in selected areas of biochemistry. May be repeated for credit as different topics are introduced. One to three lectures per week. Prerequisite: CHE 530 or permission of instructor.

CHE 676 Polymer Chemistry (3). The chemistry and physical properties of natural and synthetic polymers of practical importance, coupled with the instrumental and spectroscopic methods of their evaluation.

CHE 677 Physical Organic Chemistry (3). A study of the mechanisms of organic reactions and the effect of structure on reactivity in organic reactions as interpreted from experimental data. Prerequisite: CHE 617.

CHE 681 Advanced Physical Chemistry (3). Continuation of some topics included in the one-year physical chemistry course and inclusion of new topics. Among these topics are quantum chemistry, bonding, statistical thermodynamics, spectroscopy, macromolecules and the solid state. Prerequisite: CHE 420.

CHE 691 Special Problems in Chemistry (1). Laboratory and/or library investigations on special topics, minimum of four hours per week. Prerequisite: Graduate status in the department of chemistry.

CHE 692 Special Problems in Chemistry (2). Laboratory and/or library investigations on special topics, minimum of eight hours per week. Prerequisite: Graduate status in the department of chemistry.

CHE 693 Special Problems in Chemistry (3). Laboratory and/or library investigations on special topics, minimum of 12 hours per week. Prerequisite: Graduate status in the department of chemistry.

CHE 698 Thesis Research (3). Problems and hours arranged individually with staff members directing the research. Registration must be approved by the chair of the department.

CHE 699 Thesis Research (3). Continuation of CHE 698, which is a prerequisite.

CHINESE (CHN)

CHN 101 Elementary Chinese I (3). A study of the sounds and structural patterns of modern Chinese through instruction in listening, speaking, reading, and writing. Some instruction in Chinese whenever possible using the Pinyin Romanization and simplified Chinese characters.

CHN 102 Elementary Chinese II (3). A continuation of Chinese 101. A study of the sounds and structural patterns of modern Chinese through instruction in listening, speaking, reading, and writing using the Pinyin Romanization and simplified Chinese characters. Some instruction in Chinese whenever possible. Prerequisite: CHN 101.

CHN 105 Introduction to Chinese Culture (3). A survey of Chinese society. Contemporary and historical perspectives, attitudes, achievements, institutions, and lifestyles of the Chinese people are explored. Conducted in English.

CHN 110 Basic Conversational Chinese (3). A conversation-oriented introduction to pronunciation and essential structures and vocabulary of Mandarin Chinese. Pronunciation, listening comprehension, speaking and simple reading and writing of material related to conversational situations are included. No continuation offered. Only taught abroad.

CHN 201 Intermediate Chinese I (3). A continuation of Chinese 102. A study of the sounds and structural patterns of modern Chinese through instruction in listening, speaking, reading, and writing using the Pinyin Romanization and simplified Chinese characters. Instruction will be in Chinese whenever possible. Prerequisite: CHN 102.

CHN 202 Intermediate Chinese II (3). A continuation of CHN 201. A study of the sounds and structural patterns of modern Chinese through instruction in listening, speaking, reading, and writing using the Pinyin Romanization and simplified Chinese characters. A large part of instruction will be in Chinese whenever possible. Prerequisite: CHN 201.

CHN 210 Intermediate Conversational Chinese (3). Course designed to develop the vocabulary and oral communication skills of the student with a background of one year of college Chinese or equivalent. Emphasis will be placed on bringing the student into contact with the Chinese people are various aspects of their culture. No continuation offered. Only taught abroad. Prerequisite: CHN 102 or consent of instructor.

CHN 305 Understanding China: Traditions and Trends (3). A study of modern Chinese cultural trends, political situations, and social issues, as well as their roots in traditional history, philosophy, and ethics. Historical and contemporary perspectives, attitudes, achievements, and lifestyles of the Chinese people and their interaction with the rest of the world are explored. Taught in English. Prerequisites: ENG 105 or ENG 150, or consent of instructor.

CHN 310 Chinese Conversation and Composite Abroad (3). Intensive practice in speaking and writing Mandarin Chinese based on the student's interaction with native speakers and the international setting. No continuation offered. Only taught abroad. Prerequisite: CHN 202 or equivalent, or consent of instructor.

CHN 314 Chinese Culture Abroad (3). Chinese culture taught in Mandarin Chinese and only taught in study-abroad programs in Mainland China and Taiwan. The course entails planned activities as well as excursions to cultural sites in conjunction with readings about the activities, the sites, and the intellectual history and milieu behind their conception. The student will explore the history, art, architecture, literature, politics, and music of the host country.

CHN 340 Chinese Diversity Through Food (3). A general study of the cultural and historical significance of food in China and of China's diverse regional cultures. It introduces the history, geography, and cuisine of five major regions in China. There will be some required field trips locally. Taught in English. Prerequisite: ENG 105 or 150.

CHN 451 Directed Study (1-3). Independent work in the area of language, culture, or literature, designed to meet the needs and interests of individual students. May be taught abroad. May be repeated up to a maximum of six credit hours. Prerequisite: CHN 202 or 210, or instructor's consent.

CHN 460 Study in a Genre (3). The course will explore a particular genre, such as drama, poetry, short story, and prose; the theory behind the respective genre; and an examination of a variety of works within that genre. May be repeated for up to six credit hours if genres are different. Prerequisites: CHN 202, 210, 310, or 314; or instructor's consent.

COMPUTER INFORMATION SYSTEMS (CIS)

CIS 243 Business Statistics I (2). Statistical techniques used in analyzing and solving problems encountered in a business environment. Techniques include organizing and presenting statistical data, descriptive statistical analysis, probability distributions for discrete and binomial random variables, normal probability distribution, and simple random sampling. Techniques are applied to practical business problems using appropriate computer resources. Prerequisites: CSC 199 and MAT 220 or MAT 250.

CIS 290 Internship (3-6). Open to sophomore associate degree candidates in computer data processing. These students, upon approval of the computer data processing faculty, are placed with cooperating firms to receive on-the-job training or advanced design and programming training of equivalent value. Work experience is supervised by faculty. Written progress reports are required.

CIS 296 International Experience in CSIS (3). A study of topics relevant to courses taught in the computer science and information systems disciplines. It is taught as part of a Study Abroad program and therefore includes material specific to the country/region of study. Topics may include: data organization and analysis, art and craft of web site development, quantitative techniques for solving business problems, etc.

CIS 299 Special Topics in Computer Applications (1-3). A special topics course designed to permit the teaching of appropriate topics as needed in a changing high-tech discipline. The course will include those topics which are relevant but not necessarily appropriate for permanent, specific course status. Topics will be selected and offered on university/community need and/or interest. Does not apply to the CSC or CIS majors. May not be substituted for any course in the business core. Prerequisites vary with topics covered. May be repeated for a maximum of six hours. (Same as CSC 299.)

CIS 307 Decision Support Technologies (3). An in-depth study of techniques used in business application modeling and decision-making to solve managerial problems. Students will use contemporary spreadsheet, database, web application software packages and query languages (SQL) to implement various business decision-making scenarios. A student may receive credit for only one of the following courses: ACC 308, BUS 355, or CIS 307. Prerequisites: CSC 101 and 199.

CIS 317 Principles of Information Systems Analysis and Design (3). Topics to be covered are systems development processes, structured analysis design methods, prototyping, systems development life cycle, and communication skills. A systems design model will be developed during the course. Prerequisite: CSC 101.

CIS 325 E-Business Programming (3). An introduction to programming languages and Web server technologies used in E-business applications. This course focuses more on client-side E-business development issues such as good web page design techniques, prevalent technologies, interactive and dynamic Web applications, and programming using common scripting languages. Some server-side issues are also covered. Prerequisites: CSC 125 and 232 or permission of instructor.

CIS 343 Business Statistics II (2). Statistical techniques used in analyzing and solving problems encountered in a business environment. Techniques include point estimates, confidence intervals for a population mean, hypothesis testing for mean of one and two populations, statistical inference of proportions and simple linear regression. Techniques are applied to practical business problems using appropriate computer resources. Prerequisites: CIS 243 or STA 135 with a minimum grade of C and MAT 220.

CIS 361 On-Line Applications (3). Study of development of on-line computer usage with specific applications in the functional areas of business. Topical coverage includes the design and development of a complete application, use of utilities to create and support user libraries, and the implementation of the system through the use of commercial on-line software and the COBOL programming language. Prerequisites: junior standing; CSC 260 or permission of instructor.

CIS 399 Topics in Information Systems (1). Seminar for students of Computer Science and Information Systems programs to expose them to a variety of topics and their relevance to the broad discipline of information technology. Students will discover career paths and areas of focus in their upper-division courses. Graded pass/fail. Prerequisite: sophomore standing.

CIS 407 Advanced Database Management Systems (3). This course is designed to cover both the theoretical and practical aspects of database design and implementation. The theory and practice of design approaches and languages for the relational model are stressed. Specific topics will include data modeling; database design using normalization theory and relational query languages; issues of concurrency control, recovery, optimization, database security, privacy and integrity; new database technology, developments, and trends. Students in the course will be expected to design and implement a practical database application using a contemporary database management software package. Prerequisite: A high level programming language and either CIS 307 or ACC 308; or permission of instructor.

CIS 417 Software Development Technologies (3). This course will examine specialized software development problems and their solutions. Topics such as advanced Internet programming, interfaces between applications and data sources, software development using open source and proprietary software environments, development of distributed applications and Web services will be studied. Prerequisites: CIS 317 and CSC 332.

CIS 420 Senior Capstone Project (3). The capstone course for students graduating with an Area in Computer Information Systems (CIS). Students will work in teams to design and implement a complete information system using contemporary software development tools. The workplace will be simulated to the extent possible by stressing in-depth analysis of the client's requirements, formal modes of communication and established project management techniques. Evaluation is based on the completed project using feedback from clients. Prerequisites: CIS 317 and 407; or permission of instructor.

CIS 425 Building E-Business with Web Design (3). Course covers how to build the front-end, middleware, and back-end components that drive E-business. Emphasis is on building a functional E-business site that is capable of processing transactions and interacting with a database. Topics include common E-business technologies, Web database technology, content management, on-line payments, Web usability, client-side and server-side programming using common scripting languages and middleware technologies, and website registration, promotion, and maintenance. Prerequisites: CIS 325 and 407.

CIS 443 Business Statistics III (3). Statistical techniques used in analyzing and solving problems encountered in business organizations. Techniques include multiple regression analysis, time series analysis and forecasting, analysis of variance and nonparametric statistics. Additional topics will include conditional probability, the Poisson, exponential and uniform probability distributions, and the chi-square goodness-of-fit test. Techniques are applied to practical business problems using computer statistical software. This course provides preparation for those students considering graduate school and for those students pursuing programs requiring statistical preparation beyond CIS 343. Prerequisite: CIS 343 with a minimum grade of C.

CIS 480 Foundations of Information Systems Design (3). Thorough knowledge of database management and systems analysis and design techniques is essential for any Information Systems professional. This course covers important aspects of database management and systems analysis and design techniques. This course is also open to graduate students but will not count towards the graduate degree. Prerequisite: permission of instructor.

CIS 488 Cooperative Education/Internship (1-3). A meaningful, planned, and evaluated work experience related to the career and educational objectives of the student for which he/she may receive academic credit and possible financial remuneration. May be repeated for a maximum of six hours from any 488/489 courses. Graded pass/fail. Prerequisite: permission of chair.

CIS 489 Cooperative Education/Internship (1-3). A meaningful, planned, and evaluated work experience related to the career and educational objectives of the student for which he/she may receive academic credit and possible financial remuneration. May be repeated for a maximum of six hours from any 488/489 courses. Prerequisite: permission of chair.

CIS 490 Survey of Calculus and Statistics (3). A survey course in topics from calculus and statistics that will prepare those lacking proper foundation in quantitative subjects for the MBA program. Not open to students with credit for CIS 343 and MAT 220 or 250 or their equivalent courses. Covers most of the material in CIS 343 and MAT 220. Prerequisite: MAT 140 or equivalent.

CIS 508 Computer Simulation (3). A study of computer simulation models of systems and processes. Simulation methodology, simulation model development, simulation computer languages, and the analysis of simulation results are considered. The course makes use of simulation computer software. Prerequisites: CIS 343 and CSC 199 or equivalent, or permission of instructor.

CIS 509 Data Warehousing and Business Intelligence (3). An overview of the concepts behind data warehousing and business intelligence. Emphasis will be on techniques for gathering and cleaning data, designing and using data warehouses for business intelligence purposes. Data mining tools currently in use will be reviewed. Prerequisites: junior standing; CIS 407.

CIS 525 Overview of E-Business Technologies (3). This course provides an overview of important technologies that underlie and enable E-Business. A solid understanding of the common E-Business models and their underlying enabling technologies will be examined using a practical case-based approach. Prerequisite: permission of instructor.

CIS 543 Advanced Business Analytics (3). Course provides conceptual overview of data mining techniques that are used to discover patterns, to predict trends, and to classify observations. In addition, the course includes hands-on practice using modern analytic software and analysis of contemporary business case studies. Prerequisite: CIS 343 or consent of instructor.

CIS 548 Enterprise Resource Planning (3). This course provides the knowledge required to appreciate the functions and benefits of Enterprise Resource Planning (ERP) systems. Students will learn the impact of an ERP system, how ERP software integrates business functions, and how to make current business functions compatible with an ERP system. The students will also develop an appreciation of live, interactive information from an ERP system and the value of its availability throughout the organization. Prerequisite: permission of instructor.

CIS 585 Special Problems (3). This course consists of independent in-depth study of some problem in computer methods and/or quantitative methods. Periodic conferences will be arranged with the supervising faculty member on an individual basis. Prerequisite: permission of instructor.

CIS 601 Telecommunications Principles (3). A graduate level introduction to the underlying principles of telecommunications. This course presents the problems and solutions involved in communicating over extended distances. Topics include: fundamental physical and electronic concepts; information theory; types of media; requirements and capacity calculations; modulation and multiplexing methods; standards and architectures; modern applications and issues. Throughout the presentation of the technical fundamentals, discussion will focus on relevant management issues such as cost, infrastructure, support, and business advantage. (Same as TSM 601.)

CIS 603 Telecommunications Project Management (3). Introductory project management course where students acquire key project competencies. Students will learn how to apply the competencies to implement project management processes established by the Project Management Institute Body of Knowledge (PMBOK Guide). Prerequisite: TSM 601 or permission of instructor. (Same as TSM 603.)

CIS 609 Data Warehouses and Business Intelligence (3). Course provides the student with the technical skills required to plan, implement and maintain a data warehouse using appropriate software. Strategies to organize and use the voluminous data collected by modern organizations for improving business decisions are discussed. It also includes an overview of data mining and introduces the student to using data warehouses for analysis with traditional office software. Course assumes familiarity with Structured Query Language (SQL) and data normalization. Prerequisite: permission of instructor.

CIS 615 Information System Security (3). Graduate-level study of modern computer, network, and information systems security. This course presents systems-oriented approaches to network defense, malicious software, and data encryption. Topics include network intrusion prevention and detection, incident response, worms, viruses, Trojan horses, public key encryption, message authentication, and privacy issues. Throughout the presentation of security issues, discussion will focus on the cost of security to business and society at large. (Same as TSM 615.)

CIS 625 Overview of E-Business Models (3). Course provides an overview of technologies that enable the design, development, and management of E-Business. Techniques for analysis and development of E-Business models, strategies for leveraging mobile technologies, cloud computing and social media will also be covered. Based on the class material, students will develop a business plan for a new E-Business and present it to class. Prerequisite: permission of instructor.

CIS 643 Advanced Business Analytics (3). Course provides a conceptual overview of data mining techniques that are used to discover patterns, to predict trends, and to classify observations. In addition, the course includes hands-on practice using modern analytic software and analysis of contemporary business case studies. Prerequisite: CIS 343 or permission of instructor.

CIS 645 Decision Support and Expert Systems (3). Study of the theories and techniques of computerized decision support and expert systems. The practical application of these systems to problems of business and industrial organizations is stressed. A major part of the course will be devoted to the use of appropriate decision support and expert system computer software. Prerequisite: BUS 355 or permission of instructor.

CIS 646 A Manager's Guide to Database (3). This course places the database environment in an organizational context. Information is an increasingly valuable corporate resource. Allocation of resources is a primary managerial responsibility. This course provides managers with the background necessary for making decisions regarding the information resource. Topics include information resource planning, managing implementation in the database environment, human factor in the database environment, and software and hardware selection. Prerequisite: ACC 308 or BUS 355 or CIS 307 or permission of instructor.

CIS 647 Systems Analysis and Design for End User/Manager (3). This course presents an overview of information systems (IS) and the systems development life cycle for the systems analyst. The course will focus on tools and techniques that the end user, analyst and/or programmer can use to document IS. Classical and structured tools for describing data flow, data structure, process flow, file design, input and output designs, and program specifications will be applied to documenting systems. The course will also survey other important topics for the systems analyst such as data gathering and reporting, project management, cost/benefit analysis, and computer-aided system engineering (CASE) technologies. Prerequisite: BUS 355 or permission of instructor.

CIS 648 Enterprise Resource Planning (3). This course provides the knowledge required to appreciate the functions and benefits of Enterprise Resource Planning (ERP) systems. Students will learn the impact of an ERP system, how ERP software integrates business functions, and how to make current business functions compatible with ERP system. The students will also develop an appreciation of live, interactive information from an ERP system and the value of its availability throughout the organization. Prerequisite: permission of the instructor.

CIS 650 Software Methodologies (3). Explores methodologies and practices used in the contemporary software development projects from managerial and technical perspectives. From the managerial perspective, it covers software life cycle models, object oriented methodologies, rapid development methodologies, agile modeling, software design principles and methods, verification and testing methods, and software process maturity models. On the technical side, it explores solutions that are currently available that aid in implementing these models and methodologies. Prerequisite: permission of instructor.

CIS 653 Management Science for Managerial Decision-Making (3). A study of the operations research models and methods which are most frequently used in business and industrial organizations. Topics include linear, goal and integer

programming and sensitivity analysis, network models for project management, inventory management models, computer simulation, waiting-line models, decision analysis, and time series analysis and forecasting. Prerequisites: CIS 343 or 490 and one of the following: ACC 308, BUS 355, CIS 307.

CIS (TSM) 670 Developing E-Commerce Applications (3). A study of programming languages and operating systems used in Internet applications as well as the technologies available for the implementation of customer transactions using Internet technology. Prerequisites: High-level programming language and CIS 407 (or equivalent).

CIS 680 Information Technology Policy and Strategy (3). Course incorporates a case study strategy to actively develop the student's ability to analyze information technology issues from the overall perspective of the organization.

CIS 685 Special Problems (3). This course consists of independent in-depth study of some problem in computer methods and/or quantitative methods. Periodic conferences will be arranged with the supervising faculty member on an individual basis. Prerequisite: permission of instructor.

CIS 688 Graduate Internship in Information Systems (3). Application of knowledge and skills developed in core courses in an organizational environment to solve Information Systems problems. Emphasizes practical industry experience. Periodic reports and a final comprehensive report at the end of the internship project period are submitted to the departmental graduate committee. A formal presentation is also required. Graded pass/fail. Prerequisite: permission of the graduate program director.

CIS 695 Comprehensive Project in Computer Information Systems (3). This course consists of an independent, in-depth study of a topic or problem in computer information systems under the direct supervision of a faculty member. Periodic conferences will be arranged with the supervising faculty member on an individual basis. Graded pass/fail. Prerequisites: 12 hours of graduate work in computer information systems or computer science and consent of the instructor.

CIVILIZATIONS (CIV)

CIV 201 World Civilizations I (3). An interdisciplinary survey of the history of world civilizations from the origins of humankind to the 15th century. This will be a lecture/discussion course following a chronological outline and, within this framework, will focus on traditions, change, and diversity in the dePrerequisites: ENG 101 and 102; or ENG 105 or 150.

CIV 202 World Civilizations II (3). An interdisciplinary survey of the history of world civilizations from the 15th century to the present. This will be a lecture/discussion course following a chronological outline and, within this framework, will focus on traditions, change, and diversity in the development of social hierarchies (e.g., gender or class), power systems, religion, technology, and warfare.

COUNSELING (CNS)

CNS 615 Behavioral Assessment and Intervention (3). To examine, in theory and practice, issues in behavioral management, which affect behavior change within various school/clinical settings, and to learn techniques applicable to the process of behavior in change.

CNS 617 Introduction to Counseling (3). An introductory course in the philosophy, ethical and legal issues, principles and techniques of counseling with emphasis on the organization and administration of mental health services in a variety of settings and diverse populations.

CNS 618 Issues in Mental Health Counseling (3). A course designed to survey the foundations of community and agency mental health counseling. Topics such as administration and supervision of mental health systems, needs assessment and program development, education and consultation practices, as well as case management and treatment services will be covered.

CNS 619 Foundational Counseling Techniques (3). An experiential study and practice of basic relationship and conceptualization counseling techniques will be the central focus of the course. Students must complete this course

with a grade of B or better in order to continue in the program. Successful completion of CNS 619 is a prerequisite for CNS 790.

CNS 624 Theories of Counseling (3). Critical analysis and evaluation of leading theories of counseling and their implications for practice.

CNS 625 Legal and Ethical Issues (3). This course will present the legal and ethical ramifications that being a counselor in today's complex society demands. An in-depth examination of current contemporary issues will highlight the course.

CNS 635 Human Development (3). A detailed study of the human life-span in terms of growth and development, foundations and dynamics of human behavior, personality, and learning.

CNS 671 Multicultural Counseling (3). A focus on pluralism, identity development, cultural awareness, and the role that cultural environment plays in the lives of people and the implications of that role in the helping process.

CNS 676 Clinical Diagnosis and Treatment Planning (3). Course is designed to prepare students in the knowledge and understanding of human behavior, diagnosis, and methods in assessment. Students will gain knowledge and skill in conducting mental status exams, intake assessments, biopsychosocial histories, and risk assessments. Prerequisite: permission of instructor.

CNS 677 Psycho-Educational Assessment (3). Theory and assessment of educational disabilities, and the supervised use of formal and informal diagnostic methods, such as observations, interviews, biographical information, academic tests and behavioral assessments. This course is designed for school psychology students and school counselors seeking the Individual Intelligence Assessment Endorsement. Prerequisites: CNS 690 and permission of instructor.

CNS 679 Advanced Practicum: Guidance and Counseling (3). Closely supervised practice in counseling under staff supervision in selected educational and agency settings. Open only to those possessing a provisional counseling certificate or its equivalent. Must be or have been a practicing counselor.

CNS 683 Tests and Measurements (3). The selection, administration and uses of psychoeducational tests are discussed with emphasis on application in various settings, legal/ethical issues, and measurement concepts. Usually taken within first nine hours. (Same as PSY 683.)

CNS 684 Problems (3). This course is designed for advanced students who want to work on special problems in the student's program of study according to individual needs. Staff supervision should be arranged prior to enrollment. Course may be repeated for up to six hours of credit. Prerequisite: permission of instructor.

CNS 686 Career Counseling (3). A survey of the theories, principles, practices, and techniques of career development and career counseling.

CNS 688 Professional School Psychology (3). This course provides an overview and integrates theory and practice of all areas of school psychology. This will include historical evolution of school psychology, professional standards, legal and ethical issues and the roles and functions of the school psychologist.

CNS 689 Individual Testing (3). Supervised practice in the administration and interpretation of a variety of individual cognitive tests such as the WJ-III Cognitive and WISC-IV. This course is designed for individuals in the school counseling, Individual Intelligence Assessment endorsement, and school psychology programs. Prerequisites: CNS 683 and permission of instructor.

CNS 690 Advanced Individual Testing (3). Supervised practice in the administration and interpretation of a variety of individual cognitive, memory, and adaptive tests such as the KABC-II, WAIS-IV, UNIT, SIB-R, and BASC-II. This class is designed solely for school psychology students and those school counselors seeking the Individual Intelligence Assessment Endorsement. Prerequisites: CNS 689 and permission of instructor.

CNS 692 Group Counseling (3). An experiential course in the dynamics of group behavior. The student will participate in an encounter-type group experience as well as being introduced to theory and techniques of group counseling. In addition, group guidance procedures are emphasized to include meaning,

purposes, scope, and methods. Strongly recommended to be taken within the first 12 hours of course work.

CNS 694 Advanced Counseling and Supervision (3). An extension of CNS 619 whereby students will study and apply advanced counseling techniques and basic supervisory skills. Prerequisite: CNS 619.

CNS 695 Advanced Group Counseling (3). An extension of CNS 692. An advanced study in group counseling, research and technique application. Prerequisite: CNS 692.

CNS 696 Advanced Research (3). Emphasis on individual research for advanced students in counseling. Prerequisites: approval of advisor and permission of instructor.

CNS 697 Organization and Administration of Personnel Services (3). The selection, organization and implementation of personnel services. Analysis of programs, staffing and relationships of programs will be emphasized.

CNS 698 Perspectives of Gifted Individuals for Mental Health Practitioners (3). This course will help mental health practitioners better understand the ways gifted individuals perceive their world and how, due to their rich cognitive functioning, their perceptions have a profound impact on their emotions, their coping, and their healthy development.

CNS 699 Survey of Effective School Counseling (K-12) (3). Course provides knowledge and skills to be an effective school counselor for grades P-12. In particular, the American School Counselor's Association (ASCA) National Model of Foundations, Delivery, Management and Accountability will be stressed as well as the utilization of ASCA's Student Skills of Academic Development, Career Development, and Personal/Social Development. In addition, Kentucky learning goals and Kentucky's ILP's will be discussed and integrated into the course.

CNS 720 Elementary School Counseling (3). Course provides professional knowledge, skills, and practices to be an effective school counselor in the elementary school setting. It focuses on theory, techniques, and proficiency that are developmentally appropriate to promote the academic, career, and personal/social development of all P-5 grade students. Prerequisite: CNS 617.

CNS 722 Substance Use and Addictions Counseling (3). A graduate course that provides counselors and other human service workers with an overview of the addictive process. Theories of addiction counseling and application of these theories will comprise a significant part of this course, particularly with how they apply to work with individuals, couples, families, and groups. Co-occurring disorders, such as process addictions and mental illnesses will also be addressed. Students will develop conceptual knowledge, practical skills, and self-awareness concerning the etiology of addiction, assessment strategies, wellness strategies for facilitating optimal development and preventing clinician burn-out, and diagnosis and treatment planning. This will be accomplished through assigned readings, seminar discussions, videotapes, lectures, case presentations, guest speakers, and student assignments.

CNS 725 Middle/Secondary School Counseling (3). Course prepares 5-12 School Counselors with professional knowledge, skills, and practices necessary to promote the academic, career and personal/social development of all 5-12 students. Emphasis is placed on skills, theory, and techniques that are developmentally appropriate for middle and secondary school settings focusing on the American School Counselor's Association (ASCA) National Model of Foundations, Delivery, Management and Accountability and on ASCA's Student Skills of Academic Development, Career Development, and Personal/Social Development as they pertain to the developmental level of middle and secondary school students. Prerequisites: CNS 617 and 720.

CNS 734 Marriage, Couples and Family Counseling (3). A graduate course that provides counselors and other human service workers with an overview of the processes and theories involved with counseling couples and families. The focus of this course is to prepare students to think systemically and to learn about family concepts, dynamics, theories, and techniques. This will be accomplished through assigned readings, seminar discussions, small group work, role plays, lectures, case presentation, audiovisual materials, guest speakers, and student assignments.

CNS 746 Wellness and Prevention Approaches (3). Course integrates the preventive origins of counseling with other models of prevention. This teaching and learning approach will balance between understanding wellness and prevention conceptually and studying some illustrations of wellness and preventive practices and hold promise for enhancing the counseling field. It is anticipated that students will gain a better understanding of how evolving theories of prevention can be utilized to help individuals and groups avert specific psychological, educational, and health problems via “before-the-fact” preventive actions. As a hands-on learning tool, students will identify an area of interest as a focal point for their development of a prevention model that is of special interest to them. The course will also address ethical and professional issues and multicultural issues related to prevention work.

CNS 748 Expressive Activities Counseling (3). Course is designed as an exploration of play and activity counseling theories and interventions applicable to counselors working with a variety of client concerns in school and community counseling settings. This course emphasizes the development of play and activity counseling skills through didactic and experimental activities.

CNS 752 Trauma and Crisis Counseling (3). An examination of diverse trauma and crisis situations used by counselors to assist individuals, groups, and organizations experiencing crisis and/or trauma. Course will include an overview of roles and responsibilities of counselors in crisis intervention. Assessment and case management for crisis and traumatic situations in educational, community agency, medical, emergency management, and human resources settings will be explored.

CNS 760 Eating Disorders and Body Image Counseling (3). Course provides an overview of the etiology, diagnosis and treatment of eating disorders, including anorexia nervosa, bulimia, and binge eating disorder. Treatment is considered from a team-based approach to include psychological, cognitive, and physiological processes. Obesity and its relationship with eating disorders as well as self-image will also be addressed.

CNS 790 Practicum (3). Closely supervised practice in an appropriate professional setting. See program handbook for criteria for site selection and supervision requirements. Arrangements for the practicum must be made a semester in advance. Also, the student must be admitted to the program. Students must successfully complete CNS 790 with a grade of *A* or *B* before being allowed to continue in their program. May be repeated for a maximum of six hours of credit. Prerequisite: CNS 619 and 624.

CNS 794 Internship I (3-6). Designed to provide the student with 300 hours (600 hours for school psychology interns) of professional experience in an appropriately supervised mental health or school setting. Weekly supervision requirements will be provided by faculty and on-site professionals, and interns are expected to apply the knowledge and skills previously acquired in their program. Course may be repeated for a maximum of six hours of credit. Students must successfully complete CNS 794 with a grade of *A* or *B* before being allowed to take CNS 795. Note: School Psychology students must earn a passing score on the School Psychology Praxis exam before the internship can begin. Prerequisite: CNS 790 with a grade of *A* or *B* and instructor permission.

CNS 794 Internship I (3-6). Designed to provide the student with 300 hours (600 hours for school psychology interns) of professional experience in an appropriately supervised mental health or school setting. Weekly supervision requirements will be provided by faculty and on-site professionals, and interns are expected to apply the knowledge and skills previously acquired in their program. Course may be repeated for a maximum of six hours of credit. Students must successfully complete CNS 794 with a grade of *A* or *B* before being allowed to take CNS 795. Note: School Psychology students must earn a passing score on the School Psychology Praxis exam before the internship can begin. Prerequisite: CNS 790 with a grade of *A* or *B* and instructor permission.

CNS 795 Internship II (3-6). A continuation of CNS 794, culminating in a minimum of 600 contact hours at the internship setting for the total internship experience and will include the capstone oral defense. Course may be repeated for a maximum of six hours of credit. Students must successfully complete CNS 795 with a grade of *A* or *B* before being allowed to continue in program or graduate. Prerequisite: CNS 794 with a grade of *A* or *B*.

CNS 796 Advanced Internship I (3). Designed to provide a minimum of 300 hours of intensive counseling experience conducted in a setting as similar as possible to that in which the intern subsequently intends to seek employment.

This class is designed for students who want to seek a second counseling degree. Weekly supervision requirements will be provided by faculty and on-site professionals; and interns are expected to apply the knowledge and skills previously acquired in their programs. Course may be repeated for a maximum of six credit hours. Prerequisite: CNS 795 with a grade of *A* or *B*.

CNS 797 Advanced Internship II (3). A continuation of CNS 796, culminating in a minimum of 600 hours at the internship setting for the total internship experience and will include the capstone oral defense. Course may be repeated for a maximum of six hours of credit. Prerequisite: CNS 796 with a grade of *A* or *B*.

CNS 798 Specialty Study (3). This course is designed to enable the student, with the supervision of his/her graduate faculty committee, to select a problem directly related to the student’s area of concentration, survey the research literature, collect research data and write the research paper.

ORGANIZATIONAL COMMUNICATION (COM)

COM 100T Transitions (1). Course is designed to assist students in their transition to Murray State University. Content includes orientation to the specific area or major(s) and minor(s) within the academic program; university procedures, policies, and resources; strategies for personal and academic success, and extracurricular opportunities. Only one transitions course will count toward graduation. Graded pass/fail.

COM 131 Introduction to Interpersonal Communication (3). Communication in an interpersonal environment. Topics studied include interpersonal perception, verbal and nonverbal communication, conflict reduction, and language and its use. Will not satisfy requirements for organizational communication major or minor.

COM 160 Managing Public Speaking Anxiety (1). This course assists highly apprehensive students in developing strategies to manage public speaking anxiety. The communication needs of each student are identified and individualized action plans are developed. Grade pass/fail. Prerequisite: Instructor permission. Corequisite: COM 161.

COM 161 Introduction to Public Speaking (3). Organization and presentation of ideas through participation in frequent speech activities. Students present speeches to inform, solve problems and persuade. Communication needs of the individual students are considered and guidance is given by the instructor.

COM 201 Communication Foundations and Theory (3). Theoretical constructs of the speech communication discipline. A survey from classical through contemporary perspectives of human discourse. Focus is on the development of the major content areas of the field. Corequisite: COM 161.

COM 215 Introduction to Sports Communication (3). An introduction to the theories and processes of sports communication. Surveys the communication processes of sport fans, coaches, athletes, teams, organizations, and society. Application of these theories and processes to careers in sports communication, research, and administration is emphasized.

COM 260 Communication Ethics (3). An introduction to the ethical challenges and responsibilities of being a competent communicator in a diverse and changing world. Students will learn to apply ethical theory and reasoning to a variety of communication processes and contexts.

COM 261 Debate and Advocacy (3). Review and application of debate and advocacy skills including the ability to develop, organize, present, refute, and analyze well-reasoned arguments. Appropriate for individuals seeking preparation for those professions (e.g., law, business, teaching, ministry) where advocacy of ideas is essential.

COM 315 Coaching as Communication (3). Course explores the craft of sports coaching as a communication enterprise. Examines how communication variables and techniques differ as coaches communicate with athletes, recruits, other coaches, administrative personnel, families, and other external constituents. Task, career, relational, and generative contexts of coach communication are examined.

COM 331 Interpersonal Communication (3). In-depth study of communication and interpersonal relations.

COM 340 Intercultural Communication (3). Designed to explore communication principles from the viewpoint of different western and non-western cultures.

COM 345 Diversity, Communication, and the Workplace (3). Survey of the unique communication challenges, processes and strategies that result from diversity markers such as age, race, gender, sexual orientation, social class, physical ability, and body image in organizational settings.

COM 353 Team Communication and Leadership (3). Study of communication principles and leadership strategies for effective teamwork. Focus is on communication and leadership skills that produce team cohesion, synergy, and productivity. Communication theory is applied to analyze leadership roles in team projects, decision-making, and conflict management.

COM 361 Career Presentations (3). Study of presentation techniques within business and professional contexts. Presentations made to staff, clients, and constituents, as well as conference and keynote addresses, will be studied and practiced. Students will create and deliver presentations tailored to their individual career objectives. Prerequisite: COM 161.

COM 367 Communication and Critical Thought (3). The course explores the relationship between communication and critical thought. Based on the rhetorical traditions of oral discourse, students will explore argumentation, negotiation, reason, fallacy, language, and evaluation of information as each relates to critical thinking.

COM 372 Communication in Educational Environments (3). Special communication needs of teachers of any discipline. Students develop an understanding of communication concepts applicable to the classroom as well as communication skills useful in other aspects of educational environments. Course content is developed through readings, lectures, discussions, structured activities, and classroom visitations; provides the teacher an experiential and a cognitive understanding of the role of communication in the educational environment.

COM 380 Organizational Communication (3). A study of concepts, theories, and processes of human communication in organized workplaces. Emphasis is given to the nature and function of human communication in different organizational structures and designs.

COM 384 Communication Skills for Professionals (3). Study of applied communication skills for professionals in for-profit and non-profit organizations. Emphasis is given to oral and written communication techniques for providing performance feedback, conducting interviews, managing meetings, delivering training, promoting strategy and change, maintaining organizational identity and image, and responding to organizational crises.

COM 386 Corporate Communication (3). A study of the strategic communication processes that manage the dynamic needs of internal and external stakeholders. Examines how systemic discourse among corporations and their diverse stakeholders facilitates survival in the competitive business environment. Corporate communication processes for managing reputation, sustaining social responsibility, engaging employees, navigating change, and resolving organizational crises are examined.

COM 390 Communication Research (3). An introduction to the quantitative and qualitative research methods used to study communication. Emphasis is placed on familiarity with scholarly publications, understanding various research methodologies, and critique of basic and applied research findings. The connection between theory, research, and decision-making is highlighted.

COM 401 Contemporary Issues in Communication (1-3). Studies of interest to faculty and students (e.g., effective mentoring skills, communication and the family, health communication, gender issues). A different subject is examined each time the course is offered, with the topic being announced one semester in advance. Variable credit is assigned on the basis of instruction hours (15-20 hours per unit of credit). Enrollment is open to juniors and seniors and may be repeated once for a total of six hours.

COM 422 Communication and Technology (3). Examines how technology impacts communication processes in personal and organizational contexts. This course explores theories, concepts, and research associated with computer-mediated communication, mobile devices, social networking, and virtual teams. Students will develop competencies related to effective interpersonal and organizational communication via technology.

COM 439 Conflict and Communication (3). Examines conflict processes as communication phenomena. Explores theories of conflict communication and develops competencies for a range of professional and interpersonal contexts by applying theory to practice.

COM 461 Persuasive Communication (3). Course explores theories and concepts of persuasive communication strategies. Emphasis is placed on examining persuasive strategies used in attitude change. Ethical problems related to persuasion, audience analysis and dialogue, rationality, and the free marketplace of ideas are also explored. Students develop and present a persuasive campaign. Prerequisite: COM 161.

COM 488 Cooperative Education/Internship (1-3). A meaningful, planned, and evaluated work experience related to the career and educational objectives of the student for which he/she may receive academic credit and possible financial remuneration. May be repeated for a maximum of six hours from any 488/489 courses. Graded pass/fail. Prerequisite: permission of chair.

COM 489 Cooperative Education/Internship (1-3). A meaningful, planned, and evaluated work experience related to the career and educational objectives of the student for which he/she may receive academic credit and possible financial remuneration. May be repeated for a maximum of six hours from any 488/489 courses. Prerequisite: permission of chair.

COM 510 Internship (3-6). A course designed for students to get experience in the application of theory to practical situations. Businesses and organizations selected to participate draw from qualified students with skills in organizational communication. May be repeated for a total of six hours. Graded pass/fail. Prerequisite: senior standing or permission of instructor.

COM 530 Seminar in Interpersonal Communication (3). A study of the contemporary approaches to interpersonal communication with opportunities for practical application of those approaches in diverse interpersonal situations.

COM 553 Advanced Team Communication and Leadership (3). Survey of theory, research, and current practices relevant to the study of team communication and leadership. Students will examine communicative behavior of productive teams and effective leaders, and participate in team building exercises.

COM 577 Organizational Learning and Dialogue (3). Explores organizations as systems of learning based on productive alternative forms of human communication. Theories and tools of dialogue and organizational learning are applied to contemporary workplace practices. Prerequisite: COM 380.

COM 580 Advanced Organizational Communication (3). Survey of theory and research relevant to the study of organizational communication. Students will examine how communication processes shape and reshape the activities of organizing within and between organizations. Prerequisites: 75 hours earned and COM 380.

COM 594 Directed Individual Study in Communication Theory (3). A course designed to meet the needs of individuals and groups who wish to explore topics not covered in other organizational communication courses or to do in-depth study of an issue introduced in another course. A proposal for study must be approved by the instructor during the first week of classes. General areas of study from which specific topics can be drawn include interpersonal communication, small group communication, and communication within organizations. May be repeated for a maximum of six hours. Graded pass/fail.

COM 595 Senior Seminar in Organizational Communication (3). Capstone course for majors and minors in organizational communication surveys theoretical and applied content areas within the discipline. Requirements include a major paper, presentation, and a one-hour oral exam. Graded pass/fail. Prerequisite: permission of instructor.

COM 603 Seminar in Communication Variables (3). Variables affecting communication including perception, language, attitudes and cognitive processes. Research related to each variable will be examined.

COM 610 Internship (3-6). A course designed for students to get experience in the application of theory to practical situations. Businesses and organizations selected to participate draw from qualified students with skills in organizational communication. May be repeated for a total of six hours. Graded pass/fail.

COM 622 Communication Technology in Organizations (3). An in-depth study of how new communication technologies affect traditional processes relevant to organizational life. Special emphasis is given to theories, research, and applications of computer-mediated communication, social media, group decision support systems, and virtual teams in organizations.

COM 630 Seminar in Interpersonal Communication (3). A study of the contemporary approaches to interpersonal communication with opportunities for practical application of those approaches in diverse interpersonal situations.

COM 631 Interpersonal Communication at Work (3). A survey of theory, research, and practice relevant to the study of contemporary approaches to interpersonal communication in organizational contexts. Students will examine individual communicative behaviors in the workplace and the impact those behaviors have on co-workers, superiors, and subordinates, and organizational life.

COM 635 Customer Communication (3). A survey of communication theories, research and strategies for improving customer service and relations. Emphasis will be placed on analyzing customer communication processes, diagnosing communication breakdowns, resolving conflict, improving customer feedback, managing customer relations, and creating an organizational culture of customer service.

COM 636 Health Communication (3). A comprehensive study of health communication in varied contexts ranging from intrapersonal and interpersonal to organizational and mediated. This course introduces students to theoretical frameworks guiding current scholarship in health communication. Students will also improve their own communication competence in health care contexts.

COM 639 Seminar in Conflict Resolution (3). Designed to illustrate the central role of communication in resolving conflict within various organizational entities. The course will focus on conflict resolution skills required in such environments as management and labor, public administration, families and education. A particular area of concentration will be selected each semester.

COM 640 Seminar in Intercultural Communication (3). Analysis of theories and research in intercultural communication. Application of theories and research to contemporary intercultural issues in organizations.

COM 644 Graduate Cooperative Education (3). May be repeated for a maximum of six credits. Graded pass/fail. Prerequisite: permission of chair.

COM 653 Advanced Team Communication and Leadership (3). Survey of theory, research, and current practices relevant to the study of team communication and leadership. Students will examine communicative behavior of productive teams and effective leaders, and participate in team building exercises.

COM 661 Theories of Persuasion and Argumentation (3). Classical and modern theories of persuasion and argumentation. Behavioral theory and research are examined and the effects of various forms of argument and attitude change are studied. Ethical standards of persuasion and argumentation are explored.

COM 672 Communication in Instructional Environments (3). Communication in a variety of instructional contexts with focus on introductory courses at the college level. Emphasis is placed on the literature, philosophies and theories concerning communication instruction.

COM 673 Organizational Training and Development (3). Specific problem areas in communication structures within particular organizations are identified. A concentrated examination is made of the areas of assessment, diagnosis,

prescription, intervention and evaluation of communication problems and the training and development opportunities resulting from those problems within organizations.

COM 677 Organizational Learning and Dialogue (3). Explores organizations as systems of learning based on productive alternative forms of human communication. Theories and tools of dialogue and organizational learning are applied to contemporary workplace practices.

COM 680 Advanced Organizational Communication (3). Survey of theory and research relevant to the study of organizational communication. Students will examine how communication processes shape and reshape the activities of organizing within and between organizations.

COM 682 Seminar in Crisis Communication (3). A comprehensive study of crisis communication in organizations. From preparation and planning to post-crisis recovery, this class helps students develop a thorough understanding of communication processes during each phase of organizational crisis as well as different types of crises that occur within organizations. Emphasis is placed on how communication functions to manage and resolve organizational crisis.

COM 685 Seminar in Organizational Communication (3). Detailed studies in organizational communication of interest to faculty and students. A contemporary topic, to be announced one semester in advance, is examined each time the course is offered. Past topics include consulting, subordinate-superior relations, gender communication, mentoring and intercultural communication. The course may be repeated for a total of nine hours.

COM 687 Leadership Communication. An advanced study of the strategic communication processes and skills of leading in diverse organizational contexts. The course emphasizes self-analysis and the development of leadership communication skills through the application of related theories.

COM 689 Philosophy and Future of Organizational Communication (3). A survey of the development of organizational communication from early communication thinkers to contemporary individuals who have contributed theory and influenced the discipline. Prerequisite: COM 680.

COM 690 Research Methods in Organizational Communication (3). Review and application of research methods used in the study of communication variables.

COM 692 Research Practice (2). Application of research methods used to study communication variables. Miniature thesis required. Prerequisite: COM 690.

COM 693 Readings in Communication Research (3). Students read 4,000-5,000 pages of research in a particular area of interest. Usually the product is a research paper written in a publishable format. Graded pass/fail. Prerequisite: permission of the graduate advisor is required prior to enrollment.

COM 694 Directed Individual Study in Organizational Communication (1-3). The student has the opportunity to pursue specific areas of research under the supervision of the participating faculty member. Particular expectations are negotiated between the student, department and faculty member. May be repeated once for a maximum of six hours. Graded pass/fail.

COM 698 Thesis (3).

COM 699 Thesis (3).

COM 887 Seminar in Organizational Leadership (3). An advanced study of the organizational challenges facing leaders in the 21st century. Requisite knowledge and communication competencies for effective, contemporary leadership are reviewed. The course emphasizes how leaders navigate systemic complexity, collaborative learning, and dialogue among constituents to continuously guide organizations through these challenges. Special emphasis is placed on educational and nonprofit organizations.

CRIMINAL JUSTICE**(CRJ)**

CRJ 100T Transitions (1). Course is designed to assist students in their transition to Murray State University. Content includes orientation to the specific area or major(s) and minor(s) within the academic program; university procedures, policies, and resources; strategies for personal and academic success, and extracurricular opportunities. Only one transitions course will count toward graduation. Introductory seminar for all first semester criminal justice majors. Graded pass/fail.

CRJ 140 Introduction to Criminal Justice (3). An overview of the criminal justice system as a critical component of national, state, and local government, including the relationships with legislative, executive, and judicial branches at the domestic and international levels. The active role of citizens in reporting crime, serving as jurors, and electing district attorneys, judges, and sheriffs are explained. Criminal behaviors, ethics, and constitutional protections in the Bill of Rights are addressed. The history, composition and functions of police, prosecutors, judges, courts, corrections and juvenile justice are covered. Note: This course, with a grade of C or higher, is a prerequisite to all other courses in criminal justice. Prerequisites: ENG 096 or ACT English score of at least 18 and ACT Reading score of at least 20 or successful completion of REA 096 and ESS 120.

CRJ 220 Law Enforcement (3). Philosophy, theory, and processes of policing at the federal, state and local levels. Prerequisite: CRJ 140 with a grade of C or better.

CRJ 240 Corrections (3). Philosophy, theory and processes of adult and juvenile corrections at the federal, state and local levels. Prerequisite: CRJ 140 with a grade of C or better.

CRJ 300 Crime and Criminals (3). Examines various forms of juvenile and adult criminal behavior with particular attention to the psychological, social and educational needs and characteristics of offenders and the role of law enforcement and correctional officers in dealing with offenders. Prerequisite: CRJ 140 with a grade of C or better.

CRJ 305 Internship (3). Supervised internship placement in a criminal justice agency. Only for juniors and seniors completing an area, major, or minor in criminal justice. May be repeated for a maximum of six credit hours. Graded pass/fail. Prerequisites: CRJ 140 with a grade of C or better, one from CRJ 220, 240, 320, 355 and six hours additional CRJ courses with a minimum grade of C; permission from agency after background check; and permission of instructor.

CRJ 320 Juvenile Justice (3). An overview of juvenile justice systems and juvenile delinquency in the United States. This course traces the evolution of a separate justice system for children and considers the causes, prevention and treatment of delinquency, with particular attention devoted to sources of juvenile crime and to characteristics of juvenile offenders. Prerequisite: CRJ 140 with a grade of C or better or permission of instructor.

CRJ 325 Criminal Justice Ethics (3). An examination of the application of ethical decision-making within the field of criminal justice with special attention to police deviance, judicial misconduct, control of inmates in correctional facilities, and other ethical dilemmas within the field. Prerequisite: CRJ 140 with a grade of C or better.

CRJ 333 Criminalistics (3). A study of the application of scientific knowledge, instruments and techniques to the investigation of crime. Includes discussion of the recognition, identification, examination and evaluation of physical evidence through scientific means. Prerequisites: CRJ 140 with a grade of C or better.

CRJ 346 Criminal Investigation (3). Techniques of evidence collection and preservation, *modus operandi*, interviews and interrogations, report writing, and preliminary and follow-up investigations. Prerequisites: CRJ 140 and 220 with a grade of C or better.

CRJ 355 Security in Business and Industry (3). A study of planning, development, organization and management of modern security systems. Discusses the processes of personnel, property and information security. Includes major concepts, legal aspects, principles and practices of risk assessment, loss control,

prevention and related functions of protective services. An approved business and occupational safety and health elective. Prerequisite: CRJ 140 with a grade of C or better or permission of instructor.

CRJ 365 Interviewing and Interrogation (3). An examination of the theory, nature, methods, and principles of interviewing and interrogation in criminal justice with discussion and practical exercises focusing on eliciting information from witnesses and criminal suspects and case documentation. Prerequisite: CRJ 140 with a grade of C or better.

CRJ 385 Violent Crime (3). A comprehensive examination of the nature and extent of violent crime in society, with specific consideration given to the workplace, family and other intimate relationships, and schools. Particular attention is given to the criminal justice system's response to the offender and victim in these situations. Prerequisite: CRJ 140 with a grade of C or better and CRJ 300 as pre- or corequisite with a grade of C or better.

CRJ 400 Applied Criminal Justice Research (3). A writing-intensive course that is an overview of applied criminal justice research methods and procedures. Special emphasis will be placed on ethics in criminal justice research, evaluation of crime-prevention programs, and a review of various specific, consequential studies in criminal justice. Prerequisites: CSC 199 (or equivalent) and STA 135 (or equivalent). CRJ 140, 300, and ENG 105 with grades of C or higher and one of the following writing courses: ENG 204, 205, 224, or 324.

CRJ 425 Terrorism (3). The history, philosophy, various forms and definitions of terrorism are examined. The nature and causes of domestic and international terrorism, the possible means for prevention, and criminal justice system of governmental response to terrorist acts, and current issues in terrorism are explored. Prerequisites: CRJ 140 with a grade of C or better.

CRJ 442 Probation and Parole: Community Corrections (3). Study of community alternatives to prison confinement. Examination of halfway houses, work release and other community-based approaches to corrections. Prerequisite: CRJ 140 and 240 with a grade of C or better.

CRJ 445 Criminal Justice Diversity (3). An examination of issues related to age, culture, disability, ethnicity, gender, national origin, race, religion, sexual orientation, and military veteran status as they apply to criminal incidents, victims, offenders, and criminal justice professionals. Prerequisite: CRJ 140 with a grade of C or higher.

CRJ 447 Business and Political Crime (3). Concepts, policies and issues relating to crimes in business, industry and government. Includes discussions of the impact of white-collar and organized crime, terrorism, fraud, corruption, and other forms of official and unofficial deviance. An approved business elective. Prerequisite: CRJ 140 with a grade of C or better or permission of instructor.

CRJ 448 Topical Seminar (3). Inquiry into selected topics and problems in the field of criminal justice. May be repeated, provided topics vary. Prerequisite: CRJ 140 with a grade of C or better or permission of instructor.

CRJ 455 Police and Community Relations (3). Individual and collective study of relationships between police officers, agencies and the public. Exploration of areas of conflict and cooperation. Prerequisites: CRJ 140 and 220 with a grade of C or better.

CRJ 470 Institutional Corrections (3). Examination of the history, roles, structures, and functioning of institutional corrections within the United States. Emphasis is placed on understanding the philosophies, elements, structures, and programs that shape current institutional operations and their impact on offenders, staff, and the community. Prerequisites: CRJ 140 and 240.

CRJ 475 Organized Crime (3). Historical dimensions of organized crime and its control. Examination of emerging groups of ethnic and international organized crime and the statutes and techniques used to combat criminal organizations. Prerequisite: CRJ 140 with a grade of C or better.

CRJ 488 Cooperative Education/Internship (1-3). A meaningful, planned, and evaluated work experience related to the career and educational objectives of the student for which he/she may receive academic credit and possible financial remuneration. May be repeated for a maximum of six hours from

any 488/489 courses. Graded pass/fail. Prerequisites: CRJ 140 with a grade of C or better, six hours of CRJ courses, and permission of chair.

CRJ 489 Cooperative Education/Internship (1-3). A meaningful, planned, and evaluated work experience related to the career and educational objectives of the student for which he/she may receive academic credit and possible financial remuneration. May be repeated for a maximum of six hours from any 488/489 courses. Prerequisites: CRJ 140 with a grade of C or better, six hours of CRJ courses, and permission of chair.

CRJ 495 Special Problems (3). Individual study and projects designed to meet the needs of each student. Restricted to seniors majoring or minoring in criminal justice. Must have a 3.0 overall GPA and a 3.0 in CRJ courses taken for the major or minor. Prerequisite: Completion of all CRJ core courses with a grade of C or better for the major except 499 or 15 hours of CRJ courses with a grade of C or better in the minor.

CRJ 499 Senior Seminar in Criminal Justice (1). Capstone course for all criminal justice majors. The course includes an examination of career opportunities, including public and private sector employment, and graduate and professional education. Students will discuss the job search process, consider interviewing techniques, and prepare a professional portfolio. Mastery of criminal justice curriculum will be assessed. Prerequisites: senior standing and completion of CRJ 100T and CRJ 140 and at least 18 additional hours of criminal justice courses with a grade of C or better in each class. An overall GPA of 2.5 or better is required.

CRJ 505 Criminal Justice Administration (3). Principles of administration, organization, leadership and management are examined as they apply to the various components of criminal justice. Prerequisites: CRJ 140 with a grade of C or better, 220, and 240 or permission of instructor.

CRJ 520 Mass and Serial Murder (3). An analysis of mass and serial murder primarily in the United States. Theoretical explanations for the murders and the development of the offenders will be discussed. Additional topics include the prevalence of these offenses, how they are studied and understood by both researchers and law enforcement, methods of prevention of the offenses and the correction and treatment of the offenders. Prerequisites: CRJ 140 and 300 both with a grade of C or better.

CRJ 522 Issues in Policing (3). Examines police function, history, operational strategies, ethics, deviance, use of force, policy, accreditation, accountability, and other contemporary issues. Prerequisites: CRJ 140 and 220 with a grade of C or better.

CRJ 533 Juvenile Delinquency (3). Nature and extent of delinquency; competing explanatory theories; evaluation of programs for prevention and control; role of police, detention, juvenile courts and corrections. Prerequisite: CRJ 140 with a grade of C or better, or permission of instructor.

CRJ 537 Juvenile Justice Procedures (3). The organization, function and jurisdiction of juvenile agencies; police referrals, preventive techniques and youth divisions; juvenile court procedures and juvenile statutes. Prerequisites: CRJ 140 with a grade of C or better, or permission of instructor.

CRJ 544 Constitutional and Legal Issues in Criminal Justice (3). A comprehensive examination of the constitutional law that affects criminal justice professionals, citizens, suspects, and incarcerated individuals, with considerable attention given to both civil and criminal legal issues surfacing in the criminal justice field. Topics will include due process, search and seizure, self-incrimination, bail, and right to counsel and a fair trial. Prerequisite: CRJ 140 with a grade of C or better.

CRJ 555 Crime Prevention (3). This interactive seminar will deal with crime prevention strategies for law enforcement, business/industrial security and other criminal justice personnel. Issues of situational crime prevention, environmental design, physical security measures, defensible space, opportunity theories, crime displacement, rational choice theory and selected crime prevention studies will be explored. International issues and extensive case studies will be included. Prerequisite: CRJ 140 with a grade of C or better or consent of professor.

CRJ 573 Victimology (3). Analysis of major perspectives on victimization. Emphasis on patterns of victimization, the role of victims in the generation of crime, and the experience of the victim in the criminal justice system. Prerequisite: CRJ 140 with a grade of C or better or permission of instructor.

CRJ 575 Comparative Criminal Justice Systems (3). An examination of non-American criminal justice systems. Specific areas of comparison will include but not be limited to, the police, judiciary, and criminal corrections of selected foreign systems. Prerequisite: CRJ 140 with a grade of C or better.

CRJ 605 Seminar in the Administration of Justice (3). An overview and evaluation of policies and practices in the administration of justice.

CRJ 610 Seminar in Criminal Justice Issues (3). An assessment of selected issues in the justice system and the development of strategies to meet those challenges.

CRJ 620 Mass and Serial Murder (3). An analysis of mass and serial murder primarily in the United States. Theoretical explanations for the murders and the development of the offenders will be discussed. Additional topics include the prevalence of these offenses, how they are studied and understood by both researchers and law enforcement, methods of prevention, methods of tracking by law enforcement, and potential correction and treatment of the offenders.

CRJ 622 Issues in Policing (3). Examines police function, history, operational strategies, ethics, deviance, use of force, policy, accreditation, accountability, and other contemporary issues.

CRJ 633 Juvenile Delinquency (3). Nature and extent of delinquency; competing explanatory theories; evaluation of programs for prevention and control; role of police, detention, juvenile courts and corrections.

CRJ 637 Juvenile Justice Procedures (3). The organization, function and jurisdiction of juvenile agencies; police referrals, preventive techniques and youth divisions; juvenile court procedures and juvenile statutes.

CRJ 644 Graduate Cooperative Education (3). May be repeated to a maximum of six credits. Cannot be used to meet M.B.A., M.P.A., or M.S. degree requirements. Graded pass/fail. Prerequisite: permission of instructor.

CRJ 645 Graduate Internship (3). Supervised internship placement in a criminal justice agency. Students are expected to examine administrative, operational, legal and ethical issues faced by the placement agency. Prerequisite: permission of instructor.

CRJ 650 Constitutional and Legal Issues in Criminal Justice (3). A comprehensive examination of the constitutional law that affects criminal justice professionals, citizens, suspects, and incarcerated individuals, with considerable attention given to both civil and criminal legal issues surfacing in the criminal justice field. Topics will include due process, search and seizure, self-incrimination, bail, and right to counsel and a fair trial.

CRJ 655 Crime Prevention (3). This interactive seminar will deal with crime prevention strategies for law enforcement, business/industrial security and other criminal justice personnel. Issues of situational crime prevention, environmental design, physical security measures, defensible space, opportunity theories, crime displacement, rational choice theory and selected crime prevention studies will be explored. International issues and extensive case studies will be included.

CRJ 673 Victimology (3). Analysis of major perspectives on victimization. Emphasis on patterns of victimization, the role of victims in the generation of crime, and the experience of the victim in the criminal justice system.

CRJ 675 Comparative Criminal Justice Systems (3). An examination of non-American criminal justice systems. Specific areas of comparison will include but not be limited to, the police, judiciary, and criminal corrections of selected foreign systems.

CRJ 695 Special Problems (3). Individual study and projects designed to meet the needs of each student. May be repeated for credit if topics differ.

COMPUTER SCIENCE(CSC)

CSC 100T Transitions (1). Course is designed to assist students in their transition to Murray State University. Content includes orientation to the specific area or major(s) and minor(s) within the academic program; university procedures, policies, and resources; strategies for personal and academic success, and extracurricular opportunities. Only one transitions course will count toward graduation. Graded pass/fail.

CSC 101 Introduction to Problem Solving Using Computers (3). This course is an introduction to problem solving using computers which spans the breadth of issues such as logical reasoning in algorithm development, procedural, object-oriented and event-driven/visual programming languages, web programming, networking concepts, security issues and other pertinent topics regarding the use of a computer to solve real-world problems. The student will be provided with an overall picture of the many areas of expertise in the computing field as they apply to other disciplines as well as an introduction to fundamental programming concepts. This course is intended as the first course for CSIS majors and a course for non-majors who want to learn how to instruct computers to solve problems. Prerequisite: Math ACT score of at least 20 or MAT 097 or higher.

CSC 125 Internet and Web Page Design (3). Introductory course covering the Internet, web page and web site design. The student will be introduced to the physical components of client-server networks and basic Internet including mailers, browsers, search engines, and FTP clients. The major part of this course will cover the fundamentals of creating web pages using freely available HTML text editors and a visual web authoring tool that provides a WYSIWYG design environment. Web page development will include the use of lists, hyperlinks, images, client-side image maps, tables, forms, cascading style sheets, and interactivity using basic JavaScript.

CSC 145 Introduction to Programming (3). An introduction to problem-solving methods and algorithm development using an object-oriented programming language. Topics include variables, input and output, selection, repetition, methods, arrays, objects, classes, and text file processing. This is the recommended second course for majors in the discipline. Prerequisites: CSC 101 and MAT 150 or equivalent.

CSC 199 Introduction to Information Technology (3). Course is designed for students pursuing any program of study. A student taking this course will gain competency with file management, word processing, spreadsheet, database management, and presentation graphics software. In addition, the student will become familiar with general computer technology such as computer hardware, computer operations, networks, the Internet and the World Wide Web. Prerequisite: math ACT score of at least 19 or MAT 096 (or higher).

CSC 201 End User Technology Support and Management (3). This course presents the student with software, hardware and administrative issues commonly encountered in supporting end users. Topics covered: installation, configuration, upgrading, security, training, evaluation/acquisition/maintenance of software and hardware. Prerequisite: CSC 101.

CSC 232 Introduction to Programming in C# (3). Introductory programming course for students with little programming experience. Course covers basic algorithm development; structured programming and event-driven programming; introduction to object-oriented programming; graphical user interfaces; and exception handling. C# will be used as the programming language. Two hours lecture and two hours laboratory per week. Prerequisite: CSC 101 or consent of instructor.

CSC 235 Programming in C++ (3). A course in programming in C++ using both procedural and object-oriented methods. Topics include variables; expressions; stream and file input/output; control structures; arrays; functions; pointers; records; dynamic memory management; object-oriented programming with classes; single and multiple inheritance. The course will also include an introduction to the Linux operating system. Prerequisite: CSC 101 or permission of instructor.

CSC 260 Application Program Development in COBOL I (3). Introduction to algorithms and programs, variable assignment, and input, decision, looping, tables, subroutines, algorithm design and testing, records, file organization,

and processing. The focus of this course is on control structures and their syntax, elementary data structures, and sequential files. Two hours lecture and two hours lab. Prerequisite: CSC 145 or 232.

CSC 275 Introduction to Game Programming (3). Course introduces computer game design and development. Emphasis is on two-dimensional games for a single player. Topics include: game genres, story and character development, rules of play, game physics, sound effects, usability, and the player experience. Students critique classic arcade and console games, discuss future trends in computer games and design and implement their own computer game for a popular platform. Prerequisite: permission of instructor.

CSC 299 Special Topics in Computer Applications (1-3). A special topics course designed to permit the teaching of appropriate topics as needed in a changing high-tech discipline. The course will include those topics which are relevant but not necessarily appropriate for permanent, specific course status. Topics will be selected and offered on university/community need and/or interest. Does not apply to the CSC or CIS majors. May not be substituted for any course in the business core. Prerequisites vary with topics covered. May be repeated for a maximum of six hours. (Same as CIS 299.)

CSC 300 Discrete Structures (3). Course introduces the discrete mathematical foundations of computer science, providing the appropriate theoretical background for advanced courses. Topics include: sets, relations and functions, basic logic, proof techniques, basics of counting, graphs and trees, and discrete probability. Prerequisites: CSC 145 and MAT 150 or equivalent. Corequisite: CSC 345 or permission of instructor.

CSC 301 Foundations of Computer Science I (3). Course introduces the discrete mathematical foundations of computer science, providing the appropriate theoretical background for advanced courses. Topics include: functions, relations, sets, logic, proof techniques, combinatorics, digital logic, elementary number theory and introduction to matrix theory with application to computer graphics. Prerequisites: CSC 145 and MAT 150 or equivalent.

CSC 302 Foundations of Computer Science II (3). A continuation of CSC 301. Topics include: graph theory, finite state machines, queueing theory, sequences, series, recurrence relations, context free grammars. Corequisite: MAT 250. Prerequisite: CSC 301.

CSC 310 Database Administration (3). A course in administering database management systems. Topics include data definition language, data control language, backup and recovery, security, performance tuning, network administration. Prerequisites: CIS 307 and TSM 133.

CSC 325 Advanced Object-Oriented Programming (3). Course covers advanced features available in the standard libraries provided with modern object-oriented languages. Topics will include graphical user interface components, graphics, network programming, database programming, multithreading and parallel programming. Prerequisite: CSC 145.

CSC 332 Advanced Programming in C# (3). An in-depth study of the latest version of the C# programming language. Emphasis is placed on advanced programming techniques and database concepts. The course covers event driven programming and object-oriented paradigms. Topics include structured programming, class creation, user interface development and database management. Prerequisite: CSC 232 with a grade of C or better or permission of instructor.

CSC 340 Programming in Java (3). A first course in programming in Java with emphasis on object oriented programming techniques. Topics include applications, applets, control structures, methods, arrays, object-based and object-oriented programming, strings, graphical user interfaces, exception handling, multithreading, and multimedia. Two hours lecture and two hours laboratory per week. Prerequisite: CSC 145 or permission of instructor.

CSC 342 Programming in C# (3). A first course in programming in C#, with emphasis on object-oriented programming techniques. Topics include applications, control structures, methods, arrays, object-based and object-oriented programming, strings, graphical user interfaces, exception handling, multithreading, and multimedia. Two hours lecture and two hours laboratory per week. Prerequisite: CSC 145 or permission of instructor.

CSC 345 Data Structures (3). Data structures and abstract data types (ADTs) for arrays, strings, lists, stacks, queues, trees, and graphs. These ADTs are presented in both static and dynamic memory implementations. The course also covers the design and implementation of recursive algorithms such as sorting and searching, hashing functions, priority queues, and heaps. Other topics (recursion, lists, events, inheritance, polymorphism) in object-oriented programming will be covered as time permits. Three hours lecture and two hours laboratory per week. Prerequisite: CSC 145 with a grade of C or higher. Corequisite: CSC 300 or permission of instructor.

CSC 360 Scripting Languages (3). Course is a survey of several popular scripting languages. Operating system shell languages and Perl will be discussed. The emphasis will be on applications of scripting languages to network and server administration tasks. Prerequisites: Knowledge of a high-level programming language and a server operating system or permission of instructor.

CSC 370 Introduction to Artificial Intelligence (3). Course is a basic introduction to artificial intelligence (AI) covering fundamental material in problem solving, heuristic search, knowledge representation, deduction, planning, uncertain reasoning, learning, and natural-language processing. The course will focus on understanding the concepts, processes and technologies involved in modern computing systems considered to fall in the category of AI. Prerequisites: CSC 145 or CSC 232 or CSC 235, and permission of instructor.

CSC 375 Introduction to Machine Learning (3). Course is a basic introduction to topics in the field of machine learning. The course focuses on designing algorithms that allow computers to learn and take actions in a probabilistic fashion using statistical inferences. Students will explore Probabilistic Reasoning, Belief Networks, Bayesian learning, hidden variable learning, supervised and unsupervised learning, linear modeling, Gaussian processes, Mixture Models, and Discrete State Markov Models. Prerequisite: CSC 370 or permission of instructor.

CSC 405 Computer Architecture (3). Applications of digital logic circuits, register transfer logic and assembly language to the design and operation of the modern general-purpose computer are reviewed. Course covers the functional components of the ALU, control unit, memory unit, and I/O communications. Course includes an overview of microcontrollers and single-board computers as applied to embedded systems. A study of parallel and distributed architectures, as well as alternative processor architectures are reviewed. Two hours lecture, two hours of digital logic lab per week. Prerequisite: CSC 300.

CSC 410 Parallel and Distributed Computing (3). An overview of principles of network and distributed computer systems. This course covers the concepts of the network control, asynchronous concurrent processes, multi-threaded execution, mutual exclusion, deadlock, distributed storage management, processor scheduling, and system and network security. Two hours lecture and two hours lab per week. This course must be taken with one of the following: CSC 411, 412, 413, or 414. Prerequisite: CSC 300 or permission of instructor.

CSC 411 Distributed Systems Project in Graphics and Visual Computing (0). Project course to accompany CSC 410. The chosen project will be related to distributed systems and graphics and visual computing. This course must be taken with CSC 410. Graded pass/fail.

CSC 412 Distributed Systems Project in Net-Centric Computing (0). A project course to accompany CSC 410. The chosen project will be related to distributed systems and net-centric computing. This course must be taken with CSC 410. Graded pass/fail.

CSC 413 Distributed Systems Project in Embedded Systems Programming (0). Project course to accompany CSC 410. The chosen project will be related to distributed systems and embedded systems programming. This course must be taken with CSC 410. Graded pass/fail.

CSC 414 Distributed Systems Project in Applications Programming (0). Project course to accompany CSC 410. The chosen project will be related to distributed systems and applications programming. This course must be taken with CSC 410. Graded pass/fail.

CSC 415 Programming Languages (3). Formal definition of programming language syntax and semantics. Global properties of imperative and object-oriented languages including scope of declarations, binding times, simple data types, abstract data types, control structures, subprograms, concurrency, and exception handling. Introduction to functional and logic programming paradigms. Prerequisites: CSC 235, 300, 325, and 345.

CSC 420 Numerical Analysis I (3). An introduction to the numerical algorithms fundamental to scientific computer work. Includes elementary discussion of error, polynomial interpolation, quadrature, linear systems of equations, solution of non-linear equations, and numerical solution of ordinary differential equations. The algorithmic approach and the efficient use of the computer are emphasized. Prerequisites: MAT 250, knowledge of high-level programming language and CSC 302 or permission of instructor.

CSC 425 Mobile and Web Programming (3). Course to emphasize the development of software applications on particular hardware platforms. Types of platforms covered include: Web platforms, mobile platforms, and game platforms. Course will cover currently relevant platform languages such as Ruby and HTML5, Java Script, and PHP. For Web platforms, emphasis will be on software as a service (SaaS). Issues for mobile platforms will include wireless communication, location-aware applications, and performance/power tradeoffs. For game platforms, emphasis will be on choice of programming language, cross-platform development and game platform constraints. Prerequisite: CSC 325.

CSC 430 Software Construction (3). Course is a survey of professional software development tools and practices. Topics include agile development methods, version control, test driven development, unit testing, system testing, continuous integration, bug tracking, software design patterns, documentation, and code quality. Students will complete both individual and team programming projects. Prerequisites: CSC 325 and 345.

CSC 445 Computer Algorithms (3). Study of the design and analysis of algorithms. This course covers methods of tree and graph traversal for optimal and approximate solutions to semi-numerical problems. It includes a study of the basic problem-solving techniques of greedy method, divide-and-conquer, dynamic programming, backtracking and branch-and-bound. Introduction to complexity and the NP hierarchy. This course must be taken with one of the following: CSC 446, 447, 448, or 449. Prerequisites: CSC 300 and 345 or permission of instructor.

CSC 446 Algorithms Project in Graphics and Visual Computing (0). A project course to accompany CSC 445. The chosen project will be related to algorithms and graphics and visual computing. This course must be taken with CSC 445. Graded pass/fail.

CSC 447 Algorithms Project in Net-Centric Computing (0). A project course to accompany CSC 445. The chosen project will be related to algorithms and net-centric computing. This course must be taken with CSC 445. Graded pass/fail.

CSC 448 Algorithms Project in Embedded Systems Programming (0). A project course to accompany CSC 445. The chosen project will be related to algorithms and embedded systems programming. This course must be taken with CSC 445. Graded pass/fail.

CSC 449 Algorithms Project in Applications Programming (0). A project course to accompany CSC 445. The chosen project will be related to algorithms and applications programming. This course must be taken with CSC 445. Graded pass/fail.

CSC 450 Cryptography (3). Course provides an introduction to cryptographic algorithms. Topics will include classical cryptography (e.g., Caesar cipher and affine cipher), symmetric-key cryptography (e.g., DES and AES), public-key cryptography (e.g., RSA and ElGamal), hash functions (e.g., MD5 and SHA), and other topics related to cryptography such as number theory, digital certificates, authentication, key management, and password protection. Prerequisites: CSC 300 and TSM 351.

CSC 488 Cooperative Education/Internship (1-3). A meaningful, planned, and evaluated work experience related to the career and educational objectives of the student for which he/she may receive academic credit and possible financial remuneration. May be repeated for a maximum of six hours from any 488/489 courses. Graded pass/fail. Prerequisite: consent of chair.

CSC 489 Cooperative Education/Internship (1-3). A meaningful, planned, and evaluated work experience related to the career and educational objectives of the student for which he/she may receive academic credit and possible financial remuneration. May be repeated for a maximum of six hours from any 488/489 courses. Prerequisite: consent of chair.

CSC 510 Network Management and Implementation (3). An introduction to networking and data communication including topical coverage of transmission protocols, interconnectivity, network implementation and server installations. Emphasis will be placed on network design, operations, management, and costing. May not receive credit for both TSM 133 and CSC 510. Prerequisite: permission of instructor.

CSC 515 Computer Graphics Programming (3). Techniques in two-dimensional and three-dimensional computer graphics image generation and animation. Course includes: human visual perception, modeling, rendering, techniques in animation, visualization, and computational geometry. Prerequisites: knowledge of a high-level language or permission of instructor.

CSC 530 Senior Software Project (3). Course requires the development, documentation, and presentation of a significant software project. Must be taken with one of the following: CSC 531, 532, 533, or 534. Prerequisites: CIS 407, CSC 425 and 430.

CSC 531 Graphical User Interface Development Project in Graphics and Visual Computing (0). Project course to accompany CSC 530. The chosen project will be related to graphical user interface development and graphics and visual computing. Must be taken with CSC 530. Graded pass/fail.

CSC 532 Graphical User Interface Development Project in Net-Centric Computing (0). Project course to accompany CSC 530. The chosen project will be related to graphical user interface development and net-centric computing. Must be taken with CSC 530. Graded pass/fail.

CSC 533 Graphical User Interface Development Project in Embedded Systems Programming (0). Project course to accompany CSC 530. The chosen project will be related to graphical user interface development and embedded systems programming. Must be taken with CSC 530. Graded pass/fail.

CSC 534 Graphical User Interface Development Project in Applications Programming (0). Project course to accompany CSC 530. The chosen project will be related to graphical user interface development and applications programming. Must be taken with CSC 530. Graded pass/fail.

CSC 540 Social, Ethical and Professional Issues in the Information Age (3). This course emphasizes social, ethical, legal, technical and professional issues encountered in the information age including the historical and social context, professional responsibilities, risks and liabilities, and intellectual property. Prerequisite: senior standing.

CSC 565 Embedded Systems and Robotics (3). Architecture of various microcontrollers and their uses in embedded systems applications are studied. One or more of the popular microcontrollers will be selected for practice in hardware design and programming, including methods for interfacing with computers, sensors and control systems. Prerequisite: CSC 405 or permission of instructor.

CSC 575 Computer Animation and Game Development (3). This course builds on the computer animation techniques of CSC 515. Topics covered include lighting techniques, texture mapping, atmospheric effects, collision detection, user input devices, and sound effects. Physics modeling, real-time animation, AI behavior modeling and other fundamentals of game design are introduced. Prerequisites: CSC 515 or permission of instructor.

CSC 585 Special Problems (1-3). Supervised independent study of specialized topics in computer science. May be repeated one time. Prerequisite: senior standing and/or permission of instructor.

CSC 685 Special Problems (1-3). Supervised independent study of specialized topics in computer science. May be repeated one time.

CSC 695 Comprehensive Project in Computer Science (3). This course consists of an independent, in-depth study of a topic or problem in computer science under the direct supervision of a faculty member. Periodic conferences will be arranged with the supervising faculty member on an individual basis. Prerequisites: 12 hours of graduate work in computer science or computer information systems and consent of the instructor.

COLLEGE STUDENT PERSONNEL (CSP)

CSP 618 Practicum and Seminar in College Student Personnel Work (3). Practical aspects of college student personnel work will be examined through the use of appropriate placements in working professional settings. A seminar will accompany these placements to provide a forum for a structured discussion and development of concepts observed while in the field placement settings.

CSP 631 Study Abroad Programs Administration (3). Course emphasizes study abroad from an administrative perspective and begins with broader and contextual issues around institutional internationalization. Major topical areas include the importance and relevance of study abroad in a core as well as co-curriculum; orientation and preparation of students, faculty, and staff to participate in study abroad programs; counseling, placing, and supporting interested students; identifying and developing appropriate new program options; and administering a study abroad office. Corequisite or prerequisite: CSP 630.

CSP 632 International Student Administration (3). Course focuses on the management of international student and scholar presence on American campuses. Specific aspects addressed include international student enrollment, orientation, advisement, integration into campus community life, visiting scholar administration, and implications for institutional internationalization. Corequisite or prerequisite: CSP 630.

CSP 633 Internship in International Education (3). As the culmination of in the international education concentration, this experience is designed to apply course learnings in an actual higher education work setting. Required in a minimum of 200 assignment hours in a unity devoted to any one or combination of study abroad, international student and scholar support services, or international relations responsibilities at a college or university. The assignment includes close supervision by the professional directly responsible for this area of university service. Prerequisite: CSP 630 with a grade of B or better and either CSP 631 or 632 with a grade of B or better; simultaneous enrollment in CSP 631 or 632 with instructor permission.

CAREER AND TECHNICAL EDUCATION (CTE)

CTE 200 Introduction to Career and Technical Education (3). This course is designed to provide new and pre-service teachers with an introduction to the field of career and technical education. Included are topics related to motivation, and learning theory, curriculum, school organization, funding, laboratory management and historical, socio-cultural, psychological, and philosophical foundations of career and technical education.

CTE 201 Introduction to Career and Technical Education for Initial Certification (3). This course is designed to provide new and pre-service teachers with an introduction to the field of career and technical education. Included are topics related to motivation and learning theory, curriculum, school organization, funding, laboratory management and historical, socio-cultural, psychological and philosophical foundations of career and technical education.

CTE 270 Basic Structures and Foundations of CTE (3). Course will include topics related to the basic structures and foundations of career and technical education such as curricular developments, course organization and content selection, student organizations, and historical, sociocultural, psychological, and philosophical foundations of career and technical education.

CTE 272 Organizing and Managing School Learning Facilities (3). Course is designed to include the principles and practices related to equipping and maintaining shop, laboratory and classroom. Emphasis is given to safety and current technology.

CTE 274 Basic Assessment and Curricula for CTE (3). Course is designed to include assessment development and curriculum construction for selecting and arranging content taught and preparing instructional materials for career and technical education.

CTE 312 Teaching Content Area Literacy in Career and Technical Education (3). Designed to help the career and technical education teacher teach reading in the content areas. Topics covered are: the reading process, word recognition skills, comprehension, diagnostic-prescriptive instruction, reading strategies, and reading in the career and technical education content areas.

CTE 363 Evaluation of Instruction in Career and Technical Education (3). Course is designed to provide instruction in the process of instructional evaluation. Emphasis is given to the establishment of student performance criteria, the assessment of student performance in the cognitive, affective and psychomotor domains, and the assignment of grades.

CTE 371 Methods of Instruction in Career and Technical Education (3). Course is designed to provide instruction regarding the presentation and application of instructional materials including the methods, techniques, and technology relevant to teaching career and technical education subjects.

CTE 380 Career and Technical Subjects (3-24). For this course, an assessment will be made of previous educational experiences from universities, community colleges, private and public schools, and all institutions recognized by the National Commission on Accrediting. Graded pass/fail. May be repeated for up to 24 credit hours.

CTE 381 Career and Technical Experiences (3-24). For this course, credit may be earned via thoroughly documented experiences in an occupation where the individual meets the standards for the entry level of teaching as defined by the Kentucky Department of Education, and where one would be eligible for the one-year provisional teaching certificate. On the basis of this review by the department chair, a specific amount of credit will be determined and given. Graded pass/fail.

CTE 463 Seminar in Student Teaching, Career and Technical Subjects (4). Course is designed to include the identification of selected teaching concepts and a study of their uses as a foundation for instructional methods, student activities, and evaluation of student learning. Graded pass/fail. Prerequisite: permission of instructor.

CTE 501 Structures and Foundations of CTE (3). Course is designed to provide new and pre-service teachers with an introduction to the field of career and technical education. Included are topics related to motivation and learning theory, curriculum, school organizations, funding, laboratory management and historical, socio-cultural, psychological, and philosophical foundations of career and technical education. Prerequisite: admission to Teacher Education.

CTE 502 Assessment and Curricula in Career and Technical Education (3). Course is designed to provide an overview of assessment and curricula unique and appropriate for the career and technical education classroom and laboratory. Prerequisite: admission to Teacher Education.

CTE 503 Planning and Implementing Instruction in CTE (3). Course is designed to provide an overview of current trends and issues in planning and implementing instruction in the media rich career and technical education classroom and laboratory. The course includes exploration of such various teaching methods including lecture, discussion, group instruction, group projects, and instructional modules.

CTE 566 Special Problems in Career and Technical Education (1-6). Course is designed to provide an opportunity for individual study, laboratory practice, and research in career and technical education. The student must justify need for such study and have the proposed problem approved before registering for the course. May be repeated for up to six hours of credit.

CTE 568 Independent Study in Career and Technical Education (3-6). Course is designed to include supervised readings or independent investigative projects in the various aspects of administration, supervision, and coordination of career and technical education programs. May be repeated for up to six hours of credit. Prerequisite: permission of instructor.

CTE 601 Introduction to Career and Technical Education for Initial Certification (3). This course is designed as an introduction to the Master's degree for the occupational based Career and Technical Education (CTE) teacher who has previously earned a bachelor's degree in the technical field for which they are presently employed as a CTE educator. Teachers will examine and reflect on their experiences while aligning with the New Teacher Institute (NTI) experience of the new occupational based secondary teacher. Teachers will research their own schools and community and develop a plan to meet the individual student needs in their classrooms.

CTE 640 Student Teaching Practicum in Career and Technical Education (6). Course provides opportunities for students to participate in all activities and duties generally expected of a career and technical education teacher. Student will observe, participate, and teach under the supervision of a faculty member and a cooperating teacher. Includes experience in lesson planning, classroom management, record keeping, development and use of instructional materials, and delivery of instruction. Graded pass/fail.

CTE 665 Program Planning and Evaluation (3). Course includes procedures and techniques in planning and evaluating programs in career and technical education.

CTE 666 Special Problems in Career and Technical Education (1-6). Course provides an opportunity for individual study, laboratory practice, and research in career and technical education. The student must justify the need for such study and have the proposed problem approved before registering for the course. May be repeated for up to six hours credit.

CTE 667 Emerging Trends in Instructional Technology (3). Course includes the study of trends in industrial technology affecting career and technical education, including competency-based education, management by objectives, objectives exchange systems, information storage and retrieval, instructional models, etc.

CTE 668 Independent Study in Career and Technical Education (3-6). Course includes supervised readings or independent investigative projects in the various aspects of administration, supervision, and coordination of career and technical education programs. Prerequisite: permission of instructor. May be repeated for up to six hours credit.

CTE 671 Philosophy of Career and Technical Education (3). Course is a study of the social, historical, and philosophical development and current philosophical beliefs of career and technical education. The student will develop a philosophy and understanding of career and technical education and then apply that philosophy and understanding to understanding new or different past-present-future career and technical education. The meaning of career and technical education to the individual and society, as well as the nature and impacts of career and technical education on the individual and society will be introduced and explored.

CTE 672 Managing CTE Learning Facilities (3). Course includes the principles and practices for planning, organizing, and maintaining school shop, laboratory, and classroom facilities used in teaching career and technical education subjects. Emphasis is given to classroom management and control, supply inventory, equipment maintenance, and safety. An independent study project or research report is required.

CTE 676 Organization and Administration of Career and Technical Education (3). Course includes a study of the organization and administration of career and technical education programs on the various school levels and the development and coordination of external advisory boards. The students will experience development of a strategic plan that includes a mission statement, rationale for change, goals and objectives, action steps, and a program evaluation strategy. State and national legislation affecting career and technical education will be studied.

CTE 678 Review of Professional Literature in Career and Technical Education (3). Course includes review and analysis of outstanding professional literature in the various fields of career and technical education. Survey of research and professional papers from other disciplines that relate to career and technical education will be included. The critical analysis of selected publications will be required.

CTE 680 Exit Seminar in Career and Technical Education (1). The purpose of this course is to provide an opportunity for students to conduct a self-analysis of knowledge, skills and abilities relative to the graduate program completed. This is accomplished by a review of past textbooks and notes, small group discussions, simulations, role-playing as well as finalizing of the eligibility portfolio. Course is repeatable up to two hours. Prerequisites: CTE 601 and be within six hours or less of completing the program.

ECONOMICS (ECO)

ECO 100T Transitions (1). Course is designed to assist students in their transition to Murray State University. Content includes orientation to the specific area or major(s) and minor(s) within the academic program; university procedures, policies, and resources; strategies for personal and academic success, and extracurricular opportunities. Only one transitions course will count toward graduation. Graded pass/fail.

ECO 140 Contemporary Economics (3). Fundamental economic principles applied to a wide range of real world problems, with the objective of developing an understanding of the market form of economic organization. Designed specifically for two purposes: (1) to meet the needs of the students who are able to take only one economics course in their curriculum, and (2) to satisfy the University Studies social science requirement. Does not apply toward business or economics major, minor, or area requirement.

ECO 190 Consumer Economics (3). The course prepares the student to manage his or her own personal financial affairs in a competent manner as well as providing a foundation for later study and work in the financial planning field. Designed to meet the needs of both business and non-business majors. Cannot receive credit for both ECO 190 and FIN 230.

ECO 200 Economics and Politics (3). This course provides an introduction to the economic analysis of governments and politics. Topics covered include the role of special interest groups in American government, the growth of the government sector in the American economy, and the fundamental differences between private and public sector decision-making. The course is designed to introduce students to the role that incentives play in understanding government decision-making. Does not apply toward business or economics major, minor, or area requirement, but may be used as an elective.

ECO 230 Principles of Macroeconomics (3). An introduction to the application of the basic principles of supply and demand to issues in aggregate economics such as national income accounting, unemployment, growth, inflation, business cycles, and the role played by government through its fiscal and monetary policies. Prerequisites: MAT 117, 120, 140 or 150; or an ACT math standard score of at least 23; or permission of instructor.

ECO 231 Principles of Microeconomics (3). An introduction to the application of the basic principles of supply and demand to the behavior of individual economic agents such as consumers, households, business and nonprofit firms, industries, and resource owners. Real world examples are used to demonstrate the application of microeconomics to everyday situations, including an analysis of the effects of government policies on individual markets and income distribution. Prerequisites: MAT 117, 120, 140 or 150; or an ACT math standard score of at least 23; or permission of instructor.

ECO 305 Money and Banking (3). A survey of money and its role in the operation of the economy and the banking system. Prerequisites: junior standing; ECO 230 and 231.

ECO 310 Issues in the Global Economy (3). A review of fundamental issues in international trade, payments, investment, and economic and social systems relevant for informed international business and public policy decision making. This class may not be taken for credit in the economics major. Prerequisite: ECO 230 or HON 232.

ECO 311 European Economic History (3). A descriptive study of the economic development of Europe. This course focuses on historical economic thought that developed in Europe and provides a perspective of how Europe is structured today. Prerequisite: ECO 230 or 231 or permission of instructor.

ECO 312 American Economic History (3). A descriptive study of the historical development of major economic institutions in the United States. Prerequisite: ECO 231.

ECO 315 Comparative Economic Systems (3). An analysis and appraisal of the various economic structures utilized by societies to solve the economic problem of how to allocate scarce resources among unlimited wants. Prerequisites: junior standing; ECO 230 or permission of instructor.

ECO 320 Women in the Global Economy (3). An analysis of the economic conditions and opportunities faced by women around the world. The course focuses on women's access to resources and their roles in the formal and informal economies. Analysis of gender and markets as social constructs will be developed.

ECO 325 Economics of Corruption in Transition and Developing Countries (3). Course is an introduction to the various definitions, causes, consequences of, theories about corruption, the techniques employed in measuring it, and the tactics used to combat it. In particular, the course differentiates the type of corruption known as "state capture" (which refers to corrupt efforts to influence how laws, rules, and regulations are formed and implemented) from political corruption (which refers to the use of existing laws, rules, and regulations to secure favor).

ECO 330 Intermediate Macroeconomics (3). An analysis of the application of the principles of supply and demand to the macroeconomic problems that face society, such as inflation, unemployment, growth, deficits and recessions. This course is a continuation of ECO 230 with a greater emphasis on the development of formal models of macroeconomic activity. Prerequisites: ECO 230 and MAT 220.

ECO 331 Intermediate Microeconomics (3). An analysis of the application of the principles of supply and demand to the resource allocation decisions faced by consumers, firms and resource owners. This course is a continuation of ECO 231 with a greater emphasis on the development of formal models of individual product and resource markets. Prerequisites: ECO 231 and MAT 220.

ECO 335 Economics and Public Policy of Telecommunications Industry (3). The study of market performance and business practices of the telecommunications industry. Includes topics such as market power, merger analysis, vertical relationships, entry and regulation of price and lines of business. Prerequisite: ECO 231.

ECO 345 Environmental Economics (3). Development of a framework for investigating the meaning and causes of environmental deterioration. Special emphasis on developing and using economic analysis to evaluate the appropriateness of proposed solutions. Prerequisite: ECO 231.

ECO 370 The Economics of Sports (3). Course explores various aspects of the economics of sports and sports leagues. Prerequisite: ECO 231 or HON 232 or permission of the instructor.

ECO 410 Economic Development (3). An introduction to the economic characteristics and problems of the less developed countries and to theories and policies applicable to the developing economy. Prerequisites: ECO 230 and 231 or HON 232, or permission of instructor.

ECO 420 Behavioral Economics (3). A study of the foundations of behavioral aspects of economics and finance with a focus on how individual behavior can effect decision making processes and influence financial markets. Prerequisite: ECO 230 or 231.

ECO 450 Economic Applications to Law (3). An introduction to the analysis of legal issues and legal reasoning. Case studies include property, contracts, torts, product liability, criminal behavior and the value of life. Prerequisites: ECO 230 and 231 or permission of instructor.

ECO 460 International Trade and Finance (3). A study of the principles, practices, and institutions of international trade and finance. Prerequisite: ECO 231.

ECO 488 Cooperative Education/Internship (1-3). A meaningful, planned, and evaluated work experience related to the career and educational objectives of the student for which he/she may receive academic credit and possible financial remuneration. May be repeated for a maximum of six hours from any 488/489 courses. Graded pass/fail. Prerequisite: permission of chair.

ECO 489 Cooperative Education/Internship (1-3). A meaningful, planned, and evaluated work experience related to the career and educational objectives of the student for which he/she may receive academic credit and possible financial remuneration. May be repeated for a maximum of six hours from any 488/489 courses. Prerequisite: permission of chair.

ECO 490 Survey of Economics (3). A rigorous introduction to economics including the application of the basic principles of microeconomics and macroeconomics, designed for students who have an inadequate background in economics. Covers the same material as in ECO 231 and ECO 230 or the equivalent. Prerequisites: MAT 117, 120, 140 or 150; or an ACT math standard score of at least 23; or permission of instructor.

ECO 498 Research Methods in Economics (1-3). Course is the first of a two course sequence (with ECO 499) which together make up the senior seminar portion of the economics major. This course will cover research methods including: project design, research methods, writing skills and presentation skills. Those not meeting these requirements must seek the permission of the instructor. Prerequisite: senior standing.

ECO 499 Senior Seminar in Economics (1-3). This is a capstone course in economics and is required of all economics majors. This class will serve to draw together the knowledge and analytical tools developed during the economics major course of study by requiring the development and completion of an independent research project. Prerequisite: ECO 498.

ECO 505 Internship (1-3). Open to junior and senior economics majors. Students are placed with cooperating firms or government agencies to receive on-the-job training in economic analysis. Work experience is supervised by faculty and written reports are required. Graded pass/fail. Prerequisite: permission of departmental chair.

ECO 521 Seminar in Economic Thought: Rand's Objectivism (3). An analysis of the merits and ethical foundations of free enterprise and capitalism from the perspective of Ayn Rand's Atlas Shrugged. The principles of free enterprise will be applied to a variety of historical and current issues as developed in Rand's objectivism.

ECO 538 Monetary and Fiscal Policy (3). An appraisal of the federal government's efforts to promote full employment and price stability. Prerequisite: ECO 330 or permission of instructor.

ECO 539 Microeconomic Policy (3). An analysis of government policy affecting business firms and consumer choice. Prerequisite: ECO 331 or permission of instructor.

ECO 540 Market Structure and Firm Behavior (3). This course examines non-competitive market structures such as monopoly, oligopoly and monopolistic competition. The course will focus on output and pricing decisions of such firms, the economic impact of these market structures, and the regulation of non-competitive markets. Prerequisite: ECO 231.

ECO 550 Public Finance (3). A survey of the principles and practices of raising and spending public revenues. Prerequisite: ECO 231 or permission of instructor.

ECO 570 Labor Economics (3). A survey of the economics of labor, the conditions of employment, wages and the development of labor organizations in the United States. Prerequisite: ECO 231.

ECO 595 Special Problems (1-3). Prerequisite: permission of instructor.

ECO 610 Introduction to Economic Development (3). Course will introduce students to the process, purpose, and background needed for the local eco-

nommic development process. Prerequisite: admission to the M.S. Economic Development program.

ECO 611 Economic Development Methods (3). Course will introduce students to the methods and sources of information used in the economic development process. Prerequisite: Admission to the M.S. Economic Development program.

ECO 615 Directed Study in Economic Development (3). Course will provide students the opportunity to gain expertise in a chosen area of economic development. It is suggested that the student choose to study in an area or areas of elective interest for pursuing certification as an economic development professional.

ECO 617 Capstone Project in Economic Development (3). An independent, in-depth study, of a topic or problem in economic development. Ideally, the nature of this project will grow out of the student's internship experience and the project will address and issue of immediate importance to the Economic Development Agency with which the student has completed an internship. Prerequisite: Admission to the M.S. Economic Development program, completion of or concurrent enrollment in ECO 618.

ECO 618 Internship in Economic Development (3). A meaningful, planned, and evaluated work experience related to the work of the economic development professional. The student receives academic credit and possible remuneration. Prerequisite: Admission to the M.S. Economic Development program.

ECO 621 Freedom and Economics (3). An analysis of the merits and ethical foundations of free enterprise and capitalism from the perspective of Ayn Rand's Atlas Shrugged. The principles of free enterprise will be applied to a variety of historical and current issues as developed in Rand's objectivism.

ECO 625 Managerial Economics (3). An application of economic theory to business problems. Prerequisites: ECO 230 and 231 or ECO 490; MAT 220; CIS 343 or 490, or permission of instructor.

ECO 630 Macroeconomic Theory (3). An advanced analysis of the major theories of national income, price level, interest rate, and employment determination; in particular the short-run impact of policy choices and shocks within the major models. Prerequisite: ECO 330 or permission of instructor.

ECO 631 Microeconomic Theory (3). An advanced treatment of price theory, emphasizing the use of differential calculus and linear algebra to formally model the decision-making of individual economic agents. Prerequisite: ECO 331 or permission of instructor.

ECO 635 Advanced Monetary Theory (3). The evolution of money, monetary theory, monetary policy and the closely related topic of fiscal policy. Prerequisite: ECO 330 or permission of instructor.

ECO 638 Monetary and Fiscal Policy (3). An appraisal of the federal government's efforts to promote full employment and price stability. Prerequisite: ECO 330 or permission of instructor.

ECO 639 Microeconomic Policy and Application (3). An application of basic microeconomic theories to the analysis of the effects of various governmental policies on individual consumers, firms, industries or resource owners. The topics that will be covered in any particular semester will vary, being drawn primarily from policy issues of current importance. Prerequisites: ECO 230 and 231 or permission of instructor.

ECO 640 Market Structure and Firm Behavior (3). This course examines non-competitive market structures such as monopoly, oligopoly and monopolistic competition. The course will focus on output and pricing decisions of such firms, the economic impact of these market structures, and the regulation of non-competitive markets. Prerequisite: ECO 231.

ECO 650 Theory of Public Finance (3). Reviews the problem of resource allocation within the framework of government revenue and expenditure policies, and the impact of these policies on the economy. Prerequisite: ECO 231 or permission of instructor.

ECO 655 Cost Benefit Analysis (3). Course will introduce the student to the techniques of benefit-cost analysis and program evaluation tools used in business and government applications. Prerequisite: Admission to the M.S. Economic Development program or permission of the instructor.

ECO 660 International Business and Finance (3). A review of international economic and financial theories and applications, including international trade, payments, investment and currency markets. Prerequisites: ECO 230 & 231 or permission of instructor.

ECO 670 Labor Economics (3). A survey of the economics of labor, the conditions of employment, wages and the development of labor organizations. Prerequisite: ECO 231.

ECO 680 Quantitative Methods of Economics and Business (3). A rigorous presentation of the fundamental quantitative methods most frequently encountered in the graduate study of economics and business. Topics covered include matrix algebra, partial differentiation, constrained and unconstrained optimization and comparative statics. Prerequisites: ECO 230, 231 and MAT 220 or permission of instructor.

ECO 685 Econometrics (3). The theory and application of statistical methods to the analysis of economic and business data. Topics covered include simple and multiple regression analysis, hypothesis testing of linear and nonlinear restrictions, heteroskedasticity, auto correlation, dummy variables and model selection. Prerequisites: ECO 231 and CIS 343 or permission of instructor.

ECO 690 Forecasting for Business and Government (3). An intuitive presentation of the basic quantitative forecasting techniques widely used in industry and government, including multiple regression analysis, exponential smoothing algorithms and ARIMA modeling (Box-Jenkins). Prerequisites: ECO 230, 231 and CIS 343 or permission of instructor.

ECO 695 Special Problems (1-3). Independent study of a special problem in economics by students who have the background to do independent work. Prerequisites: ECO 680 and permission of instructor.

ECO 697 Teaching and Application of Economic Principles: K-12 (3). A survey of content, materials, teaching methodology and practicum in program design for incorporating economic principles into grades K-12. The course is designed for those with little or no formal economic background. (Same as EDU 697.)

ECO 698 Thesis (3).

ECO 699 Thesis (3).

EDUCATIONAL PSYCHOLOGY (EDP)

EDP 260 Psychology of Human Development (3). A study of the systematic changes in the cognitive, behavioral, social, and biological functioning of the individual across the developmental stages of life. Note: Cannot be counted toward both teacher certification and the psychology major or minor. Field hours required.

EDP 675 Advanced Educational Psychology (3). A psychological perspective and research-based examination of the learner, the teacher, and the classroom interaction processes involved in effective educational processes.

EDUCATION (EDU)

EDU 100T Transitions (1). Course is designed to assist students in their transition to Murray State University. Content includes orientation to the specific area or major(s) and minor(s) within the academic program; university procedures, policies, and resources; strategies for personal and academic success, and extracurricular opportunities. Only one transitions course will count toward graduation. Graded pass/fail.

EDU 103 Issues and Practices of American Education (3). Course designed to provide all students with an overview of the field of education. Included are topics related to motivation and learning theory, curriculum, school organization, and historical, socio-cultural, psychological and philosophical foundations of education. Although this is also an initial education course for

students seeking teacher certification, all students will be able to apply what they have learned as parents and concerned citizens in their adult lives. Field observations required.

EDU 104 Exploration of Teaching (3). An elective course for high school students interested in pursuing a career in teaching, this course is designed to provide an overview of the field of education. Presents an introduction to teaching, including teaching as a profession, historical, socio-cultural, psychological and philosophical foundations of education. Course will provide an understanding of the role of the teacher in the classroom, school and community. Field experiences required.

EDU 106 Tutoring and Mentoring in Schools (3). This elective course is intended to provide a collegiate level service learning experience for high school students who wish to provide service to their school or district in the form of tutoring or mentoring student. This course will also provide experiences for high school students interested in pursuing teacher education or other human service oriented careers. The course will include training in basic techniques of tutoring in a number of academic areas. The course may also provide techniques for peer mentoring for students who would benefit from support for the academic, social, or psychological aspects of the school experience. The course will include a minimum of 22 hours of tutoring or mentoring experiences.

EDU 222 Instructional Technology (3). Course introduces students to the wide variety of emerging and existing technology applications that are commonly seen in modern educational classrooms. Students will explore, evaluate, and demonstrate competence in the use of instructional technology as a tool for the interactive and engaging classroom. Prerequisite: EDU 103 or EDU 104.

EDU 250 Signed English I (1). Course is designed for students who want to acquire skills to communicate manually with babies, preschoolers, children, and others with special needs. The introductory course includes the manual alphabet and development of basic skills in Signed English (SE), and Baby Signs®. Field experiences are required.

EDU 303 Strategies of Teaching (3). This course is an investigation of the skills of teaching which are applicable at any grade level. Emphasis placed on the application of teaching strategies in microteaching and classroom settings. The course will also include coverage of classroom management strategies, discipline techniques, and curriculum development as a function of instruction. Field experiences required. Prerequisite: Students must have earned a B or better in EDU 103 or 104.

EDU 330 Teaching Strategies for Non-Certification Majors (4). This course is an introduction to and application of the instructional skills for teaching children, middle/late adolescents, and adult students. This course cannot be accepted for any teaching certification program. Topics include the design of lessons to encourage appropriate outcomes and behaviors for all learners, an in-depth study of learning styles and outcomes, and the initial development of a personal philosophy of teaching. Prerequisites: HPE 175 with a C or higher.

EDU 370 Expanding Educational Horizons through International Travel (2-6). A short-term (one-to-two week) study abroad experience highlighting the culture and educational system in another country. This course may be taken more than once if travel is to different countries. Students must qualify for participation in a Murray State University-sponsored international experience. Repeatable up to six credit hours. Prerequisite: permission of instructor.

EDU 403 Structures and Foundations of Education (2). A course designed to provide the undergraduate teacher education student with an in-depth study of the foundations of education. The course includes a major emphasis in the social, historical, legal, and philosophical foundations of education. Field experiences required. Prerequisite: admission to Teacher Education.

EDU 405 Evaluation and Measurement in Education (3). The selection, administration, and uses of educational evaluation and measurement approaches with emphasis on application in school classrooms. Field experiences required. Prerequisite: admission to Teacher Education.

EDU 422 Student Teaching Seminar (3). A professional experience to be provided concurrently with student teaching to provide theory, research base and a forum to support the performance in the school assignment. Topics arising from problems encountered in the classroom as well as other current topics will be studied. Graded pass/fail. Prerequisite: Admission to Teacher Education and student teaching.

EDU 423 International Teaching Experience (1-3). A course designed to provide an international teaching experience for prospective teachers through which they will come to understand the culture and educational system of another country. Students will be placed in an international educational setting and will collaborate with teachers and administrators to assist in providing instruction to students. Prerequisite: permission of instructor.

EDU 450 Special Problems (1-12). Individual study and projects in education. Repeatable for up to 12 hours of credit. Prerequisite: Permission of instructor.

EDU 490 Internship I (5). Course is designed to provide students with a practical, in-depth experience for career-related fields in education. Students will be expected to demonstrate 90 hours each semester in an instructor approved setting most closely related to the student's area of study. Graded pass/fail. Prerequisite: Instructor permission required.

EDU 491 Internship II (5). Course is designed to provide students with a practical, in-depth experience for career-related fields in education with a different context/setting placement from EDU 490. Students will be expected to demonstrate 90 hours each semester in an instructor approved setting most closely related to the student's area of study. Graded pass/fail. Prerequisites: EDU 490 and instructor permission.

EDU 600 Introduction to Teacher Leadership (2). This course is an introduction to the Teacher Leader Masters degree. It provides an overview of the teacher leader concept and how the teacher can be a powerful force for improving schools. It examines the influences that affect students, teachers, and schools including socio-economic, cultural, language, historic, and political influences. Teachers will examine and reflect on their experiences in the classroom in relation to the teacher leader model. Teachers will research their own schools and community and develop a plan to meet the individual student needs in their classrooms. Prerequisite: admission to the Teacher Leader Masters degree program.

EDU (ELE) 601 Teaching Social Studies in K-12 Classrooms (3). Designed to give K-12 teachers depth and understanding of the learning processes of the social studies. Students become familiar with current trends and research-based practices to develop K-12 students' proficiency in social studies. Emphasis is placed on K-12 students' cultural backgrounds, societal context, curriculum materials and individualizing programs.

EDU 604 (ELE 603) Mathematics in the Curriculum (3). An in-depth understanding of the learning and teaching process in mathematics for the K-12 classroom. Graduate candidates become familiar with current trends to develop all students' mathematical competencies.

EDU 606 Preparation of Curriculum Materials (3). A course involving the producing of learning materials for use in the elementary and secondary schools.

EDU (ELE) 608 Teaching Science in K-12 Classrooms (3). Designed to give K-12 teachers depth and understanding of the learning processes of science. Students become familiar with current trends and research-based practices to develop K-12 students' proficiency in the sciences.

EDU 614 Direct Study of Children and Youth (3). A group experience in writing and analyzing anecdotal records composed from direct observation by each member, under the guidance of trained leaders and consultants.

EDU 615 Introduction to Environmental Education (3). An introduction to environmental education which will include philosophy, historical development, resource identification, curriculum development, field trip and other activities designed to use the various subject areas in all grade levels as a vehicle to create an environmental ethic.

EDU 620 Internship in Environmental Education (3). Student spends a directed amount of time working under the supervision of a selected environmental educator. This may be in formal and non-formal settings. May be taken concurrently with EDU 660 if experience and length of internship merits additional credits.

EDU 621 Advanced Methods of Teaching (3). An advanced course that applies theories and practices of models of teaching based upon applied research and practitioners experiences. Prerequisites: EDU 303 or an equivalent course and at least have had student teaching experiences.

EDU 622 Philosophy of Education (3). A course designed to explore the various philosophies of education; the meaning of education to the individual and society; the nature of thinking; educational aims and values; character education; and the interpretation and evaluation of present day issues and problems in education.

EDU 625 Theory and Practice in Classroom Management (3). Analysis of the theoretical and practical aspects of selected systems of classroom management and control. To include the study of several approaches that can assist teachers in establishing and maintaining a healthy and productive system of classroom operation.

EDU 626 Integration of Educational Technology (3). Students use a range of traditional, interactive, and emerging technology tools to enhance learning. Students demonstrate knowledge of existing instructional practices as well as compose and produce artifacts using available resources.

EDU 631 Classroom Management and Student Motivation (3). Analysis of the theoretical and practical aspects of selected systems of classroom management and motivation. Includes the study of several approaches that can assist teachers in establishing and maintaining a healthy and productive system of classroom operation.

EDU 632 Comparative Education (3). A systematic examination of education in various nations for the purpose of an enlarged critical view of education in the United States.

EDU 633 Curriculum Development (3). A comprehensive analysis of the process of curriculum development within schools and the larger community. The process includes consideration of the teacher leader model according to the current theory, school goals, instructional planning, student achievement and curriculum evaluation leading to reflective decision-making and teacher development.

EDU 634 Problems in Curriculum Development in the Public School (1-3). Designed for people desiring to work in specific curriculum areas, K-12. Repeatable to six hours.

EDU 637 Instruction for Diverse Learners (3). Examines the needs of a wide range of diverse learners with the goal of matching instruction and accommodations to improve student learning.

EDU 639 Research to Improve Student Learning (3). A course designed to develop capacities in educators regarding the collection, analysis and interpretation of data for decision-making, including the design and implementation of basic action research to improve classrooms and schools.

EDU 640 Exit Seminar in Teacher Leadership (1). This course provides culminating experiences for the teacher leadership masters degree and endorsement program. Students will reflect on their program experiences and document their professional growth and transformation as teacher leaders. Prerequisite: completion of all teacher leader core classes.

EDU 645 History of Education in the United States (3). A course designed to study of the growth and development of education in the United States from early colonial times to present, including recent trends and movements.

EDU (ELE) 647 Building K-12 Curriculum (3). A study of curriculum trends, practices, and initiatives in K-12 schools. Emphasis will be placed on building curriculum to address the needs of a diverse student population.

EDU 649 Research in Education (3). This course is a follow-up of ADM 630. The course includes an exploration of elementary statistics as they apply to the completion of an action research project which was proposed and begun in ADM 630. The action research project is to be concluded during this course and presented during a class/departmental colloquium.

EDU 650 Workshops in Education (1-3). Repeatable to six hours. Maximum of six hours from EDU 650 and/or EDU 651.

EDU 651 TQI Workshops in Education (3). Selected workshops in education. Repeatable to six hours. Maximum of six hours of EDU 650 and/or 651.

EDU 660 Special Problems in Environmental Education (1-3). Selected projects in current developments and trends in environmental education. Repeatable to six hours.

EDU 661 Workshops in Environmental Education (1). Selected workshops in environmental education. Graded pass/fail. Repeatable to three hours. Prerequisite: permission of the instructor.

EDU 662 Workshops in Environmental Education (2). Selected workshops in environmental education. Graded pass/fail. Repeatable to six hours.

EDU 663 Workshops in Environmental Education (1-3). Selected workshops in environmental education. Repeatable to nine hours. Graded pass/fail.

EDU 664 Techniques of Teaching Environmental Education (3). This course provides opportunities for the development of teaching attitudes and understanding at all grade levels of the basic natural resources of the school environment. Study of the surrounding area is made through field trips.

EDU 665 Field Experiences in Environmental Education (2-3). This course will be conducted at the Land Between the Lakes Environmental Education Center. The workshop will include techniques of using the out-of-doors as a teaching tool, curriculum development skills, methods of using environmental education as a supplement to curriculum areas and localizing environmental education programs to meet the needs of local communities.

EDU 667 International Environmental Education (3). Residential study of the mathematical, scientific, social studies, language arts, fine arts, and health connections to the environment in international locations. This class takes place in an international location (field experiences required). Prerequisite: permission of instructor.

EDU 668 Agriculture and the Environment in the Classroom (3). The study of agriculture and the environment as it relates to origination and production of food and fiber and how this connects to topics, skills, and concepts that are included in the K-12 classroom. This program is conducted in conjunction with the Kentucky Department of Agriculture (field experience required).

EDU 669 Investigation and Evaluation of Issues in Environmental Education (3). Course focuses on the identification and evaluation of specific environmental issues, leading to possible environmental/service action projects by their K-12 students, with attention to the potential outcomes of such projects on the physical environment, other humans and other living things. Weekend field experiences are required and include residential, classroom and outdoor experiences at Brandon Spring Group Camp, U.S. Forest Service and Land Between the Lakes.

EDU 670 Expanding Educational Horizons through International Travel (2-6). A short-term (one-to-two week) study abroad experience highlighting the culture and educational system in another country. This course may be taken more than once if travel is to different countries. Students must qualify for participation in a Murray State University-sponsored international experience. Repeatable up to six credit hours. Prerequisite: permission of instructor.

EDU 698 Thesis (3-6). Repeatable to six hours.

EDU 798 Specialty Study (3). Selection of problem, collection of data, and interpretation of data in preparation for writing a research paper.

ENGINEERING

(EGR)

EGR 100T Transitions (1). Course is designed to assist students in their transition to Murray State University. Content includes orientation to the specific area or major(s) and minor(s) within the academic program; university procedures, policies, and resources; strategies for personal and academic success, and extracurricular opportunities. Only one transitions course will count toward graduation. Introduction to the EGR major, the engineering profession, the department, and the university. Graded pass/fail. (Same as PHY 100T).

EGR 101 Introduction to Engineering (3). An introduction to the field of engineering. Students learn about the engineering design process, engineering measurement, engineering economics, engineering ethics and engineering analysis tools. Career opportunities in a variety of engineering disciplines will also be presented and discussed.

EGR 140 Introduction to Computing Applications in Science and Engineering (3). A course to introduce students to computational techniques employed in scientific, engineering, mathematical and statistical applications. A high-level programming language will be used in several related programming projects, including graphics. The course is designed to meet the needs of students in physics, engineering physics and related sciences in the use of the microcomputer as a tool for the solution of problems and in particular where graphics are required.

EGR 195 Methods of Engineering Physics (2). An introduction to the application of basic tools and methods used in the engineering physics curriculum. Primary emphasis on the use of symbolic computational software packages (such as Mathcad) for organizing, performing, and visualizing complex or tedious calculations. Introduction of fundamental statistical definitions and methods of data analysis.

EGR 240 Thermodynamics I (3). Fundamental engineering concepts of power systems, cooling systems and system efficiency. First and second law analysis. Entropy; exergy; reversible and irreversible processes. Ideal gases. Application to simple physical, chemical and engineering problems. Three lectures per week, incorporating laboratory activities for students and demonstrations as appropriate. Prerequisite: PHY 235. Corequisite: MAT 308.

EGR 259 Statics (3). Force systems: moments, couples, equivalent force systems, distributed force systems. Equilibrium equations, free body diagrams, special cases of equilibrium, static indeterminacy, trusses, friction. For engineers. Three lectures per week. Prerequisite: PHY 235.

EGR 264 Linear Circuits I (4). DC and AC steady state circuit analysis. Resistive circuits, Kirchhoff's laws, nodal and mesh analysis, loop analysis, Thevenin's and Norton's theorems, superposition, capacitors, inductors, diodes, and operational amplifiers. Also includes AC steady state circuit analysis using complex number algebra, introduction to three phase circuits, and computer simulation of steady state circuits. Three lectures per week plus laboratory. Prerequisite: PHY 255.

EGR 310 Fundamentals of Biomedical Engineering (3). Survey course of the application of engineering concepts and techniques to the investigation and exploration of biomedical processes. Emphasis is placed on an understanding of the physical/mathematical models that form the design basis for biomedical sensors, instrumentation, imaging, and diagnostic tools. Some on-site experiences may be included at local medical facilities. Prerequisite: EGR 264 or permission of instructor.

EGR 320 Fundamentals of Flight (3). An overview of the major aspects of aerospace engineering including aerodynamics, performance, stability, and control, orbital mechanics, propulsion, and aircraft structures. Lecture and laboratory activities will be integrated throughout the course. Prerequisites: PHY 235 and 236.

EGR 330 Dynamics (3). Study of motion and forces with application to engineering systems. Planar and three-dimensional kinematics and kinetics of a particle and of rigid bodies; equations of motion; work and energy; impulse and momentum; vibrations. Prerequisite: PHY 235.

EGR 340 Wave Analysis of Dynamic Systems (3). The analysis of vibrating and oscillating systems are introduced and developed in applications to mechanical systems, electric circuits, optics, acoustics, and quantum theory. Necessary mathematical and computational tools required for this study are also introduced as needed. The course is designed to serve as a transition between the introductory survey courses and the more rigorous advanced courses in physics and engineering. Prerequisite: PHY 255.

EGR 342 Thermodynamics II (3). Gas mixtures, air-water vapor mixtures. Air conditioning system design. Principles and design of energy conversion devices, power and refrigeration cycles. Principles of combustion, chemical equilibrium, one-dimensional gas dynamics. Applications to typical engineering problems. Prerequisite: EGR (PHY) 240. Corequisite: MAT 309.

EGR 344 Fluid Mechanics (3). Fundamental principles and applications of hydrostatics and fluid flow for engineers. Three lectures per week, incorporating laboratory activities for students and demonstrations as appropriate. Prerequisite: EGR (PHY) 240. Corequisite: MAT 338.

EGR 346 Heat Transfer (3). Basic principles and applications of heat transfer for engineers. Problems in convection-, conduction-, and radiation-transfer. Three lectures per week, incorporating laboratory activities for students and demonstrations as appropriate. Corequisites: EGR (PHY) 240 and MAT 338.

EGR 359 Mechanics of Materials (3). A study of stress and strain in deformable solids; tension and compression of axial members; stress and strain transformations; stress-strain relations; torsion of shafts; bending of beams; buckling of columns. Three lectures per week, incorporating laboratory activities for students and demonstrations as appropriate. Prerequisite: EGR (PHY) 259. Corequisite: MAT 308.

EGR 360 Electric Machines (3). Fundamentals of electromechanical energy conversion. Performance and operating characteristics of AC and DC machinery. DC motors and generators, single-phase and three-phase transformers, the three-phase induction motor, and synchronous motors and generators. Prerequisite: EGR 264.

EGR 363 Signals and Systems (3). A course discussing analytical methods of transient phenomena in circuits and systems. Analysis of continuous-time linear systems. Methods include second-order circuits, convolution integral, Fourier series and transform, Laplace transform, and state-space methods. Topics include impulse response, transfer functions, energy spectra, filtering, and applications to networks and controls. Prerequisite: EGR 264.

EGR 365 Linear Circuits II (3). DC and AC transient circuit analysis. First and second order circuit solutions using differential equations, Fourier Series, Laplace and Fourier transforms. Also includes magnetically coupled circuits, variable frequency circuits, and transistor switching. Prerequisite: EGR (PHY) 264.

EGR 366 Analog Electronics I (3). Transistor amplifiers, feedback circuits, filters, frequency response of circuits, power supplies and switching circuits. Computer simulations of circuits will be emphasized. Prerequisites: EGR 264.

EGR 375 Materials Science (3). An introductory study of the science of materials utilization, structure of solid phases, the atomic and electrical processes in solids. Prerequisite: PHY 255.

EGR 376 Computational Analysis of Engineering Applications (3). A course for development of programming skills using modern software tools including advanced structures such as lists, 2-D arrays and graphical user interfaces. The course applies programming techniques to a variety of engineering and scientific applications. Matlab programming is introduced and applied to a variety of engineering and scientific applications. Prerequisite: EGR 140 or equivalent.

EGR 378 Logic Design I (4). Introduction to digital logic design techniques: binary arithmetic, Boolean algebra, combinational and sequential circuits, registers, counters, memory units and programmable devices. Three lectures and two hours of laboratory per week. Prerequisites: EGR 140 or knowledge of a high-level computing language and PHY 255.

EGR 379 Logic Design II (3). Design of digital systems. Topics include CPU control and timing, machine organization, instruction set architecture, addressing modes, I/O interfaces, cache memory and virtual memory. Prerequisite: EGR 378.

EGR 388 International Experience in Engineering (3). A short-term (10-14 day) study abroad experience highlighting selected historical and modern contributions to engineering and physics from another country and culture. Prerequisite: permission of instructor.

EGR 390 Engineering Measurements (3). General considerations of signals and utilization of instruments to measure physical properties of systems. Review and introduction of useful mathematical concepts such as statistical data analysis. Introduction to digital data acquisition and signal processing. Application to the design of instruments which measure displacement, motion, count, strain, force, pressure, level, fluid flow and temperature. Prerequisites: EGR 264; Corequisite: MAT 338.

EGR 392 Nondestructive Testing (3). Course will introduce various methods of Nondestructive Testing (NDT) and analyze its role in industry. Prerequisites: MAT 250, PHY 255, and 256.

EGR 398 Principles of Design (3). The task of engineering design, which includes the formulation of the problem, creative approaches to design problem solution, analysis, material selection and economics, is considered in design decisions from conception to final product. Prerequisites: working knowledge of a high level computer language and junior standing or consent of the instructor.

EGR 420 Aerodynamics (3). A study of the characteristics and dynamics of air flow over aerodynamic shapes. Emphasis is placed on theoretical and experimental descriptions of inviscid, incompressible flow over airfoils and finite wings. Compressible flow is also introduced. Lecture and laboratory activities will be integrated throughout the course. Prerequisites: EGR 240, MAT 309.

EGR 422 Propulsion (3). A study of the characteristics and design of air and spacecraft propulsion systems. The course includes analysis and discussion of gas turbine and rocket engine configurations. An overview of compressible flow is included for use in this analysis. Lecture and laboratory activities will be integrated throughout the course. Prerequisite: EGR 344 or EGR 420.

EGR 425 Bio-inspired Intelligent Systems (3). A study of the computational intelligence approaches that are based on biological systems. Examples of such systems are artificial neural networks, genetic algorithms, and swarm intelligence. Prerequisite: EGR 140 and consent of instructor.

EGR 430 Mechanical Vibrations (3). Course will cover fundamental concepts on the vibration of mechanical systems to include: systems with one degree of freedom, Lagrange's equations of motion for multi-degree of freedom systems, natural frequencies and modes of vibrations, resonance, beat phenomenon, and effect of damping. Free and forced vibrations of mechanical systems with lumped inertia, springs, and dampers are the primary emphases. Prerequisite: EGR 330.

EGR 433 Control Systems (3). Course will involve the control of linear systems with emphasis on linear system dynamics, time and frequency response, stability analysis, classical control theory, and design applications. Prerequisites: EGR 330 and EGR 363.

EGR 440 Thermal and Fluid Systems Laboratory (3). This engineering laboratory explores measurements in fluid and thermal applications. These applications include the basic concepts for measurement devices and their performance characteristics; measurement of fluid and thermal properties; calibration procedures and experimental design; and experiments in thermodynamics, fluid dynamics, and heat transfer including laboratory work and report writing. Prerequisite: EGR 240. Corequisites: EGR 390 and MAT 338.

EGR 450 Mechanics and Materials Laboratory (3). This engineering laboratory explores measurements in materials science and mechanics of materials including basic concepts for measurement devices and their performance characteristics. The laboratory will include activities such as: measurement of material properties, calibration procedures, experimental design, and report writing. Prerequisite: EGR 375. Corequisites: EGR 359 and MAT 308.

EGR 459 Mechanical Design (3). Fundamentals of mechanical design, with methods of approximation. Introduction to optimum design considerations and statistical variations within the engineering design process. Synthesis and problems on the design of various mechanical elements. Prerequisite: EGR 359

EGR 460 Electricity and Magnetism I (3). Electric fields, potential, dielectrics, steady currents, magnetic fields and electromagnetic induction. Prerequisites: PHY 255, MAT 338. (Same as PHY 460.)

EGR 461 Electricity and Magnetism II (3). Magnetic materials, alternating currents, transient phenomena, electromagnetic radiation. Prerequisite: EGR 460. (Same as PHY 461.)

EGR 463 Electric Power Systems (3). This course investigates electric power systems including balanced power systems at steady-state conditions. Problem solution techniques include power-flow studies, the one-line diagram, and the per-unit system. Modeling and calculations are done for transformers, generators and transmission lines. Bus admittance, impedance matrices and elements of power factor correction are used in network calculations. Prerequisite: EGR 264.

EGR 466 Power Electronics (3). This course is a study of power electronics for engineers. DC-DC converters, DC-AC inverters, single-phase and three-phase rectifiers, and motor drives are analyzed. Other topics include voltage source inverters, inductor design, and the design of power supplies. Residential, industrial, and electric utility power electronics applications are included, such as building and simulations power electronics circuits. Prerequisite: EGR 363.

EGR 468 Digital Signal Processing (3). Discrete-time signals and systems; Sampling and aliasing; Discrete Fourier Transform; Z-Transforms; FIR and IIR filter design techniques; Current applications of digital signal processing. Prerequisite: EGR 264.

EGR 469 Digital Signal Processing Laboratory (1). Laboratory to accompany EGR 468. Prerequisite: EGR 264. Corequisite: EGR 468.

EGR 488 Cooperative Education/Internship (1-3). A meaningful, planned, and evaluated work experience related to the career and education objectives of the student for which he/she may receive academic credit and possible financial remuneration. Student must address engineering topics that involve the creative application of math science concepts. May be repeated for a maximum of six hours from any 488/489 courses. Graded pass/fail. Prerequisite: permission of chair.

EGR 489 Cooperative Education/Internship (1-3). A meaningful, planned, and evaluated work experience related to the career and education objectives of the student for which he/she may receive academic credit and possible financial remuneration. Student must address engineering topics that involve the creative application of math science concepts. May be repeated for a maximum of six hours from any 488/489 courses. Prerequisite: permission of chair.

EGR 498 Senior Engineering Design I (3). Students will work together in small teams to design, build, and test a project assigned by the instructor. Completion of the project will demonstrate an understanding of multiple engineering disciplines, teamwork, and application of the design process. Students will also become familiar with basic elements of engineering economics. Students will demonstrate communication skills through design reports and memoranda, project drawings, a written test report and a written proposal for individual work in EGR 499. Prerequisite: senior standing in engineering.

EGR 499 Senior Engineering Design II (3). Students will develop an individual design project, working with a faculty advisor to determine the scope of their design. The final product is a major report and complete specification, from which the product could be assembled. Students may, but are not required to, produce a prototype, scale model, or simulation to support their design decisions. The senior exit exam is also administered as a part of this course and in preparation for the fundamentals of engineering exam. Prerequisite: senior standing in engineering.

EGR 515 Special Topics (3). Topics of current interest in engineering. Delivery methods may include lecture, seminar, directed study, and laboratory. Course content addresses engineering topics that involve the creative application of math and science concepts. May be repeated for credit as difference topics are offered. Prerequisite: permission of instructor.

EGR 520 Independent Study (1-3). Supervised reading course in specialized topics for upper-division student of high standing. Course content addresses specialized engineering topics that involve the creative application of math and science concepts. May be repeated for a maximum of three hours. Prerequisites: engineering physics, physics or applied physics and permission of instructor.

EGR 565 AC and DC Circuit Analysis (4). Kirchoff's laws, Thevenin and Norton's theorems, super-position and reciprocity theorems, properties of L, C, R circuits, filters and resonance.

EGR 567 Communications Systems (4). Filtering and signal bandwidth. Introduction to information theory, encoding and decoding, linear and digital electronic implementation. Two hours of laboratory per week. Prerequisite: EGR (PHY) 366.

EGR 569 Microprocessor Techniques (3). Architecture of various microprocessors, assembly of useful microcomputers using one or more of the popular microprocessors, technique of interfacing to microcomputers, programming microcomputers, importance of microcomputers in logic design. Prerequisite: EGR (PHY) 378.

EGR 590 Mathematical Methods in Physics and Engineering I (3). Applications of mathematics to physical and engineering problems, curvilinear coordinates, analytic functions, transform theory, convolutions, Fourier series. Prerequisites: MAT 338; EGR 330 or PHY 330 permission of instructor. (Same as PHY 590.)

EGR 591 Mathematical Methods in Physics and Engineering II (3). Solutions of partial differential equations, special functions, Green's function. Prerequisite: PHY 590 or permission of instructor. (Same as PHY 591.)

EGR 599 Senior Research (1-3). Introduction to research practices, periodicals and literature of physics. Problems arranged individually with faculty members. Formal, scientific report of work required. Prerequisites: senior standing and permission of faculty. (Same as PHY 599.)

ELEMENTARY EDUCATION (ELE)

ELE 301 Language and Early Literacy for Early Childhood (3). This course focuses on the child's emerging literacy and exposure to language stimulation. Combining research, reflection and early childhood practices, the course fosters an understanding of how techniques and activities affect language and early literacy skills development in young children infancy through five years of age with and without disabilities. Field experiences required. Prerequisite: EDU 103.

ELE 302 Music and Movement for Young Children (3). An in-depth exploration of developmentally appropriate music and movement experiences for young children infancy through five years of age. Students will develop skills to assist young children with and without disabilities in producing, recognizing and creating simple songs, playing with melody, and expressing feelings through music and movement.

ELE 304 Teaching Elementary Mathematics (3). A study of the structure of mathematics, materials, and methods which build insight and skill in the area of teaching mathematics to elementary students. Field experiences required. Prerequisites: EDU 303, MAT 115 and 215.

ELE 305 Children's Literature for Early and Developing Readers (3). A critical study of the quality literature in a variety of genres for early and developing readers in grades P-5. This course is designed to help further teachers' knowledge of the importance of books and reading in the life of the young child and to develop a knowledge and appreciation of the wide variety and scope of recreational and information materials available for primary through grade 5. Field experiences required. Prerequisite: EDU 303.

ELE 307 Teaching Elementary Language Arts (3). An exploration of the content, methods, and materials for teaching the language arts at the elementary level. Emphasis is on integrating the language arts across the curriculum. Field experiences required. Corequisite: REA 306. Prerequisite: EDU 303.

ELE 308 Teaching Mathematics and Science in Early Childhood (3). This course is a study of mathematics and science curriculum and research-based teaching practices for early childhood. Field experience required.

ELE 310 Classroom Environment and Student Engagement for Elementary Teachers (3). Course explores the importance of creating a positive and productive elementary classroom environment that actively engages all students and promotes learning for all. Students will develop an understanding of developmentally appropriate practices, motivational theories, teacher-student interactions, and strategies for addressing the needs of a diverse student population. Field experience is required for this course. Prerequisites: EDP 260 and EDU 303.

ELE 311 Health, Wellness and Movement (3). This course explores how a mixture of content and pedagogy in physical education relate to the elementary classroom teacher. Emphasis is placed on teaching future teachers how to teach health, wellness, and movement concepts to children in the classroom. Field experiences required. Prerequisite: EDP 260.

ELE 383 Evaluation and Measurement in Elementary Education (3). The development, application, and analysis of educational evaluation and measurement approaches in elementary school classrooms. Emphasis is placed on the design and use of formative assessments to facilitate continual student learning and summative assessments to ensure accurate reporting of student progress. Field experiences required. Prerequisite: EDU 303.

ELE 390 Introduction to Kindergarten (3). Course provides a study of the background and evolution of kindergarten, organization of the kindergarten environment, development of kindergarten age children, and developmentally appropriate practices and learning opportunities within a kindergarten classroom. Field experiences required. Prerequisite: EDU 103.

ELE 400 Strategies and Assessment for Teaching Mathematics in the Elementary School (3). A practicum that involves field and classroom learning experiences in implementing methods and materials of teaching and assessing mathematics in a public school classroom. Prerequisites: admission to Teacher Education, ELE 304, MAT 115 and 215.

ELE 401 Teaching Elementary Social Studies (3). An exploration of the content, methods, and materials for the teaching of social studies at the elementary level. Topics include the integration of subject areas, technology, thinking skills, and citizenship education. Field experiences required. Participation in a 24-hour Friday overnight environmental education retreat at LBL. Field experiences required. Prerequisites: EDU 303 and admission to Teacher Education. Corequisite: ELE 402.

ELE 402 Teaching Elementary Science (3). An exploration of content, materials, and methods of teaching science at the elementary level with an emphasis on discovery, inquiry, and STEM integration. Field experiences required. Participation in a 24-hour Friday overnight environmental education retreat at LBL required. Prerequisites: EDU 303 and admission to Teacher Education. Corequisite: ELE 401.

ELE 410 Collaboration and Communication in IECE Environments (3). Examines collaboration processes involving early childhood professionals, families of children with and without disabilities, and other community resource personnel. Communication skills needed to function effectively in interdisciplinary early childhood education environments are a primary focus. The course also addresses topics that are critical to the practitioner's professional development including reflective thinking, ethics, and advocacy. Field experiences required. Prerequisites: EDU 103 and FCS 250.

ELE 421 Student Teaching Elementary P-5, IECE (7-14). Student teaching in the elementary and IECE should allow the individual to participate in the work and duties of the school that are generally expected of the classroom teacher. These will be a 2, 7-week placements. Student teachers will be supervised by a public school teacher as well as a university coordinator. May be repeated

for up to 14 credit hours. Graded pass/fail. Prerequisites: admission to Teacher Education and Student Teaching.

ELE 439 Early Childhood Assessment and Program Development (3). Students will develop skills in observing children birth through five years of age and in conducting developmental screenings, evaluations and assessment. Student will develop skills in creating and implementing individual education programs and individualized family service plans and in monitoring child progress. Students will complete curriculum based assessment and program evaluation.

ELE 455 Curriculum and Methods for Infants and Toddlers (3). An in-depth look at care and education for infants and toddlers including children with disabilities and children from diverse backgrounds. Major emphasis is placed on methods to provide quality care to meet physical, emotional, cognitive and social needs of infants and toddlers while working collaboratively with families and other community agencies and service providers. Current best practices in education of infants and toddlers will be reviewed. Field experiences will be required. Prerequisites: EDP 260, EDU 103, and SED 300.

ELE 474 IECE Practicum (3). This course makes provisions for students to participate in all activities generally expected of an interdisciplinary early childhood education professional. Supervision by the faculty member teaching course will be provided. Regularly scheduled seminars to promote reflective decision-making, discuss student progress and provide additional training in methods, procedures, and evaluation will coincide with the practicum field experience. Prerequisites: admission to Teacher Education.

ELE 602 Integrating Language Arts in the Curriculum (3). A study of the use of reading, writing, listening, speaking, viewing, and visually representing to aid learning in all content areas.

ELE 604 Advanced Studies in Kindergarten (3). Course provides philosophical, theoretical, historical, and empirical bases of the early childhood field, including current practices, various content areas, environments for learning, and approaches to teaching kindergarten. This course includes an overview of the historical roots of the field, development of the young child and resources for curriculum and professional development. Field experiences required.

ELE 605 Introduction to Interdisciplinary Early Childhood Education (3). A course designed for students entering the field of Interdisciplinary Early Childhood Education (birth to primary school) and students preparing for Kentucky Interdisciplinary Early Childhood Education teacher licensure. It addresses the philosophy of early childhood education, professional development of interdisciplinary early childhood educators, Kentucky Early Childhood Standards, and developmentally appropriate practice for infants, toddlers, preschoolers, and kindergarten age children. Field experiences required.

ELE 606 Supporting Children with Challenging Behavior (3). This course provides knowledge and skills for supporting the development of appropriate social and emotional skills in young children with challenging behaviors. Strategies that support positive interactions include collaboration with families, classroom prevention practices, and social-emotional teaching strategies.

ELE 607 Research in Early Childhood Education (3). Designed to give teachers greater depth in understanding the principles of early childhood education by exploring the development of process and research substantiating current practice.

ELE 612 Infant-Toddler Practicum (2). Course is designed to provide opportunities for students seeking initial certification to participate in activities carried out by early childhood educators working with infants and toddlers with and without disabilities in early childhood settings. A university instructor will provide supervision throughout the required field experiences. Graded pass/fail. Prerequisite: instructor permission.

ELE 613 Clinical Experiences IECE (4). Students seeking initial certification in early childhood will participate in a supervised clinical experience. Graded pass/fail. Prerequisites: Admission to teacher education and student teaching.

ELE 615 Poetry for Children (3). An in-depth study of poetry written for children.

ELE 616 Research in Children's Literature (3). An in-depth study of chosen areas in children's literature with emphasis on books and articles about children's books.

ELE 620 Introduction to the Reggio Approach to Teaching and Learning (3). Course will provide students with an overview of the principles and classroom applications of the Reggio Approach in the early childhood classroom. The roles of the teacher, children, parents, and the community in daily implementation of the approach will be explored.

ELECTROMECHANICAL ENGINEERING TECHNOLOGY (EMT)

EMT 110 Electrical Systems I (4). A study of the utilization of electricity as a source of energy and a method of information transmission. Basic DC and AC circuits, with introduction to the application of electro-magnetic fields. Lecture and laboratory provide learning experiences with basic test instruments, circuits and components. Three hours lecture and two hours lab. Prerequisites: MAT 130 or 150.

EMT 201 Engineering Technology Simulation (3). Introduction to electro-mechanical component simulation programming used in mechatronics and automation control systems. The course will cover general programming concepts and methods using C or MATLAB to model and control electromechanical systems such as: embedded systems, automation controllers, and servo control systems. Prerequisite: MAT 130 or 150.

EMT 202 Engineering Technology Analysis (3). A study of the application of mathematical concepts taught in traditional mathematics courses as they apply to simple engineering technical systems. The course will use current analysis tools, such as MATLAB, to mathematically model and solve for design and performance characteristics of systems based on the basic concepts of physics in motion mechanics, electrical systems, and fluid and thermal systems. Prerequisites: EMT 201, PHY 130 and 131.

EMT 210 Electrical Systems II (4). A continuation of TSM 110 through the study of semiconductor devices and their applications, and particularly how electronic technology is applied to the field of data transfer and communications. Three hours lecture and two hours lab. Prerequisite: EMT 110. (Fall)

EMT 212 Industrial Electronics (4). A study of semiconductor diodes, transistors, FETs, four-layer devices, operational amplifiers, power devices, and digital devices as they are used in industrial control and signal amplification and processing. Three hours lecture and two hours lab. Prerequisite: TSM 110.

EMT 261 Introduction to Fluid Power Systems (3). The study of the basic physical concepts behind fluid power generation, transmission and conversion. Common industrial hydraulic and pneumatic circuits are designed and analyzed using computer programming. Programmable logic controllers are introduced as a means of system control. Three hours lecture per week. Corequisite: EMT 262. Prerequisite: EMT 202, MAT 130 or 150. (Fall)

EMT 262 Introduction to Fluid Power Systems Laboratory (1). Laboratory course must be taken concurrently with EMT 261. Two hours laboratory per week. Corequisite: 261. Prerequisite: EMT 202, MAT 130 or 150. (Fall)

EMT 305 Electric Machinery and Controls (4). A study of electric motors and their controls including the operating characteristics and applications of various dc and ac motors, electromechanical controls and electronic drives. Three hours lecture and two hours lab. Prerequisite: EMT 210. (Spring)

EMT 310 Programmable Logic Controllers (4). This course will cover the techniques of utilizing the programmable logic controllers (PLCs) in the industrial environment. Hardware aspects, programming techniques, and interfacing situations will be covered. Three hours lecture and two hours lab. Prerequisites: EMT 110, 201, and 305. (Spring)

EMT 312 Industrial Instrumentation (4). A study of electrical measurement and electromechanical control and includes signal conditioning, sensors, interfacing to final outputs, controller principles and control loop characteristics. Three hours lecture and two hours lab. Prerequisites: EMT 310 and MAT 230 or equivalent. (Fall)

EMT 320 Mechatronics (3). Course will cover designing, analyzing, and troubleshooting mechatronic systems, which require the integration of mechanical and electrical concepts. The laboratory-based experiences will prepare students to work with industrial automation systems. Topics covered in the course include: interfacing of software with hardware, digital logic, analog interfacing, measurement, and sensing; electromagnetic and optical transducers; control of mechatronic systems (e.g., robotic manipulators and vision tracking). Prerequisites: EMT 261, 262, and 312.

EMT 351 Power Distribution (3). A in-depth study of industrial and commercial power distribution including three-phase systems, transformers, cable and conduit, grounding, system protection, and safety. Prerequisite: EMT 110.

EMT 365 Dynamics for Technology (3). A study of motion of particles and rigid bodies and the effects of forces on bodies with acceleration. Topics included are kinematics of particles and rigid bodies, work and energy, impulse and momentum. Corequisite: MAT 308 or 330. Prerequisites: EMT 202, 261, 262; ENT 287; PHY 132 and 133. (Fall)

EMT 455 Industrial Networking Systems (4). This course is a capstone integration course design to apply manufacturing planning systems and manufacturing equipment control systems. This course will focus on the development and integration of local area networks and industrial control processes. The topics included in this course are: local area networks, industrial networks, programmable logic controllers, man machine interfaces, motor control device networks and supervisory control and data acquisition (SCADA) systems. Three hours lecture and two hours lab. Prerequisites: EMT 210 and TSM 301. (Fall)

EMT 461 Robotics and Motion Controls (4). A study of motion control as applied to current production manufacturing and process systems. This course includes an introduction to the mathematics, electronics, and control theory required to understand these system. Non-servo hydraulic and pneumatic systems will be presented; however, the emphasis of the course is on closed-loop servo-mechanisms. The course is laboratory oriented with theoretical and design content presented at the appropriate time. Prerequisites: EMT 261, 262, 312; and ENT 365. (Spring)

EMT 462 Machine Design (3). Design of machines using bearings, belts, clutches, gears, springs and screws. Develops the application of the theory of working stresses, power transmission and lubrication to the analysis and design of machine elements. Prerequisites: CET 298, ENT 365, and ITD 102. (Spring)

ENGLISH (ENG)

ENG 096 Basic Writing (3). A writing skills course that emphasizes paragraph and essay development. The course is required for entering freshman with ACT English scores 16 or below and must be completed before enrollment in ENG 105. Advanced placement into ENG 105 is possible through Murray State University Center for Academic Success English assessment exams. Credit is earned in this course may not be counted toward graduation requirements.

ENG 100T Transitions (1). Course is designed to assist students in their transition to Murray State University. Content includes orientation to the specific area or major(s) and minor(s) within the academic program; university procedures, policies, and resources; strategies for personal and academic success, and extracurricular opportunities. Only one transitions course will count toward graduation. Graded pass/fail.

ENG 101 Composition (3). Credit awarded by Advanced Placement examination only.

ENG 105 Critical Reading, Writing, and Inquiry (4). Instruction and practice in close reading, research, and critical thinking as applied to academic writing, with emphasis on analysis, synthesis, and argument. ENG 101 in combination with ENG 102 will substitute for ENG 105. The combination of ENG 101 and 102 marks off ENG 105. ENG 105 marks off the combination of ENG 101 and 102. Only the last sequence completed (ENG 101/102 or ENG 105) will be calculated in the overall GPA and count towards hours earned. Prerequisites: ENG 100 or English ACT of at least 18 and Reading ACT score of at least 20 or successful completion of REA 096 and 120.

ENG 107 Teacher Bridge Writing Project (3). For Teacher Bridge Program participants only, this course helps prepare them to make the transition to a four-year university setting. Students improve their writing skills while exploring teacher education. May not be used for credit for ENG 101, 102, 105, or 150 but may count as an elective toward graduation.

ENG 109 Academic Oral Skills for Non-Native Speakers (3). Course for Academic English Program (AEP) non-native speakers of English. With instructor permission, the course may also be open to any other MSU student who may feel the need to improve English listening and speaking skills. Awards general elective credit. Does not count toward an English major, minor, or University Studies requirement. Letter-graded course.

ENG 110 Academic Text Skills Non-Native Speakers (3). Course for Academic English Program (AEP) non-native speakers of English. With instructor permission, the course may also be open to any other MSU student who may feel the need for enhancement of English reading and writing skills. Awards general elective credit. Is a prerequisite for ENG 105 for all AEP admitted students. Does not count toward an English major, minor, or University Studies requirement. Letter-graded course.

ENG 111 Fundamental Writing Skills I (1). This course is designed for individualized instruction in basics of grammar, punctuation, and composition. Does not count toward an English major, minor, or University Studies requirements. Corequisite: ENG 105 or consent of program director.

ENG 112 Fundamental Writing Skills II (1). A reading and writing skills course that emphasizes college reading, group discussion, and writing application. Does not count toward an English major, minor, or University Studies requirements. Corequisite: ENG 105 or consent of program director.

ENG 150 Honors Rhetoric, Composition and Research (4). Intensive study and practice of rhetorical approaches to writing and speaking. Course will focus on advanced composition and research skills but will also include practice in oral presentations. Open to students enrolled in the Honors Program. For all degrees, this course may be used in lieu of ENG 105.

ENG 201 Appreciation of Literature (3). A course designed to develop a broad literary appreciation and understanding. This course provides for the study of various genres, including fiction, poetry, and drama. ENG 201 is a University Studies humanities elective. Prerequisite: ENG 105 or 150 or equivalent.

ENG 204 Advanced Expository Writing (3). Course is designed to help students achieve proficiency in writing for specific academic contexts, particularly those of the student's own major discipline. Prerequisite: completion of ENG 105 or 150 with at least a C average or the equivalent.

ENG 205 Writing for the Social Sciences (3). Preparation for research in the social sciences, with practice in analyzing and writing effectively about professional scholarship. Students will examine the issues, audiences, styles, and rhetorical situations important to the social sciences, developing writing and research skills for their own work in the discipline. Prerequisite: ENG 105 or 150 or the equivalent and at least one course in the social sciences.

ENG 213 Film and Literature (3). A study of the correlations between the film form and traditional literary forms. Prerequisites: ENG 105 or 150 or the equivalent. (Fall)

ENG 214 Introduction to Creative Writing (3). An introduction to the forms of poetry, fiction, and creative writing, combining the careful reading of the works of established writers and original student writing. Designed for majors and non-majors. Prerequisites: ENG 105 or 150, or equivalent. Students in the English area or major may concurrently enroll in ENG 214 and ENG 105 or 150, or equivalent.

ENG 221 Introduction to English Studies (3). An introductory course for English majors and minors designed to familiarize students with a range of literary and writing genres, as well as the discourses, practices, and major theories of English studies. Prerequisite: ENG 105 or 150 or the equivalent. May be taken concurrently by English area or major students.

ENG 224 Writing in the Professions (3). This course prepares students to write documents such as proposals, reports, memos, letters, and e-mail in professional scenarios. Students will learn to assess practical writing situations and to write successful documents for specific purposes and audiences. The course will emphasize computer skills. Course activities may include peer review, collaborative writing, and intensive planning and revision workshops. Prerequisite: ENG 105 or 150 or the equivalent.

ENG 226 Argument and Discourse (3). A study of advanced principles of argumentation and conventions of rhetoric as applied to spoken and written public discourse. Application of the foundational components may be based on an instructor-chosen theme, such as discourse in political, environmental, religious, or other domains. Prerequisite: ENG 105 or 150 or the equivalent.

ENG 228 Standard English Usage (3). The traditional or prescriptive approach to a comprehensive study of standard English grammar and the conventions of punctuation and capitalization.

ENG 243 Literary Masterpieces: Fantasy, Myth and Legend (3). A study of the literary manifestations of fantasy, myth, and legend as they appear in the works of such writers as Homer, Shakespeare, Milton, Coleridge, Yeats, and Tolkien.

ENG 245 African-American Literature (3). Beginning with a consideration of the African American experience during slavery, students enrolled in this survey course will examine the fiction and nonfiction written by African Americans. Thematic emphasis will be given to historical, cultural, and contemporary issues as viewed in seminal African American works written by such authors as Frederick Douglass, Linda Brent, W.E.B. DuBois, Toni Morrison, Zora Neale Hurston, Booker T. Washington, Langston Hughes, and Harriet Wilson. Prerequisite: ENG 105 or 150 or the equivalent.

ENG 250 Contemporary World Literature (3). A study of selected novels, short stories, plays, and poetry from world literature of the last thirty years. Works studied will be by important new authors not native to the United States and will illustrate contemporary literary trends. Works will include representative texts from North America, South America, Asia, Europe, and Africa. Prerequisite: ENG 105 or 150 or the equivalent.

ENG 303 British Literature to 1760 (3). A study of the development of British literature from the Old English through the Early Modern English periods, with emphasis on key texts, figures, genres, and trends, including critical approaches. Prerequisites: ENG 105 or 150 or the equivalent, and ENG 221 or permission of instructor.

ENG 304 British Literature, 1760 to the Present (3). A study of British literature from the late 18th century to the present, with emphasis on key texts, figures, genres, and trends, including critical approaches. Prerequisites: ENG 105 or 150 or the equivalent, and ENG 221 or permission of instructor.

ENG 305 Survey of World Literature, 1700-1945 (3). A survey of world literature in English or English translation from 1700 to 1945. Works studied will include novels, short stories, plays, and poems by authors from Europe, Asia, Africa, Australia, and the Americas. Prerequisite: ENG 105 or 150 or the equivalent.

ENG 306 Contemporary Literature (3). A survey of literature written in English from 1945 to the present. Prerequisite: ENG 105 or 150 or the equivalent.

ENG 307 World Literature to 1830 (3). A survey of world literature in English or English translation, from the ancient world to 1830, including critical approaches. Prerequisite: ENG 105 or 150 or the equivalent.

ENG 308 World Literature, 1830 to the Present (3). Survey of world literature in English or English translation from 1830 to the present, including critical approaches. Prerequisite: ENG 105 or 150 or the equivalent.

ENG 309 History of the English Language (3). A survey of the English language from Old to Middle to Modern English.

ENG 310 Introduction to English Linguistics (3). A survey of modern studies in the English language, with emphasis placed upon its impact on the theory and practice of several grammatical systems.

ENG 311 American Literature to 1865 (3). A study of the development of American literature from its origins through the nation's beginnings to 1865, with emphasis on major works and writers, including critical approaches. Prerequisites: ENG 105 or 150 or the equivalent, and ENG 221 or permission of instructor.

ENG 312 American Literature 1865 to 1945 (3). A study of U.S. literature and its developing ethnic and cultural traditions from 1865 to 1945, including critical approaches. Prerequisites: ENG 105 or 150 or the equivalent, and ENG 221 or permission of instructor.

ENG 313 History of the Cinema (3). This course will cover the international, historical, cultural, artistic, and technical development of the cinema from the beginnings to the present, with some emphasis on American contributions. (Spring)

ENG 314 Shakespeare on Film (3). A study of filmed versions of Shakespeare's comedies, Histories, and Tragedies. Prerequisite: ENG 105 or 150.

ENG 315 Global Cinema (3). A study of national cinemas and industries outside the United States, examining significant directors and film movements. This class meets for two hours for lecture and discussion and two hours for film viewing. Prerequisite: ENG 105 or 150 or the equivalent.

ENG 316 The Bible as Literature (3). A study of the Bible as a literary source. Prerequisite: ENG 105 or 150 or the equivalent. (Same as RGS 316.)

ENG 317 Literature and Religion (3). Course that explores the intersections between literature and religion within larger cultural contexts. Depending on individual research needs and the interest of the group, mandatory field experiences may be scheduled. Prerequisite: HUM 211. (Same as RGS 317.)

ENG 318 Women's Literature (3). A study of literature written by women. Prerequisite: ENG 105 or 150 or the equivalent. (Spring)

ENG 319 Gay and Lesbian Literature (3). Literary works by gay and lesbian authors as well as works about the gay and lesbian experience will be read, spanning the long and varied history of this genre. Prerequisites: ENG 105 or 150 or the equivalent and either ENG 201 or 221.

ENG 320 Survey in African-American Literature (3). A thematic survey and analysis of African-American literature and appropriate theoretical concepts. Prerequisite: ENG 105 or 150 or the equivalent.

ENG 321 Research in Literary Studies (3). An introduction to research tools and methods in literary studies. Prerequisites: ENG 105 or the equivalent and ENG 221, or permission of the instructor.

ENG 322 Rhetorical and Professional Writing (3). Study of rhetorical tradition and theories, and an exploration of the influence of rhetoric in professional and technical writing environments. Field experience may be required. Prerequisite: ENG 105 or ENG 150 or equivalent.

ENG 324 Technical Writing (3). Theory of and practice in the writing of technical documents for industry and technology, with a focus on document design, usability, and writing for a non-technical audience. Students will apply effective rhetorical strategies to letters, instructions and procedures, proposals, and reports. Prerequisite: ENG 105 or 150, or the equivalent.

ENG 325 Professional Document Design (3). Advanced topics and projects in technical writing, document design, and usability, focusing on direct application to business and industry. Field experience may be required. Prerequisite: ENG 105 or ENG 150 or equivalent.

ENG 327 Writing Proposals and Grants (3). Techniques and practices for writing proposals and grant proposals. The course will help students learn and practice the rhetorical and persuasive skills necessary to plan and create successful proposals. Field experience may be required. This course is part

of the Service Learning Scholars program. Prerequisite: ENG 105 or ENG 150 or equivalent.

ENG 329 Teaching English in Secondary Schools (3). A practical course in the materials and methods used in teaching English in secondary schools. (Fall)

ENG 330 Special Topics (3). A study of literary genres or sub-genres, or of other special topics. Content will vary from semester to semester according to student and faculty interests. Credit will be given for as many semesters as taken.

ENG 331 Traditional Rhetoric and the Written Argument (3). A study of rhetoric from ancient Greece to the 19th century. Emphasizes the application of traditional rhetoric to written argument while giving students an opportunity to analyze and create persuasive messages pertaining to politics and the law, business, science, and the arts.

ENG 332 Contemporary Rhetoric and the Written Argument (3). A study of rhetoric from the 19th century to the present. Emphasizes the application of contemporary rhetoric to written argument while giving students an opportunity to analyze and create persuasive messages pertaining to politics and the law, business, science, and the arts.

ENG 334 Shakespeare (3). A study of selected Shakespearean histories, comedies, and tragedies. Prerequisites: ENG 105 or 150 or the equivalent, and ENG 221 or permission of instructor.

ENG 341 Introduction to Writing Fiction (3). An introduction to fiction writing, combining the careful reading of works by established writers with analysis of original student stories. Prerequisites: 214 and 221, or permission of instructor.

ENG 342 Introduction to Writing Poetry (3). An introduction to poetry writing, poetic form, prosody, and the historical development of forms in English and American poetry. This course will combine the careful reading of works by established writers with analysis of original student poems. Prerequisites: 214 or 221 or permission of instructor.

ENG 343 Special Topics in Creative Writing (3). The study of a special area of creative writing. Content will vary from semester to semester according to student and faculty interest. The course will combine the careful reading of works by established writers with analysis of original student work. Students will be required to attend readings sponsored by the Creative Writing Program and encouraged to attend other readings on campus and in the area. Course may be repeated for credit three times with the consent of the instructor and student's advisor. Prerequisites: ENG 105 or 150 or the equivalent.

ENG 344 Introduction to Creative Nonfiction (3). Study and practice in the literary art of creative nonfiction with particular emphasis on the personal essay. Course requirements will include attendance at readings sponsored by the Creative Writing Program. Prerequisite: ENG 105 or 150 or the equivalent.

ENG 350 Modern Japanese Literature in Translation (3). Course surveys Japanese fiction from the Meiji Restoration (1868) to the present day. Will examine the personal voice, manifest in literary works, and explore the ways in which literature has been closely interwoven with historical movements and social changes of modern times. Prerequisite: ENG 105 or 150. (Same as JPN 350.)

ENG 351 Special Topics in Film Studies (3). The study of an advanced area in film studies, including, but not limited to studies in major filmmakers, national traditions, genres, schools of theory, or influential actors. The course may be repeated twice for credit with consent from the Chair. Prerequisite: ENG 313.

ENG 352 Film Genres (3). Examination of specific genres in the development of cinema. Genres under consideration will vary according to the instructor and semester. Prerequisite: ENG 105 or 150.

ENG 353 Writing for the Web (3). Practice in writing for online environments. Students will apply rhetorical strategies and document design principles to online writing experiences and learn basic HTML and CSS applications. Prerequisite: ENG 105 or ENG 150 or equivalent.

ENG 360 Literature and Philosophy (3). Interdisciplinary look at ways in which literature raises philosophical questions and also how philosophical writings articulate a relationship between philosophy and literature. Topics may include the role of imagination and emotion in reasoning, interpretation, rhetoric, and the role of literature in moral reasoning. Prerequisite: ENG 105 or 150 or the equivalent. (Same as PHI 360.)

ENG 362 Ethnolinguistics in the US (3). From an ethnolinguistic perspective, this course provides an introduction to the study of varieties of English across the United States. Students will examine the history of linguistic diversity in the United States, along with perspectives on language and identity and current issues in language policies in the US. Prerequisite: ENG 105 or 150.

ENG 365 Collaborative Research (1-4). A collaborative research project with a faculty member aimed at producing a peer-reviewed publication or presentation. May be repeated for up to eight hours of credit. Graded pass/fail. Prerequisites: ENG 221 and 321.

ENG 370 Law and Literature (3). A course that explores the intersections between law and literature within larger cultural contexts. Prerequisite: HUM 211. (Same as LST 370.)

ENG 371 Literature and the Environment (3). A study of literary and other works from a variety of cultures and periods with a focus on the environment, its inhabitants, and their survival. Depending on individual research needs and the interest of the group, field experiences may be scheduled, some of which might include excursions into developed, threatened, and wilderness areas and visits to other relevant sites. Prerequisite: ENG 105 or 150 or the equivalent.

ENG 380 Introduction to Poetry and Poetics (3). An introduction to the traditions and techniques of poetry, including the study of meter, literary devices, and form. Prerequisite: ENG 105 or 150 or the equivalent.

ENG 392 Professional Engagement (1-6). Professional Engagement (1) Practical course for English majors. Each student will work 45 hours on a project or job that requires utilization of skills taught in English courses. Graded pass/fail. Repeatable up to six hours. Prerequisite: junior or senior standing, ENG 321, and permission by instructor.

ENG 400 Major Film Directors (3). One or more major film directors will be studied in depth. This course, with different content by featuring different directors, may be repeated once for credit. Prerequisite: ENG 105 or 150 or the equivalent.

ENG 401 Film Theory and Criticism (3). Study of major aesthetic and critical theories about film and of the theory and practice of film criticism, with focus on American cinema. This course meets for two hours for lecture and discussion and two hours for film viewing. Prerequisites: ENG 105 or 150 or the equivalent and a film course. (Spring)

ENG 402 Early English Literature (3). A critical and historical survey of English literature before 1500, studied partly in translation. Prerequisite: ENG 321 or permission of instructor. May be taken concurrently by English area or major students.

ENG 403 Medieval Drama (3). European secular and religious drama in the Middle Ages, studied partly in translation. Prerequisites: ENG 303 and 321 or permission of instructor. ENG 321 may be taken concurrently by English area or major students.

ENG 404 Advanced Composition (3). Intensive workshop in writing for the English major. Topics include expository writing, rhetorical and literary analysis, and research writing. Required of all English majors. Prerequisite: ENG 105 or 150 or the equivalent.

ENG 405 British Novel to 1830 (3). A study of the background and development of the British novel to 1830. Prerequisite: ENG 321 or permission of instructor. May be taken concurrently by English area or major students.

ENG 406 British Novel Since 1830 (3). A study of the background and development of the British novel after 1830. Prerequisite: ENG 321 or permission of instructor. May be taken concurrently by English area or major students.

ENG 407 Short Fiction (3). A study of the origin and development of the short story, the short-short story, and/or the novella as unique literary genres. Special emphasis will be on the analysis of the form. Prerequisite: ENG 321 or permission of instructor. May be taken concurrently by English area or major students.

ENG 408 Forms of Fiction (3). A study of literary fiction from the writer's point of view. Prerequisites: ENG 341 and one 300-level survey or permission of instructor. (Spring)

ENG 409 The American Novel (3). A study of the American novel from James Fenimore Cooper to William Faulkner. Prerequisite: ENG 321 or permission of instructor. May be taken concurrently by English area or major students.

ENG 410 Contemporary American Literature (3). An in-depth study of some of the Americas' influential contemporary literature. Prerequisite: ENG 321 or permission of instructor. May be taken concurrently by English area or major students.

ENG 411 Non-Shakespearean Elizabethan-Jacobean Drama (3). A study of selected plays of the period and their historical and critical contexts. Prerequisite: ENG 321 or permission of instructor. May be taken concurrently by English area or major students.

ENG 412 Directed Studies in Film Studies (3). Supervised independent work in film studies. Credit will be given for as many semesters as taken. Prerequisite: ENG 105 or 150 or the equivalent.

ENG 413 American Poetry (3). A study of the development of American poetic traditions and achievement from 1620 to the present. Prerequisite: ENG 321 or permission of instructor. May be taken concurrently by English area or major students.

ENG 415 Writer's Workshop: Short Story (3). An intensive study of the techniques of writing the short story, with special concentration on the student's own work. Prerequisites: ENG 341 and one 300-level literature survey or consent of the instructor.

ENG 416 Writer's Workshop: Poetry (3). An intensive study of the techniques of writing poetry, with special concentration on the student's own work. Students will also complete in-depth, sustained investigations of a select number of canonical and contemporary works of poetry. Course may be repeated twice for credit. Prerequisite: ENG 342 or consent of the instructor.

ENG 418 Restoration and Eighteenth-Century British Literature (3). A critical and historical survey of British literature from 1660 to the end of the eighteenth century. Prerequisite: ENG 321 or permission of instructor. May be taken concurrently by English area or major students.

ENG 419 European Cinema (3). Survey of European (including British) film by French, English, German, and Spanish directors in the original languages with English subtitles except for the English language films. Selected films will be organized around social themes, which will then be viewed from different national perspectives. The common discussion section on one day will be conducted in English to be accessible to students of all languages; the second discussion section will be conducted in English. Students are required to attend film viewings in a separate lab section. Prerequisite: ENG 105 or 150 or the equivalent.

ENG 420 British Romantic Literature (3). A critical and historical survey of British literature of the Romantic Age. Prerequisite: ENG 321 or permission of instructor.

ENG 424 Forms of Poetry (3). Explores the question of poetic form from the point of view of practitioners. A course in prosody and the historical development of forms in English and American poetry, including rhymed verse forms, the meters, syllabics, free verse, and prose poetry. Material for discussion will include student poetry and outside texts. This is a capstone course for English majors with an option in creative writing. Prerequisite: ENG 342 or permission of instructor. (Fall)

ENG 425 Teaching Literature, Writing and Grammar in Middle Schools (3). A practical course in the materials and methods used in teaching English/language arts in middle schools. Prerequisite: ENG 329 or EDU 303. (Spring)

ENG 426 Classical Literature (3). The literature of Greece and Rome, read in translation. Prerequisite: ENG 321 or permission of instructor. May be taken concurrently by English area or major students.

ENG 427 Medieval Literature (3). European literature from the fall of Rome to the Renaissance, read in translation. Prerequisite: ENG 321 or permission of instructor. May be taken concurrently by English area or major students.

ENG 428 Renaissance Literature (3). European literature of the Renaissance, read in translation, with emphasis placed upon its impact on English thought and literature. Prerequisite: ENG 321 or permission of instructor. May be taken concurrently by English area or major students.

ENG 430 British Poetry and Non-Fictional Prose, 1832 to 1900 (3). A survey of selected works of the period and their historical and critical contexts. Prerequisite: ENG 321 or permission of instructor. May be taken concurrently by English area or major students.

ENG 431 American Literature, 1607 to 1820 (3). A survey of selected works of the period and their historical and critical contexts with an emphasis on Colonial and Early U.S. Literature. Prerequisite: ENG 321 or permission of instructor. May be taken concurrently by English area or major students.

ENG 435 Teaching Literature in Secondary Schools (3). Background and readings in literature commonly taught in secondary schools; emphasis on contemporary young adult literature. May include study of the novel, short story, poetry, drama and nonfiction. Prerequisites: ENG 329 and senior status or permission. (Fall)

ENG 436 Seventeenth-Century British Literature (3). A survey of non-dramatic British literature from 1600-1667, with attention to historical and critical contexts. Prerequisite: ENG 321 or permission of instructor. May be taken concurrently by English area or major students.

ENG 438 British Fiction, 1832 to 1900 (3). A survey of selected works of the period and their historical and critical contexts. Prerequisite: ENG 321 or permission of instructor. May be taken concurrently by English area or major students.

ENG 439 Modern British Literature (3). A critical and historical survey of selected works from 1900 to the present. Prerequisite: ENG 321 or permission of instructor. May be taken concurrently by English area or major students.

ENG 442 American Literature, 1820 to 1870 (3). A survey of selected works of the period and their historical and critical contexts with an emphasis on American Romanticism. Prerequisite: ENG 321 or permission of instructor. May be taken concurrently by English area or major students.

ENG 443 American Literature, 1870 to 1920 (3). A survey of selected works of the period and their historical and critical contexts with an emphasis on American Realism and Naturalism. Prerequisite: ENG 321 or permission of instructor. May be taken concurrently by English area or major students.

ENG 444 American Literature, 1920 to the Present (3). A survey of selected works of the period and their historical and critical contexts with an emphasis on Modernism and Postmodernism. Prerequisite: ENG 321 or permission of instructor. May be taken concurrently by English area or major students.

ENG 445 Teaching Reading and Writing in the Secondary School (3). Course is designed to prepare the secondary school teacher for teaching reading and writing in the secondary English/Language Arts classroom. Prerequisites: ENG 329. (Spring)

ENG 450 Sixteenth-Century British Literature (3). A survey of non-dramatic British literature from 1501-1600 with attention to historical and critical contexts.

ENG 446 Approaches to the Writing Process (3). A consideration of the writing process and its implications for teaching writing to students at all levels.

ENG 451 Introduction to Drama (3). An introduction to the traditions, forms, and techniques of drama in English and/or English translation, including the study of genres, stagecraft, and historical development. Prerequisite: ENG 221 or permission of instructor.

ENG 452 Introduction to Fiction (3). An introduction to the traditions, forms, and techniques of fiction in English and/or English translation, including the study of genres, stagecraft, and historical development. Prerequisite: ENG 221 or permission of instructor.

ENG 460 Comedy and Satire (3). This course will examine the historical development of comedy and/or satire as a literary genre and as a cultural manifestation (e.g., plays, novels, essays, movies, comedians, etc.). It may also focus on theories of comedy and satire. Prerequisite: ENG 321 or permission of instructor. May be taken concurrently by English area or major students.

ENG 470 Literary Criticism (3). An historical survey of literary criticism, including some collateral reading of literature. Prerequisite: ENG 321 or permission of instructor. May be taken concurrently by English area or major students.

ENG 488 Cooperative Education/Editorial Internship (1-3). A meaningful, planned, and evaluated editorial experience related to the career and educational objectives of the student for which he/she may receive academic credit and possible financial remuneration. May be repeated for a maximum of six hours from any 488 courses. Graded pass/fail. Prerequisite: permission of chair.

ENG 512 Directed Study (1-4). Directed independent study program, mutually developed by student and instructor, leading to one or more papers or projects. May be repeated for a maximum of eight credit hours.

ENG 548 Senior Seminar in Literary Studies (3). An advanced study of the issues pertinent to the discipline of literature, including career and graduate studies opportunities. Students will also produce a semester-long research project culminating in a senior essay that focuses on an interest the student has developed during prior course work. Prerequisites: ENG 321 and senior standing.

ENG 560 Advanced Creative Writing: Fiction (3). Critical discussion of original student writing. Individual conferences and reading assignments in contemporary literature are included. Prerequisite: ENG 408 and 415 or permission of instructor. May be repeated for a maximum of six credit hours.

ENG 561 Advanced Creative Writing: Poetry (3). Concentrated exploration of a particular poet, subject within poetry, or method of poetry writing. This sustained study will result in a unified body of original student work. This course serves as the culminating workshop experience for creative writing-poetry majors. Subjects of the projects will vary from semester to semester. Prerequisite: ENG 416 or permission of instructor.

ENG 562 BFA Senior Seminar (1). Capstone course for BFA students, taken in the final semester of a student's degree work, comprising a written portfolio review, a public presentation of creative work, and career preparation. Prerequisite or Corequisite: ENG 560 or ENG 561.

ENG 571 Documentation Project Management and Standards (3). Techniques and practices for handling documentation projects. Students will learn to manage the work of multiple authors and reviewers, implement successful consulting practices, plan and schedule projects, design style sheets, and create version control systems. The course also covers the dynamics of managing documentation for the implementation of international standards such as ISO 9001. Prerequisite: ENG 324 or 325 or permission of the instructor.

ENG 572 Writing Training Materials (3). An overview of the pedagogy and procedures used to create training materials for business, industry, and government. Prerequisite: ENG 324 or 325, or permission of instructor.

ENG 600 Research and Bibliography (3). An introduction to principles of research and bibliography as a preparation for further graduate study in English.

ENG 601 Teaching Writing in Schools (3). A workshop course emphasizing principles and practices of effective writing instruction. This course is designed for middle and high school classroom teachers. Prerequisite: teaching position.

ENG 602 Teaching Literature in Schools (3). A workshop course emphasizing principles and practices of effective literature instruction. This course is designed for practicing middle and high school classroom teachers. Prerequisite: teaching position.

ENG 603 Teaching English Language Arts in Schools (3). A seminar course emphasizing principles and practices of effective English Language Arts instruction. This class is intended as a capstone course for practicing middle and high school classroom teachers. Prerequisites: teaching position; ENG 600, 601, and 602 or permission of the graduate coordinator.

ENG 604 Purchase Area Writing Project I (3). An intensive workshop course emphasizing principles and practices of effective writing instruction. Designed for practicing classroom teachers. This course is to be taken in conjunction with ENG 605. Prerequisites: K-12 teaching position; application and interview. (Summer)

ENG 605 Purchase Area Writing Project II (3). Follow-up activities to the Purchase Area Writing Project Summer Institute. Designed for practicing classroom teachers. This course is to be taken in conjunction with ENG 604. Prerequisites: K-12 teaching position; application and interview. (Summer)

ENG 606 Chaucer (3). A study of Chaucer's works and their historical and critical contexts.

ENG 607 Milton (3). A study of Milton's works and their historical and critical contexts.

ENG 608 Modern Fiction (3). A critical and historical study of selected European and American prose fiction from 1900 to the present.

ENG 609 Contemporary Critical Theory (3). An intensive study of recent critical practices and theoretical approaches to understanding literature.

ENG 610 Graduate Writer's Workshop (3). Supervised independent work in creative writing. May be repeated for credit. Prerequisite: permission of instructor.

ENG 611 Applied Linguistics for Second Language Teaching (3). An overview of the basic concepts, scope, and methodology of the science of language in its historical and descriptive aspects, including topics and issues in current linguistic studies.

ENG 612 Directed Study (3). Supervised independent work in literature, language or writing. Prerequisite: permission of department chair. May be repeated for credit.

ENG 613 Major Authors (3). A major literary figure (or two related figures) will be studied in depth. This course may be repeated once for credit.

ENG 614 Special Topics in English Studies (3). An intensive examination of issues in the study and/or teaching of English. May be repeated for credit.

ENG 615 Topics in Women's Literature (3). Topics in literature written by selected women writers. May be repeated once for credit.

ENG 616 Seminar in Critical Theory (3). A seminar focusing on important issues in critical theory.

ENG 617 Themes in World Literature (3). Study of selected themes in works of literature from the non-Western world.

ENG 618 Introduction to Linguistic Science (3). A study of the basic concepts, scope and methodology of the science of language in its historical and descriptive aspects. Not open to the student who has credit for ENG 310.

ENG 619 Gay and Lesbian Literature (3). Study of literary works by gay and lesbian authors, works about gay and lesbian experiences, and gay and lesbian literary traditions.

ENG 620 Life-Writing (3). Study of selected genres of life-writing, such as autobiography and biography. Content will vary according to nation, region, period, theme, or genre. All works in English or in translation to English. Students may repeat this course for credit providing that the course content is sufficiently different. Prerequisite or corequisite: ENG 600 or permission of instructor.

ENG 621 American Literature, 1607-1820 (3). An intensive study of selected works from 1607-1820 and their historical and critical contexts, with an emphasis on Colonial and Early U.S. Literature.

ENG 622 Writing for Health Professionals (3). Techniques and practices for writing in the health professions. The course will help students review/learn and practice the skills necessary to write successful documents in the health industry using APA style. Prerequisite: permission of instructor.

ENG 623 American Literature, 1820 to 1870 (3). An intensive study of selected works of the period and their historical and critical contexts, with an emphasis on American Romanticism.

ENG 624 Historical Principles in Composition Theory (3). An historical survey of rhetorical theories as they originate in the classical era, are reinterpreted by composition theory and pedagogy, and are applied to contemporary writing and writing instruction.

ENG 625 Professional Document Design (3). Advanced topics and projects in technical writing, document design, and usability, focusing on theoretical and direct application to business and industry. Field experience may be required.

ENG 626 Advanced Technical Writing (3). Advanced topics and projects in technical writing, focusing on direct application to business and industry. Course is taught online.

ENG 627 Rhetoric and Professional Writing (3). Study of the rhetorical tradition and theories, and an exploration of the influence of rhetoric in professional and technical writing environments.

ENG 628 Writing Proposals and Grants (3). Techniques and practices for writing proposals and grant proposals. The course will help students learn and practice the rhetorical and persuasive skills necessary to plan and create successful proposals.

ENG 629 Project Design and Usability (3). An overview of the principles, conventions, and technologies used to design and develop projects for business, industry, and government. The course will examine theories and methods of design, audience analysis, and usability testing for documents such as instructions, procedures, reports, and manuals. Course is taught online.

ENG 630 Issues in Professional and Technical Writing (3). Study of issues in professional technical writing, e.g. ethics, gender, career opportunities, research, and collaboration. Topics are the discretion of the instructor.

ENG 631 American Literature, 1870 to 1920 (3). An intensive study of selected works of the period and their historical and critical contexts, with an emphasis on American Realism and Naturalism.

ENG 633 American Literature since 1920 (3). An intensive study of selected works of the period and their historical and critical contexts, with an emphasis on Modernism and Postmodernism.

ENG 634 Language and Culture (3). A study of the relationship among language, society, and the individual's conception of reality. Prerequisite: three hours of linguistics. (Same as TSL 634.)

ENG 635 American Poetry (3). A study of American poetry from its beginnings to the present—or on a particular period within its history—with attention to historical and critical contexts.

ENG 636 The American Novel (3). A study of the American novel from its beginnings to the present—or on a particular period within its history—with attention to historical and critical contexts.

ENG 637 Topics in African-American Literature (3). A study of selected works of African-American literature and their historical and critical contexts.

ENG 638 Studies in Southern Literature (3). A survey of southern literature and its historical and critical contexts.

ENG 639 Study of the Short Story (3). An intensive study of the origins and development of the short story with special emphasis placed upon analysis of the form.

ENG 641 Old English Language and Literature (3). An intensive study of selected works from the Old English period (c. 449-1100) and their historical and critical contexts.

ENG 643 Middle English Language and Literature (3). An intensive study of selected works from the Middle English period (c. 1100-1500) and their historical and critical contexts.

ENG 644 Graduate Cooperative Education (3). May be repeated for a maximum of six credits. Graded pass/fail. Prerequisite: permission of chair.

ENG 645 Non-Dramatic English Renaissance Literature (3). An intensive study of selected works of the period and their historical and critical contexts.

ENG 646 Sixteenth-Century British Literature (3). A survey of non-dramatic British literature from 1500 to 1600, with attention to historical and critical contexts.

ENG 647 Shakespeare (3). An intensive study of selected Shakespearean works and their historical and critical contexts.

ENG 649 Seventeenth-Century British Literature (3). An intensive study of selected works of the period and their historical and critical contexts.

ENG 650 Modern Drama (3). A study of selected European and American plays, with attention to literary backgrounds and technical experimentation.

ENG 652 Restoration and Eighteenth-Century British Literature (3). An intensive study of selected works of the period and their historical and critical contexts.

ENG 653 Writing for the Web (3). Theory and practice in writing for online environments. Students will apply rhetorical strategies and document design principles to online writing exercises and learn basic HTML and CSS application.

ENG 654 Eighteenth-Century British Novel (3). An intensive study of selected novels of the period and their historical and critical contexts.

ENG 655 The British Romantic Movement (3). An intensive study of selected works of the period and their historical and critical contexts.

ENG 656 Nineteenth-Century British Novel (3). An intensive study of selected novels of the period and their historical and critical contexts.

ENG 657 Victorian Literature (3). An intensive study of selected works of the period and their historical and critical contexts.

ENG 659 Modern English Literature (3). An intensive study of selected works from 1900 to the present and their historical and critical contexts.

ENG 661 Fiction Tutorial (6). An advanced tutorial in fiction writing, in which the student works one-on-one with M.F.A. program faculty via U.S. mail and/or on-line communication to produce a body of original writing. The tutorial will include a directed reading relevant to the student's individual project. May be repeated for credit. Only one tutorial per semester. Prerequisite: admittance into the program.

ENG 662 Poetry Tutorial (6). An advanced tutorial in poetry, in which the student works one-on-one with M.F.A. program faculty via U.S. mail and/or on-line communication to produce a body of original poetry. The tutorial will include a directed reading relevant to the student's individual project. May be repeated for credit. Only one tutorial per semester. Prerequisite: admittance into the program.

ENG 663 Creative Non-Fiction Tutorial (6). An advanced tutorial in creative nonfiction writing, in which the student works one-on-one with M.F.A. program faculty via U.S. mail and/or on-line communication to produce a body of original writing. The tutorial will include a directed reading relevant to the student's individual project. May be repeated for credit. Only one tutorial per semester. Prerequisite: admittance into the program.

ENG 664 Field Study (3). Each student will serve as an intern for *New Madrid*, the national literary journal of the M.F.A. Program at Murray State University. Prerequisite: Students must have completed one semester of the M.F.A. program before enrolling in the Field Study.

ENG 665 Fiction Residency (3). The residency experience will comprise workshops, daily seminars, and readings by faculty members and visiting writers. This course may be repeated for credit, but only one Graduate Residency may be completed per semester. Prerequisite: admittance into the program.

ENG 666 Poetry Residency (3). The residency experience will comprise workshops, daily seminars, and readings by faculty members and visiting writers. This course may be repeated for credit, but only one Graduate Residency may be completed per semester. Prerequisite: admittance into the program.

ENG 667 Creative Non-Fiction Residency (3). The residency experience will comprise workshops, daily seminars, and readings by faculty members and visiting writers. This course may be repeated for credit, but only one Graduate Residency may be completed per semester. Prerequisite: admittance into the program.

ENG 668 Creative Thesis (6). An advanced tutorial in fiction, poetry, or creative nonfiction in which the student works one-on-one with M.F.A. Program faculty to revise a body of original writing produced in previous graduate tutorials. Prerequisites: Three sections of ENG 661, 662, and/or 663. (Student must have completed at least two sections in genre of thesis.)

ENG 669 Thesis Residency (1). Culminating 9-day residency comprising the thesis defense, the thesis review conference, a formal reading, and a teaching presentation. Students will also attend readings and lectures. Students will meet with faculty advisors to discuss final revision of the thesis. Prerequisite: ENG 668.

ENG 681 Special Topics in Rhetoric and Composition (3). An examination of contemporary and traditional issues and concerns in the study of rhetoric and composition. The course usually will focus upon an announced topic but will allow students to explore matters of individual concern. May be repeated for credit.

ENG 685 Teaching English at the College Level (3). A study of various theoretical approaches to teaching composition and literature; will also include practical applications.

ENG 698 Thesis Writing (3). Prerequisite: permission of Graduate Coordinator.

ENG 699 Thesis Writing (3). Prerequisite: permission of Graduate Coordinator.

ENG 704 Comparative English Education (3). Comparative study of English education. Travel may be required. Students must be able to travel nationally or internationally.

ENG 750 Purchase Area Literacy Academy (3). An intense workshop course emphasizing theories of literacy as well as principles and practices of effective reading and writing instruction at the secondary level. Designed for practicing classroom teachers. Prerequisite: Permission of instructor.

ENG 752 The Reading/Writing Connection in English (3). An examination and critical evaluation of the theories of the reading and writing connection as well as related methods of assessment and instruction. Theoretical frameworks are used to identify and respond to individual differences and potential difficulties in developing integrated reading and writing skills and strategies. Prerequisite: Permission of instructor.

ENG 773 Teaching Selected Authors (3). An intensive study of one or more selected authors and approaches to teaching those authors. May be repeated once for credit with a different emphasis. May include field experience. Prerequisite: permission of graduate coordinator.

ENG 791 Reflective Teaching and Roundtable (3). Supervised practicum and facilitated roundtable. Students will apply program principles and dispositions in the course of teaching a class in the broad field of English. Students may conduct the practicum in their own classrooms. Students will keep written and video logs of their experiences and will reflect upon their experiences, questions, and problems in concert with classmates to improve their teaching performance. Experiences may be aligned with appropriate components for Nation Board for Professional Teaching Standards Take One! program. Field experience required. Prerequisite: permission of graduate coordinator.

ENG 900 Methods of Analysis and Reflection in English Pedagogy (3). Foundational course in theories and methods of analysis and reflecting in teaching in the broad field of English. Special emphasis upon developing independent and collaborative analytical and reflective skills. Prerequisite: Admission to the Doctor of Arts program in English, Pedagogy, and Technology.

ENG 907 Theories of Curriculum Design and Application in English (3). Advanced survey of historic and current curriculum models and theories for the broad field of English. Emphasis on understanding current Kentucky English curriculum standards and implementing standards in the design of English courses and programs. Sight based projects may be required. Prerequisite: Admission to the Doctor of Arts program in English, Pedagogy, and Technology.

ENG 908 Assessment in English (3). Advanced survey of theories, varieties, purposes, implementations, and limitations of assessment of student achievement and program effectiveness in the broad field of English. Prerequisite: Admission to the Doctor of Arts program in English, Pedagogy, and Technology.

ENG 945 Teaching Diversity through Literature (3). Intensive study of diversity in literature and exploration of methods of teaching issues of diversity through literature. Prerequisite: Admission to the Doctor of Arts program in English, Pedagogy, and Technology.

ENG 955 Seminar in English Literacy (3). Advanced study of literacy theory and practice as it relates to adolescents and adults. Prerequisite: Admission to the Doctor of Arts program in English, Pedagogy, and Technology.

ENG 957 Seminar in Adult Literacy (3). Advanced study of theories, issues, and approaches in the field of adult literacy. Provides high school and adult educators with knowledge and tools to design and plan literacy instruction for adult learners. Topics may vary. Prerequisite: Admission to the Doctor of Arts program in English, Pedagogy, and Technology.

ENG 977 Instruction Technology for English (3). Advanced survey of instructional technology as applied to teaching in the broad field of English. Emphasis on current theories, models, and applications of instructional technology including electronic literacy. Site visits may be required. Prerequisite: Admission to the Doctor of Arts program in English, Pedagogy, and Technology.

ENG 978 Teaching English in Online Environments (3). Advanced course in principles and practices of designing English curricula for online delivery and teaching English in online environments. Field experience may be required. Prerequisite: Admission to the Doctor of Arts program in English, Pedagogy, and Technology.

ENG 981 Content Knowledge in English for Age Level (3). Mentored and collaborative course supporting preparation for the National Board Certificate Component 1: Content Knowledge. Successful completion of this course does not guarantee a passing score for the National Board Certificate Component 1: Content Knowledge assessment. May be repeated with permission of director. Prerequisites: Admission to the Doctor of Arts program in English, Pedagogy, and Technology; eligibility as a candidate for National Board Certification. May be repeated once for credit with permission of director.

ENG 982 Differentiation of Instruction in English (1). Mentored and collaborative course supporting preparation for Nation Board Certificate Component 2: Differentiation in Instruction. Successful completion of this course does not guarantee a passing score for the National Board Certificate Component

2: Differentiation in Instruction portfolio submission. May be repeated with permission of director. Field experience required. Prerequisites: Admission to the Doctor of Arts program in English, Pedagogy, and Technology; eligibility as a candidate for National Board Certification. May be repeated once for credit with permission of director.

ENG 983 Teaching Practice and Classroom Environments in English (1). Mentored and collaborative course supporting preparation for Nation Board Certificate Component 3: Teaching Practice and Classroom Environments. Successful completion of this course does not guarantee a passing score for the National Board Certificate Component 2: Teaching Practice and Classroom Environments portfolio submission. May be repeated with permission of director. Field experience required. Prerequisites: Admission to the Doctor of Arts program in English, Pedagogy, and Technology; eligibility as a candidate for National Board Certification. May be repeated once for credit with permission of director.

ENG 984 Effective and Reflecting English Teaching Practice (1). Mentored and collaborative course supporting preparation for the National Board Certification Component 4: Effective and Reflective Practitioner. Successful completion of this course does not guarantee a passing score for the National Board Certification Component 4: Effective and Reflective Practitioner portfolio submission. Field experience required. May be repeated with permission from director. Prerequisites: Admission to the Doctor of Arts program in English, Pedagogy, and Technology; eligibility as a candidate for National Board Certification. May be repeated once for credit with permission of director.

ENG 991 Reflecting Teaching Practicum (3). Supervised professional teaching practicum in which student will apply doctoral core principles and doctoral dispositions in the course of teaching a class in the broad field of English. Student may conduct the practicum in their own classroom, or they may teach a course for Murray State University relevant to the doctoral specialization. Student will keep written and video logs of their experiences and reflections. Prerequisite: Admission to the Doctor of Arts program in English, Pedagogy, and Technology.

ENG 992 Reflecting Teaching Roundtable (3). Facilitated roundtable for the sharing and analysis of experiences, questions, and problems among cohort members during their Reflective Teaching Practicum. Students will reflect upon their experiences, questions, and problems in concert with other cohort members and use collaborative skills to improve their teaching performance. Prerequisite: Admission to the Doctor of Arts program in English, Pedagogy, and Technology.

ENG 995 Teaching Writing through Travel (3). Exploration of methods to teach writing through travel. Topics vary by instructor but may generally include location and inspiration, writing as reflection upon travel experience, matching writing assignments to travel, funding, travel planning, and travel leader responsibilities. Students will apply methods to practical experience. Travel will be required. Student must be able to travel nationally or internationally. Prerequisite: Admission to the Doctor of Arts program in English, Pedagogy, and Technology.

ENG 996 Teaching Literature through Travel (3). Exploration of methods to enrich literary understanding through travel. Topics vary by instructor but may generally include literary landscapes, literary tourism, travel literature, archival experiences, matching literature to travel itineraries, funding, travel, planning, and travel leader responsibilities. Students will apply methods to practical experience. Travel will be required. Students must be able to travel nationally or internationally. Prerequisite: Admission to the Doctor of Arts program in English, Pedagogy, and Technology.

ENG 997 Applied Practice I (3). First half of a supervised capstone project in applying doctoral core principles, methods, and dispositions to solving curricular or pedagogical problems in teaching language, literature, or literacy in a real educational environment. Students will plan and design a project to be conducted in ENG 998. Prerequisites: Doctoral candidate status and permission of graduate program director.

ENG 998 Applied Practice II (3). Second half of a supervised capstone project in applying doctoral core principles, methods, and dispositions to solving curricular or pedagogical problems in teaching language, literature, or literacy

in a real educational environment. Students will execute a plan developed in ENG 997 and will produce a deliverable artifact or set of artifacts that describe, assess, and reflect upon the project. May be repeated once with director approval. Prerequisites: Doctoral candidate status and permission of graduate program director; ENG 997.

ENGINEERING TECHNOLOGY (ENT)

ENT 100T Transitions (1). Course is designed to assist students in their transition to Murray State University. Content includes orientation to the specific area or major(s) and minor(s) within the academic program; university procedures, policies, and resources; strategies for personal and academic success, and extracurricular opportunities. Only one transitions course will count toward graduation. Meetings with advisors, department personnel, service areas, and campus field trips comprise the main involvement. Availability of university resources is stressed with emphasis on personal needs. Graded pass/fail. (Fall)

ENT 111 Electric Systems (4). A study of dc and ac circuits including an introduction to three-phase systems and electric power. Lecture and laboratory provide learning experiences with basic test instruments, circuits, components and computer analysis. Three hours lecture and two hours lab. Prerequisite: MAT 130 or 150.

ENT 286 Introduction to Environmental Engineering Technology (3). An introduction to air and water pollution control, water and wastewater treatment, steam and groundwater hydrology, energy and resource demands. Included are discussion of ecological bases of water and air treatment systems, data and analyses, and statistical and computational techniques.

ENT 287 Statics for Technology (3). A course covering the branch of mechanics which deals with the effects of forces acting on a body at rest. The course deals with the graphical and analytical study of force systems in equilibrium. This entails an understanding of applied and frictional forces, centers of gravity, and vectors. Prerequisites: MAT 130, PHY 130 and 131.

ENT 293 Manufacturing Processes and Materials (3). A technical and economic analysis of the various methods of fabrication, processes utilized, and materials used in today's manufacturing industry. (Fall)

ENT 358 Mechanical and Electrical Systems (3). A study of mechanical and electrical systems in buildings including air conditioning, heating, plumbing, fire protection, electrical power and lighting. Prerequisites: PHY 132/133 (or PHY 255/256).

ENT 364 Introduction to Thermodynamics (3). Basic concepts of thermodynamics with an emphasis on the methods of solving a wide range of technical problems. Topics included are the first and second law, entropy, reversible and irreversible processes and ideal gases. Corequisite: MAT 308 or 330. (Spring)

ENT 382 Hydraulics (4). The principles of fluid statics, dynamics and kinematics are addressed. Included are studies relating to fundamental laws for fluid motion in the form of Euler's Bernoulli's, impulse-momentum, and work-energy relationships. Also studied are resistance to flow, flow measurement, pumping equipment, and an introduction to compressible flow. Prerequisite: MAT 130 or 150. (Spring)

ENT 388 International Experience in Engineering Technology (1-3). A study abroad experience with technical content focusing on engineering technology applications and applied engineering concepts in a country other than the United States. The experience would highlight selected historical and modern contributions to engineering technology for another country and culture. The one, two, or three credit hour course would be based on the length of study abroad experience. Graded pass/fail. Prerequisite: consent of instructor.

ENT 393 Engineering Economy (3). Economic evaluation and financial analysis of engineering systems alternatives to optimize the engineering decision process. Prerequisite: MAT 130 and junior standing. (Fall and Spring)

ENT 400 Energy Management (3). Development, distribution, use, and conservation of energy resources relative to societal applications are examined.

Heat transfer within manufacturing and energy production systems and options for increasing thermodynamic and economic efficiencies are studied. Prerequisite: MAT 230.

ENT 419 Senior Project I (3). A project-oriented study of actual manufacturing problems from area industry. The student will be given valuable industrial experience before leaving school. This course requires that students be able to apply all previously acquired knowledge in obtaining a viable solution to their projects.

ENT 420 Senior Project II (3). A project-oriented study of actual manufacturing problems from area industry. The student will be given valuable industrial experience before leaving school. This course requires the students be able to apply all previously acquired knowledge in obtaining a viable solution to their projects. This is the capstone course for the Electromechanical program and is the second part of the ENT 419 and ENT 420 series. Prerequisites: ENT 419 and senior standing.

ENT 458 Applying the National Electric Code (3). A study and application of major parts of the National Electric Code including overcurrent protection, branch and feeder circuit calculations, grounding, motor control circuits, transformers and services. Studies will focus on applications to individual and multifamily dwelling units as well as industrial and commercial buildings. Prerequisite: TSM 110. (Spring)

ENT 491 Industrial Operations (3). Quantitative analysis for planning, organizing and controlling a production/operations system. Prerequisites: CIS 243 and ENT 393. (Fall)

ENT 499 FE Exam Review (1). A review course for the Fundamentals of Engineering registration examination. The course is intended for seniors majoring in engineering technology.

EXPERIENCE-RICH ACTIVITY

(ERA)

ERA 287 Experience-Rich Activity (0). Course is designed to assist students with reflection on experience-rich activities embedded in other courses or extracurricular activities. Students will be required to submit written responses in reaction to the experience-rich activities. Repeatable. Prerequisite: Concurrent enrollment in an identified ERA course at the 100- or 200-level.

ERA 487 Experience-Rich Activity (0). Course is designed to assist students with reflection on experience-rich activities embedded in other courses or extracurricular activities. Students will be required to submit written responses in reaction to the experience-rich activities. Repeatable. Prerequisite: concurrent enrollment in an identified ERA course at the upper level.

ENHANCING STUDENT SUCCESS

(ESS)

ESS 120 College Study Skills (1). Designed for college students who desire instruction in improving study skills. Emphasis is placed on time management, note-taking skills, test-taking skills, and content area study plans. Instructor reserve the right to limit upper-class enrollment. To be taken with or following REA 096 when the reading ACT score is below 21. Prerequisite: Reading ACT of 16 or below or KYOTE Reading score of 19 or below.

ESS 121 Advanced Reading and Study Skills Improvement (1). Designed for all college students who desire individualized help in improving reading and study skills. Emphasis is placed on course-specific comprehension and study skills. To be taken only in conjunction with a specific University Studies requirement.

ESS 130 College Success Strategies (3). This course explores strategies for academic success and personal management leading to improved academic performance. The course focuses on areas in which students need assistance, awareness, and extra support. Topics discussed include college transitions; characteristics of successful college students; strategic learning; and major and career exploration. ESS 130 is a first year experience course that is required of all students admitted into the Pathways to Success (P2S) Program. Prerequisite: admission into the Pathways to Success Program.

EXERCISE SCIENCE**(EXS)**

EXS 100T Transitions (1). Course is designed to assist students in their transition to Murray State University. Content includes orientation to the specific area or major(s) and minor(s) within the academic program; university procedures, policies, and resources; strategies for personal and academic success, and extracurricular opportunities. Only one transitions course will count toward graduation. Graded pass/fail.

EXS 101 Concepts and Careers in Exercise Science and Athletic Training (3). An overview of health-related career options related to the fields of exercise science and athletic training will be discussed. The course will also explore related anatomy, physiology, and basic concepts in exercise science that will be expanded throughout the Exercise Science and Athletic Training curricula.

EXS 110 Fundamentals of Fitness (1). Course designed to provide students with basic skills in activities like weight training, aerobics, and other lifetime activities. Topics will vary according to needs of students and expertise of faculty. Some travel to various facilities may be required.

EXS 250 Anatomical Concepts in Wellness (3). A course designed to familiarize the student with basic anatomical and physiological principles of the human body. This course serves as a foundation for additional exercise science courses. Prerequisite: BIO 101 or equivalent.

EXS 270 Clinical Experience: Observation (1). Course designed to allow students interested in pursuing a career in athletic training to observe in the clinical athletic training sites. Students are required to observe 30 hours during the semester and complete the assigned modules. This course is recommended but not required for admission into the Athletic Training Program. This course is graded pass/fail.

EXS 271 Clinical Experience: Introduction (2). Course designed to introduce the basic concepts of athletic training and allow time for practicing the basic clinical competencies required for athletic training certification. The student will be required to attend clinical experience as assigned by the clinical coordinator. This course is a prerequisite to further courses within the curriculum. Prerequisite: Admittance to the Athletic Training Program.

EXS 275 Instruction in Group Fitness (2). Course designed to develop knowledge and skills required to conduct and/or supervise exercise in group settings. Students will become familiar with a variety of group fitness formats intended to enhance cardiorespiratory fitness, muscle strength and endurance, and musculoskeletal flexibility. Students develop the ability to select appropriate exercises, identify improper form/technique, recommend/demonstrate appropriate exercise progression, and modify exercises based on skill and/or to minimize injury. Field trips may be required. Prerequisite: EXS 101 or instructor permission.

EXS 295 Acute Care of the Physically Active (2). A course designed for exercise and allied health science students working with physically active persons to respond to emergency situations. Students will learn to provide first aid and perform cardiopulmonary resuscitation (CPR) at the professional rescuer level. American Red Cross CPR for the Professional Rescuer, Responding to Emergencies First Aid, and other various certifications may be earned.

EXS 301 Care and Prevention of Injuries (3). Course designed to discuss the most recent and relevant information on the prevention and treatment of injuries and conditions found in the physically active population. Prerequisites: BIO 227 and 228 with a minimum grade of C.

EXS 304 Evidence-Based Practice in Musculoskeletal Evaluation (2). Course designed to prepare students to utilize evidence-based practice in the performance of general musculoskeletal evaluation techniques. This course is required for those pursuing certification in athletic training and students with an interest in pursuing the pre-health professional track. Field trips may be required. Pre- or corequisite: EXS 301.

EXS 305 Bracing, Splinting and Taping (1). A lab course designed for athletic trainers and others working with physically active persons. Students will learn how to properly fit braces, manufacture splints, and use prophylactic taping techniques on patients with musculoskeletal injuries.

EXS 320 Evaluation of Non-Orthopedic Conditions (3). Course designed to prepare the student to use the proper terminology when communicating to other healthcare professionals, locate anatomical landmarks, and perform general evaluation techniques employed by health care workers. This course specifically covers evaluation and proper management of non-orthopedic conditions, including: thoracic and abdominal injuries, general medical conditions, psychosocial conditions, and dermatological conditions. Prerequisites: EXS 301. A cumulative 2.50 GPA and advisor approval is required prior to enrollment in this course. Additional criteria apply for the Pre-Health Professional track.

EXS 333 Theories and Techniques in Strength and Conditioning (3). Designed to acquaint the students with comprehensive information on scientific principles, concepts, and theories of strength training and conditioning as well as the practical applications to sports medicine, health promotion, and wellness. The course also prepares the student for the Certified Strength and Conditioning Specialist examination. Prerequisites: BIO 227 and 228 with a minimum grade of C. Having completed EXS 350 and 370 is preferred.

EXS 350 Exercise Physiology (3). Students will become acquainted with general concepts in exercise physiology. Some topics to be included are cardiovascular function, neural control, musculoskeletal responses and respiratory function. Prerequisites: BIO 229 and 230 with a minimum grade of C or permission of instructor. (Same as BIO 450).

EXS 351 Exercise Physiology Laboratory (1). Course designed as a supplement to EXS 350 to provide additional opportunity to apply knowledge of course material. Field trips may be required. Prerequisites: BIO 229 and 230 with a minimum grade of C or permission of instructor; Corequisite: EXS 350 or BIO 450.

EXS 353 Exercise Prescription (3). Course will present methods for graded exercise testing, basic EKG recognition, flexibility and strength assessment, body composition, fitness evaluation, exercise prescription and the development of competencies needed to certify in the American College of Sport Medicine Health/Fitness Instructor or Exercise Specialist. Prerequisites: EXS 350 and 370.

EXS 354 Exercise Prescription Laboratory (1). Course designed to incorporate laboratory experiences to supplement the lecture material of EXS 353. Special emphasis will be placed on clinical physiology, testing protocols, the evaluation of results, and designing individual exercise prescriptions based upon results. Prerequisites: EXS 350, 351 and EXS 370. Pre- or corequisite: EXS 353.

EXS 356 Health Promotion Programming (3). Provides practical application of the skills required to plan, implement, and assess a health promotion program for populations varied in age and setting. Students will complete one cycle of the process, applying theories, skills, and strategies discussed in class to provide a health promotion event within the local community. Prerequisite: EXS 101 or HEA 110, HEA 191, HEA 200, or permission of instructor. (Same as HEA 356.)

EXS 370 Kinesiology (3). A study of basic kinesiology with respect to human performance in physical activity and rehabilitation. Prerequisites: BIO 227 and 228 with a minimum grade of C.

EXS 371 Clinical Experience: Application (3). Course designed to allow the athletic training student to apply the information learned in the didactic setting and practice the clinical competencies required for athletic training certification. The student will be required to attend clinical experience as assigned by the clinical coordinator. May be repeated for a maximum of nine hours, but no more than 12 hours from EXS 371 and 372 combined. Prerequisite: EXS 271 and admittance to the Athletic Training Program.

EXS 372 Clinical Experience: Integration (3). Course designed to allow the athletic training student to integrate the information learned in the didactic setting and practice the clinical competencies required for athletic training certification. The student will be required to attend clinical experience as assigned by the clinical coordinator. May be repeated for a maximum of nine hours, but no more than 12 hours from EXS 371 and 372 combined. Prerequisites: EXS 271 and admittance to the Athletic Training Program.

EXS 375 Biomechanics in Sport and Exercise (3). A study of basic biomechanics with respect to human performance including linear and angular kinematics, linear and angular kinetics, as well as, qualitative analysis of human movement. Prerequisite: MAT 140 or higher.

EXS 380 Sport Medicine Pharmacology (2). Course designed to familiarize students in allied health sciences with major therapeutic pharmacological substances and their effects on physically active individuals. This course will assist students who are preparing for certification in athletic training or certification through the American College of Sport Medicine. In addition, it will provide a basic foundation for pre-professional allied health students required to eventually complete a pharmacology course in their respective graduate programs. Prerequisites: BIO 229, 230 and a 2.5 cumulative GPA.

EXS 385 Sport and Exercise Psychology (3). Course is an introduction to the fields of sport and exercise psychology and sport sociology. The students will learn basic principles and applications of sport and exercise psychology, as well as the psychological factors which influence and impact sport performance, exercise adherence, and rehabilitation compliance. Prerequisite: PSY 180.

EXS 390 Therapeutic Modalities (3). Course designed to provide a comprehensive understanding of therapeutic modalities in the treatment of various illnesses, musculoskeletal conditions and injuries. The course content will teach the student to plan, implement, document, and evaluate therapeutic modalities within the rehabilitation process. Prerequisite: EXS 301 and a cumulative 2.50 GPA. Additional criteria apply for Pre-Health Professional track.

EXS 400 Research Design and Statistics for Allied Health (3). This course is designed to integrate and utilize statistical analysis techniques, including descriptive and inferential statistics. Students will understand and be able to develop research designs applicable to allied health professions. Prerequisite: STA 135.

EXS 402 Evaluation of the Lower Extremity (3). Course designed to prepare the student to perform general orthopedic evaluation techniques. The course specifically covers evaluation techniques on the foot, ankle, lower leg, knee, upper leg, hip, pelvic girdle, low back, gait, and postural assessment. Prerequisites: EXS 304 and a cumulative 2.50 GPA. Additional criteria apply for Pre-Health Professional track.

EXS 403 Evaluation of the Upper Extremity (3). Course designed to prepare the student to perform general orthopedic evaluation techniques. The course specifically covers evaluation techniques on the head, neck, shoulder girdle, upper arm, elbow, forearm, wrist, hand, and thorax. Prerequisites: EXS 304 and a cumulative 2.50 GPA. Additional criteria apply for Pre-Health Professional track.

EXS 415 Exercise Concepts in Special Populations (3). Course designed to provide students with information relevant to the needs of special populations in the field of exercise science. Topics of discovery will include exercise, health, and prescription for at-risk populations. Prerequisite: EXS 353 and 354, 2.5 cumulative GPA.

EXS 420 Rehabilitation Techniques (2). Course designed to provide a comprehensive understanding of rehabilitation techniques in the treatment of various illnesses, musculoskeletal conditions, and injuries. Course content will teach the student to plan, implement, document, and evaluate therapeutic exercise programs. Prerequisites: EXS 301 and a cumulative 2.50 GPA. Additional criteria apply for Pre-Health Professional track.

EXS 421 Rehabilitation Techniques Lab (1). Course designed as a supplement to EXS 420 to provide additional opportunity to apply knowledge of course material. Prerequisites: EXS 301, 420, and a cumulative 2.50 GPA. Additional criteria apply for Pre-Health Professional track.

EXS 433 Advanced Practices in Strength and Conditioning (3). Designed to advance the exercise science major with comprehensive information on research-based scientific principles, concepts, and theories of strength training and conditioning, as well as, the professional applications to elite and collegiate athletics. Prerequisites: EXS 333. EXS 353 preferred.

EXS 435 Neuroanatomy and Physiology for Applied Health Sciences (3). A study of the organization of tissues and gross structural elements of the human nervous system and current knowledge of the physiology of neural transmission. The course will cover the neural substrates for cognition, communication, and movement and will explore clinically relevant pathology related to function. Prerequisites: cumulative GPA of 2.5 and admission to the Communications Disorders program. For all others, advisor approval. (Same as CDI 465.)

EXS 445 Senior Seminar I (1). Course serves as a preparatory course for students attempting a certification exam through the American College of Sports Medicine or other related professional organization. Satisfactory completion of this course is dependent on obtaining at least a 70% on a comprehensive major field test. Prerequisite: students must be enrolled in final semester of EXS core coursework.

EXS 446 Senior Seminar II (1). This course serves as a preparatory course for students wishing to take the Certified Strength and Conditioning Specialist certification exam through the National Strength and Conditioning Association. Prerequisites: senior status and EXS 333.

EXS 447 Senior Seminar in Athletic Training (1). This course serves as a preparatory course for students planning to take the Board of Certification for the Athletic Trainer (BOC) Exam and enter into the profession of athletic training. This course is graded pass/fail. May be repeated for a maximum of two hours. Prerequisite: EXS 471 and admittance to the Athletic Training Program.

EXS 460 Practicum (1-3). Students will develop valuable instructional, supervisory and leadership skills related to the hands-on performance of health screenings, exercise testing, and data collection under the supervision of faculty. Students will prepare laboratory materials for exercise science laboratory courses, assess student learning, and/or assist with research projects. This experience provides additional skills for students pursuing health science graduate program degrees. Prerequisites: senior status, EXS 353 and 354, and a cumulative GPA of 3.0.

EXS 465 Advanced Exercise Physiology (3). A continuation of advanced concepts presented in EXS 350. Some exercise physiology topics to be included are metabolic demands, nutritional needs, performance enhancement issues, gender differences, endocrine, aging, and immune system changes. Laboratory activities will be integrated where appropriate. Outside activities related to specific topics will be included. A research paper will be required. Prerequisites: EXS 350 and a cumulative GPA of 2.5.

EXS 469 Professional Experience I (3). Placement in wellness centers, industry, hospitals physicians' offices, and rehabilitation clinics for practical experience prior to graduation. This course is to be taken after the majority of other coursework has been completed. Prerequisites: 2.5 cumulative GPA, CPR certification, and permission of instructor. Additional criteria apply for students in the Pre-Health Professional track.

EXS 470 Professional Experience II (3). Placement in wellness centers, industry, hospitals, physicians' offices, and rehabilitation clinics for practical experience prior to graduation. This course is to be taken the last semester before graduation or the following summer. May be taken concurrently with EXS 469. Prerequisites: 2.5 cumulative GPA, CPR certification, and permission of instructor. Additional criteria apply for students in the Pre-Health Professional track.

EXS 471 Administration in Exercise Science (2). Course designed to familiarize the student with administrative goals and skills associated with the daily operation of various employment settings. This course discusses legal issues, information technology, record keeping, programming, and personnel management. Prerequisites: A cumulative 2.5 GPA and completion of at least three EXS core courses are required prior to enrollment in this course.

EXS 473 Clinical Experience: Autonomy (3). A course designed to give autonomy to a senior athletic training student. This course allows time for practicing the clinical competencies required for athletic training certification. The skills performed prepare the student as an entry-level certified athletic trainer. The student will be required to attend clinical experience as assigned by the clinical coordinator. Graded pass/fail. Prerequisites: 12 semester hours of EXS 371 and/or EXS 372, admittance to the Athletic Training Program, and consent of both the program director and the on-site athletic trainer.

EXS 480 Special Problems in Exercise Science (1-3). Prerequisite: prior permission of instructor.

FAMILY AND CONSUMER STUDIES (FCS)

FCS 110 Introduction to Early Childhood Education (3). Course will serve as a practical and basic introduction to the early childhood profession. It satisfies the requirements for the Kentucky Commonwealth Child Care Credential and serves as a foundation for initial skills and knowledge for early childhood professionals. Field experiences are required.

FCS 111 The Family and Its Environment (3). An introduction to the changing structure and dynamics of families in our diverse society. Identification of changes and choices available to family members and critical issues facing families. Some topics that may be included are: changing gender role expectations, family policy, communication in families, family violence, divorce and effects on family, aging families, parent-child relationships, cultural and racial diversity, remarriage and blended families, and myths and facts about families. Field experience required.

FCS 241 Family Economics (3). The class is designed to introduce the student to the principles of money management. Class members will learn the basic buying skills needed when shopping for transportation, clothing, food, housing, recreation and insurance. In addition, the fundamental concepts of credit, borrowing, taxes, investments and estate planning will be studied.

FCS 250 Early Childhood Development (3). In-depth study of early childhood, infancy through age eight, including concepts, principles, and development theories. Students will observe, record and analyze the social, emotional, physical, and cognitive development of the typical and atypical child at multiple developmental stages in the social and cultural context. Field experience is required.

FCS 310 Program Planning for Preschool Children (3). Course introduces the knowledge base and practical strategies used to teach preschool children in effective and appropriate ways. This course focuses specifically on developing the skills to design and implement effective instruction based on developmentally appropriate practices and culturally responsive teaching methods, on integrating curriculum content areas (e.g., literacy, mathematics, science, music, movement, and art), and on establishing partnerships with parents and families. Furthermore, this course provides opportunities to practice and refine these skills and techniques in a preschool classroom. This course consists of weekly lecture and weekly field experiences.

FCS 311 Child Guidance (3). Course is designed to familiarize student with developmentally appropriate guidance strategies for preschool children in inclusive settings. Weekly lecture and field experiences are required.

FCS 330 Housing and Family (3). Study of the impact of housing on families and individuals in communities; focus on housing norms, policies, economic factors and human needs as guides for decisions related to shelter and residential communities. Application of design principles, better living design/universal design concepts, material selection, building codes/regulations, cost and ecological considerations will guide development of scaled drawing skills to address the needs of families across the lifespan. Field experience is required.

FCS 342 Consumer Decision Making (3). A decision making model is used to study consumer decision making throughout the life cycle. Goal setting, consumer redress, money management, financial planning and buymanship are explored. Emphasis is placed on consumer responsibility in relation to environmental and energy concerns. Global interdependence issues are also included.

FCS 359 (462) Methods of Teaching Family and Consumer Sciences (3). Development of planning and organizational teaching skills, use of resource materials and simulated teaching experiences. Principles of learning, curriculum planning, styles of management. Field experiences required.

FCS 413 Marriage and Family Relationships (3). Exploration of personal values and personal development as they relate to traditional and nontraditional marriage, and a study of family life styles in contemporary society.

FCS 442 Family Resource Management (3). A study of the theory underlying family resource management practices. The course provides an opportunity for students to apply their skills in managing time, energy, money and human capital in individual and family settings. Field experience is required.

FCS 469 (361) Curriculum in Family and Consumer Sciences (3). Study of scope of family and consumer sciences education including foundations, legislation, current curriculum perspectives, programs of study and related program formats, including experiences with Family, Career, and Community Leaders of America (FCCLA). Focus on curriculum development and problem-based learning opportunities. Field experiences required. Prerequisites: FCS 359 and admission to Teacher Education.

FCS 601 Problems in Family and Consumer Studies (1-3). This course is designed to permit special study in selected areas of family and consumer studies. May be repeated for a maximum of six credits.

FCS 611 Readings in Family and Consumer Studies Topics (1-3). Directed readings of individualized professional family and consumer studies topics. Critique of readings and oral presentation.

FCS 625 Advanced Child Development Programs (3). In-depth study of theories of child development and an examination of current problems and critical issues.

FCS 627 Parenting (3). Principles and theoretical perspectives on the act of parenting. Emphasis on parent-child relationships, establishing and maintaining a nurturing relationship between parents and children, and parent-child communication. Current issues affecting parenting are also studied.

FINANCE (FIN)

FIN 100T Transitions (1). Course is designed to assist students in their transition to Murray State University. Content includes orientation to the specific area or major(s) and minor(s) within the academic program; university procedures, policies, and resources; strategies for personal and academic success, and extracurricular opportunities. Only one transitions course will count toward graduation. Graded pass/fail.

FIN 230 Personal Financial Planning (3). The course prepares the student to manage his or her own personal financial affairs in a competent manner as well as providing a foundation for later study and work in the financial planning field. Designed to meet the needs of both business and non-business majors. Cannot receive credit for both FIN 230 and ECO 190.

FIN 330 Principles of Finance (3). A comprehensive study of the field of finance, covering institutions, financial markets, investments, financial theory and techniques relating to financial decisions in business. Prerequisites: ACC 200 and junior standing or conditional or full admission to upper-level business courses.

FIN 331 Principles of Insurance (3). Designed to give the student a basic understanding of the principles and practices of insurance. Topics included are insurance in general, life insurance, disability insurance, fire insurance, transportation insurance, legal liability and property damage insurance, insurance against dishonesty, and failure of others. Prerequisite: junior standing.

FIN 332 Financial Management (3). A study of the financial management of business firms, with emphasis on the development of analytical and decision-making techniques. Major subject areas include financial planning; capital budgeting; evaluation of alternative sources of short-term, intermediate and long-term funds; and acquisitions. Prerequisites: junior standing and FIN 330.

FIN 333 Principles of Investment (3). A study of marketable securities that can be purchased and sold by investors on a daily basis. Such investments as bonds, common stocks, options and futures are included. Prerequisites: junior standing and FIN 330.

FIN 334 Banking and Financial Institutions (3). Issues concerning commercial banks and other financial institutions are studied. Topics include the history of banks, bank financial statements, regulatory agencies, laws and regulations, credit analysis, investment policies, equity reserves, mortgage markets, and capital accounts. Prerequisites: junior standing and FIN 330.

FIN 336 Employee Benefits and Retirement (3). Course introduces and explores the concepts involved in developing retirement and employee benefit plans from both the employer and employee perspectives. The legislation that impacts plan design and the tax advantages and disadvantages of various qualified and non-qualified plans including IRAs and pension and profit sharing plans will be discussed. Also addressed are federal Social Security, Medicare, and business applications. Prerequisites: FIN 330 and junior standing.

FIN 338 Estate Planning (3). This course introduces and explores the concepts involved in estate planning. It examines estate planning from a professional financial planning viewpoint. The legislation that impacts plan design and the tax advantages and disadvantages of various estate planning options will be discussed. Prerequisites: FIN 330 and junior standing.

FIN 344 Principles of Lending and Financial Statements (3). A comprehensive study of the field of commercial and consumer lending to include financial statement analysis, credit analysis, loan products, loan structuring, loan documents, and techniques relating to the bank lending function. Prerequisite: FIN 334.

FIN 350 Introduction to Counter Threat Financing Methodologies (3). Course will introduce students to the use of financial intelligence and investigative methods to target, disrupt, and dismantle organizations involved in terrorism, organized crime, and the use of money as a weapon. The course will explore domestic and international financial policy as it relates to the United States intelligence community and federal investigative agencies. The course will examine the partnership between national governments and the private sector through organizations like the United Nations, the Financial Action Task Force, the World Bank, etc. Students completing this course will have a solid and basic understanding of current initiatives within the U.S. and internationally to combat the threat of illicit financing methods. Prerequisite: FIN 330.

FIN 354 Bank Compliance Issues (3). A comprehensive study of the field of deposit and lending compliance to include statutory and law analysis, the difference between regulation and guidance, and an overview of the different regulators examining institutions. Prerequisite: FIN 334.

FIN 420 Behavioral Finance (3). A study of the foundations of behavioral aspects of economics and finance with a focus on how individual behavior can effect decision making processes and influence financial markets. Prerequisite: FIN 330.

FIN 421 Financial Models (3). Applications of financial models on the micro-computer, leading to the solution of financial problems. Emphasis is placed on building and using models developed (1) in electronic worksheets, and (2) with database software. Prerequisite: FIN 330.

FIN 461 International Financial Management (3). A study of the contemporary corporation in a multinational setting. An in-depth analysis of risks and opportunities available for the global corporation. Prerequisite: FIN 330.

FIN 480 Senior Seminar in Finance (3). This is the finance capstone course that also serves as a designated communications course. Finance 480 uses case studies to give students an opportunity to incorporate various financial concepts and techniques in financial decision making. Students are required to work in teams to prepare and present case reports to the class. Prerequisites: FIN 332 and senior standing.

FIN 488 Cooperative Education/Internship (1-3). A meaningful, planned, and evaluated work experience related to the career and educational objectives of the student for which he/she may receive academic credit and possible financial remuneration. May be repeated for a maximum of six hours from any 488/489 courses. Graded pass/fail. Prerequisite: permission of chair.

FIN 489 Cooperative Education/Internship (1-3). A meaningful, planned, and evaluated work experience related to the career and educational objectives of the student for which he/she may receive academic credit and possible financial remuneration. May be repeated for a maximum of six hours from any 488/489 courses. Prerequisite: permission of chair.

FIN 505 Internship in Finance (1-3). Open to junior and senior finance majors. These students, upon approval of the finance faculty, are placed with cooperating firms to receive on-the-job training in finance. Work experience supervised by faculty; written reports are required. Graded pass/fail. Prerequisite: permission of department chair.

FIN 520 Risk Management (3). A study of appropriate risk management techniques for the contemporary financial and nonfinancial corporation. Although a wide variety of techniques are covered, the focus is upon use of hedging strategies to reduce risk. Prerequisite: FIN 330.

FIN 522 Portfolio Management and Theory (3). An introduction to portfolio management. Emphasis on modern techniques of security selection which are directed toward risk diversification and portfolio balance. Students manage a real portfolio by basing buy/sell decisions on current market data. Computer programs are used in the portfolio selection and evaluation process. Prerequisite: FIN 330.

FIN 537 Commercial Banking (3). An applied approach to studying the issues concerning today's banks from a management perspective. Topics and activities include a bank simulation, credit analysis case studies, safety and soundness issues, competition in the banking industry, regulatory agencies, laws and regulations, and current topics in the banking industry. Prerequisite: FIN 334.

FIN 595 Special Problems (1-3). Research by students in fields of special interest. Includes project research studies and intensive reading programs, accompanied by conferences with professors in fields involved. Prerequisite: permission of instructor.

FIN 602 Corporate Finance (3). Practical application of the finance function in a company with specific emphasis on maximizing the value of the firm for its shareholders. Financial decision-making integrated with the theory of capital markets. Particular attention is given to the areas of investment, capital structure, short-term financing, and working capital management. Prerequisite: FIN 330 with a minimum grade of C.

FIN 610 Economic Development Finance (3). Course will introduce students to the financial concepts, tools, programs, and practices needed by economic development professionals. Prerequisite: Admission to the M.S. Economic Development program.

FIN 612 Capital Investment Analysis (3). An in-depth examination of long-term investment and financing decisions. The material to be covered will include financial analysis and forecasting, the theories and techniques employed in capital investment analyses and capital structure decisions, and the sources and uses of long-term financing. Prerequisite: FIN 330 or equivalent.

FIN 620 Risk Management (3). A study of appropriate risk management techniques for the contemporary financial and nonfinancial corporation. Although a wide variety of techniques are covered, the focus is upon use of hedging strategies to reduce risk. Prerequisite: FIN 330.

FIN 621 Financial Models (3). Applications of financial models on the micro-computer, leading to the solution of financial problems. Emphasis is placed on (1) building and using models developed in electronic worksheets, and (2) construction of financial systems using database software. Prerequisite: FIN 330 or equivalent.

FIN 622 Portfolio Management and Theory (3). An introduction to portfolio management. Emphasis on modern techniques of security selection which are directed toward risk diversification and portfolio balance. Students manage a real portfolio by basing buy/sell decisions on current market data. Computer programs are used in the portfolio selection and evaluation process. Prerequisite: FIN 330.

FIN 632 Investment Management (3). Study and analysis of financial investments. Emphasis is upon analysis of common stock and bonds with lesser emphasis on derivative securities as potential investments. Students manage a real portfolio by basing buy/sell decisions on current market data. Not available to students who have taken FIN 533. Prerequisite: FIN 330 with a minimum grade of C.

FIN 633 Analytical Methods in Finance (3). Practical analysis of financial problems in case-oriented format. Financial models will be used to place the data in analytical form to aid the analysis. Emphasis will be placed upon developing logical approaches and methods for problem-solving. Prerequisite: FIN 330 with a minimum grade of C, FIN 602, or permission of instructor.

FIN 634 Financial Markets and Institutions (3). A global perspective of the operation and functions of financial institutions and markets. Major subject areas include various financial markets, financial institutions, regulations, ethics, and future trends. Prerequisite: FIN 602 or equivalent.

FIN 637 Commercial Banking (3). Problems of commercial banking from the point of view of bank management are studied. Topics covered are asset reserves, credit analysis, investment policies, equity reserves and capital account. Prerequisite: FIN 330.

FIN 650 Derivative Securities (3). A study in the understanding of current derivative securities and the markets in which they are traded; the design and testing of innovative derivative securities. Prerequisites: FIN 330 or equivalent and MAT 220 or equivalent.

FIN 661 International Financial Management (3). Applies theories of managerial and international finance to the problems of international financial management. Topics include investment analysis, financing decisions, identifying, measuring and managing foreign exchange and interest rate risk, financing of trade, and financial control of international operations. Prerequisite: FIN 330.

FIN 695 Special Problems (1-3). Research by graduate students in fields of special interests. Includes project research studies and intensive reading programs, accompanied by conferences with professors in field involved. Prerequisites: 12 hours of graduate credit in business and permission of instructor.

FIN 698 Thesis (3).

FIN 699 Thesis (3).

FRENCH (FRE)

FRE 101 Fundamental Communication in French (3). Basic French in which students learn to describe themselves to someone from another culture; to express preferences, abilities, needs, and obligations; to ask for information; to describe people, places, and things in their world; and to report their typical activities to a French speaker.

FRE 102 Social Interactions in French (3). Expanding upon skills built in FRE 101, students move toward increasing linguistic and social awareness of French-speaking cultures. Students learn to use past tenses to talk about typical activities or to tell a story; to expand their basic vocabulary and ability to communicate in simple French; and to demonstrate basic understanding of aspects of French or Francophone culture that may differ from their own. Prerequisite: FRE 101 or equivalent.

FRE 105 Introduction to French Culture (3). A survey of contemporary French character and society. Using a historical perspective, attitudes, achievements, institutions and life styles of the French people are explored. Designed to satisfy the University Studies humanities requirement. Taught in English.

FRE 110 Basic Conversational French (3). A conversation-oriented introduction to pronunciation, essential structures, and vocabulary. Designed to enable students to communicate in simple French in everyday situations in French-speaking countries. Pronunciation, listening comprehension, speaking and simple reading and writing of material related to conversational situations are included. No continuation offered. Not applicable toward French major or minor. Only taught abroad.

FRE 201 Intercultural Communications in French (3). Students strengthen their basic language skills while continuing to broaden cultural awareness of French-speaking societies. Students relate experiences, produce brief reports on course topics, and express opinions concerning a variety of themes. Students learn to communicate on a more complex level in French. Taught in French. Prerequisite: FRE 102 or equivalent.

FRE 202 Practical Applications in French (3). Students advance their speaking, writing, reading, and listening language skills in this interactive course focused on the practical application of the language in contemporary French-speaking countries. Activities include role-play, projects, reports, and discussions of texts. Taught in French. Prerequisite: FRE 201 or equivalent.

FRE 203 French for the Working World (3). A continuation from FRE 201, this course is a practical application of French for the working world together with grammar review and with emphasis on communication skills on the formal level. Includes further practice in listening, conversation, reading and writing. Students may be required to attend and write a report on two approved cultural events or complete alternative cultural assignments. Taught in French. Students may receive credit for FRE 202 or 203, but not both. FRE 203 counts toward the minor and the major. Prerequisite: French 201 or equivalent.

FRE 210 Intermediate French Conversation (3). A course designed to develop the vocabulary and oral communication skills of the student with a background of one year of college French or equivalent. Emphasis will be placed on bringing the student into contact with French native speakers and various aspects of their culture. May count as an elective for French major or minor. Only taught abroad. Prerequisite: FRE 102 or equivalent.

FRE 301 Social Issues in French Texts (3). An exploration of social issues through the reading, discussion, and written analysis of authentic texts in French-speaking cultures in Europe, Canada, Africa, and the Caribbean. While examining these issues, the student will also learn and practice the rudiments of literary interpretation. Prerequisite: FRE 202 or permission of instructor.

FRE 302 Conversation and Composition (3). Additional practice in speaking and writing based on a variety of topics and materials. Prerequisite: FRE 301 or consent of the instructor.

FRE 305 Advanced Studies in French Culture (3). A survey of contemporary French character and society using a historical and socio-cultural perspective. Attitudes, achievements, institutions and lifestyles of the French people are explored. The course will introduce cross-cultural theory and address topics such as geography, history, art, architecture, education, government, economics, social systems and socio-political issues of France. Students will be able to explore specific topics according to their interests. Taught in English. Prerequisite: FRE 202 or permission of instructor.

FRE 306 Introduction to French Literature (3). An introduction to literary analysis, designed to develop skills in reading, oral expression and expository writing. A variety of genres will be presented: short story, poetry, the novel, and theater. Prerequisite: FRE 301 or 331 or permission of instructor.

FRE 310 Conversation and Composition Abroad (3). Intensive practice in speaking and writing based on the student's interaction with native speakers and the international setting. Only taught abroad. Counts toward the major and minor approved electives. Prerequisite: Two years of college French or equivalent.

FRE 314 Advanced French Culture Abroad (3). French culture taught in French and only taught in study-abroad programs in countries where French is a vernacular language. The course may include carefully planned excursions to a number of specific cultural sites in conjunction with reading about the sites and the intellectual history and milieu behind their conception. The student will explore the history, art, architecture, literature, politics, and music of the host country. Prerequisite: FRE 202 or equivalent, or consent of instructor.

FRE 315 Global Cinema in French (3). A study of French cinema and cinema in French beyond French borders, examining significant directors and film movements. This class includes a two hour per week film screening in addition to class meetings. This course is conducted in French. Prerequisite FRE 301 or 331.

FRE 323 French Culture and Civilization (3). A survey of the contributions of France to world culture including the historical development of France from prehistoric times through the French Revolution. Classes conducted in French with extensive use of visual aids. Prerequisite: FRE 301 or 331 or permission of instructor.

FRE 324 Contemporary French Culture and Civilization (3). A survey of attitudes, achievements, and behavioral characteristics of the French people from 1800 to the present. Classes conducted in French with extensive use of audio and visual aids. Prerequisite: FRE 301 or consent of the instructor.

FRE 330 French Literary Texts in Context (3). Will be taught on summer abroad programs in French-speaking countries only. It is an introductory course in French and/or Francophone literature taught in French. Authentic texts might include poetry, short story, drama or excerpts from long works and might be from any literary period. An effort will be made to take advantage of residence in French-speaking countries through visits to sites that are related to the literature. Prerequisite: FRE 202 or 203, or permission of instructor.

FRE 331 Advanced Language Practice (3). Course will offer students the opportunity to expand their cultural and linguistic knowledge of French-speaking cultures through a central conceptual framework, such as an international conference, an apartment building, a hotel, or a business. Students will engage in extensive role-play and creative exercises to establish contexts, choose fictive identities, and improvise a series of encounters. Prerequisite: FRE 202 or permission of instructor.

FRE 332 Phonetics and Literature (3). In-depth study of French sounds, intonation patterns, articulation of words, and rhythm of sentences. Practice with the phonetic alphabet and discovery of French literary texts. Prerequisite: FRE 301 or 331.

FRE 401 Survey of French Literature I (3). Representative masterpieces of the novel, poetry and theatre from the Middle Ages to the eighteenth century. Prerequisite: FRE 301 or permission of instructor.

FRE 402 Survey of French Literature II (3). Representative masterpieces of the novel, poetry, and theatre for the nineteenth and twentieth centuries. Prerequisite: FRE 301 or 331 or permission of instructor.

FRE 419 European Cinema (3). Survey of European (including British) film by French, English, German, and Spanish directors in the original languages with English subtitles except for the English language films. Selected films will be organized around social themes, which will then be viewed from different national perspectives. The common discussion section on one day will be conducted in English to be accessible to students of all languages; the second discussion section will be conducted in French. Students are required to attend film viewings in a separate lab section. Prerequisite: FRE 301 or 331, or permission of instructor.

FRE 421 Topics in French Literature (3). Course content will vary according to the needs of the French program. May be repeated to a maximum of nine credit hours. Prerequisite: FRE 301 or 331 or permission of instructor.

FRE 430 Advanced Conversation and Composition (3). For the advanced student who has completed a 300-level conversation and composition course or who has had extensive experience with French language. Prerequisite: FRE 301 or 331 or permission of instructor.

FRE 441 Topics in French Cultural Studies (3). Course content will include a variety of factors that contribute to and reflect the cultural life, social themes, and national perspectives of French society. The course content will include literature and may include media and/or film. Students will write a research paper. May be repeated for a maximum of six credit hours. Prerequisite: FRE 301 or 331 or permission of instructor.

FRE 450 Literary Masterpieces in French (3). A general survey of the literary periods, major authors, and initial acquaintance with their work. May be repeated for a maximum of six credit hours. Prerequisite: FRE 301 or 331 or permission of instructor.

FRE 451 Directed Study (1-3). Independent work in the area of language, culture or literature, designed to meet the needs and interests of individual students. Prerequisite: FRE 301 or 331 or permission of instructor.

FRE 460 Studies in a Genre (3). The course will explore a particular genre, e.g., the novel, novella, drama, poetry, short story, and the theory behind the respective genre and an examination of a variety of works within that genre.

May be repeated as a second course for up to six credit hours provided that the second course covers a different genre. Prerequisite: FRE 301 or 331 or permission of instructor.

FRE 501 Middle Ages Literature (3). A study of representative works of French literature dating from 1095 to 1600. Prerequisites: junior standing or above, FRE 301 or 331 or permission of instructor.

FRE 503 Seventeenth- and Eighteenth-Century Literature (3). A study of representative literary works from the period 1600 to 1795. Prerequisites: junior standing or above, FRE 301 or 331 or permission of instructor.

FRE 505 Nineteenth-Century Literature (3). A study of representative literary works published between 1800 and 1899. Prerequisites: junior standing or above, FRE 301 or 331 or permission of instructor.

FRE 507 Twentieth-Century Literature (3). A study of representative literary works published since 1900. Prerequisites: junior standing or above, FRE 301 or 331 or permission of instructor.

FRE 521 Topics in French Literature (3). Course content at the discretion of the instructor. Prerequisites: junior standing or above, FRE 301 or 331 or permission of instructor.

FRE 531 Advanced Grammar (3). A comparative study of the grammatical structures of French and English. Prerequisites: junior standing or above, FRE 301 or 331 or permission of instructor.

FRE 532 Phonetics (3). Introduction to linguistic terminology and principles of phonology with intensive individual diagnosis and practice of the French phonological system. Includes study and practice of the International Phonetic Alphabet. Prerequisites: junior standing or above, FRE 301 or 331 or permission of instructor.

FRE 551 Directed Study I (1-3). Independent work in areas of language, culture or literature, designed to meet needs and interests of individual students. Prerequisites: junior standing or above, FRE 301 or 331 or permission of instructor.

FRE 552 Directed Study II (1-3). Prerequisites: junior standing or above, FRE 301 or 331 or permission of instructor.

FRE 555 Study Abroad (3-9). Approved programs of travel and study in French-speaking countries. Repeatable up to nine hours. Prerequisites: junior standing or above, FRE 301 or 331 or permission of instructor.

FRE 621 Topics in French Literature (3). Course content at the discretion of the instructor. May be repeated for up to six hours of credit. Prerequisite: FRE 301 or 331 or permission of instructor.

FRE 651 Directed Study I (1-3). Independent work in areas of language, culture or literature, designed to meet needs and interests of individual students. May be repeated for up to six hours of credit. Prerequisite: FRE 301 or 331 or permission of instructor.

FRE 652 Directed Study II (1-3). Prerequisite: FRE 301 or 331 or permission of instructor.

FRE 655 Study Abroad (3-9). Approved programs of travel and study in French-speaking countries. Repeatable up to nine hours. Prerequisite: FRE 301 or 331 or permission of instructor.

FRESHMAN TRANSITIONS (FTR)

FTR 100T Transitions (1). Course is designed to assist students in their transition to Murray State University. Content includes orientation to the specific area or major(s) and minor(s) within the academic program; university procedures, policies, and resources; strategies for personal and academic success, and extracurricular opportunities. Only one transitions course will count toward graduation. Graded pass/fail.

FRESHMAN YEAR EXPERIENCE**(FYE)**

FYE 098 New Student Orientation (1). Course designed to assist students admitted with conditions in the academic and social transitions associated with college life. The development of specific success skills such as time management, note-taking, study strategies, and academic and career guidance activities will be included in the class.

FYE 100 Transitions II (1). Course designed to assist students in the academic and social transitions associated with college life. The development of specific success skills such as time management, note-taking and study strategies, and career and academic guidance activities will be included in this class. Credit earned in this course may not be counted toward graduation requirements. Prerequisite: first semester, conditional admission status students with a declared major who are concurrently enrolled in a departmental 100T class or special population students by permission of instructor.

GRAPHIC COMMUNICATIONS MEDIA**(GCM)**

GCM 151 Introduction to Graphic Communications (3). Reviews the graphic reproduction systems of mass-communication including print manufacturing, digital imaging, computer animation, video capturing, customer service, business operations, and global media marketing. Lecture and laboratory.

GCM 152 Introduction to Digital Imaging (3). An introduction to production skills and critical awareness of digital media practices which include Internet production, video, gaming, still imaging, and 3D modeling. There is a strong emphasis on cross platform, digital communication, teamwork, and leadership skills. The course is designed to give direction to students who are computer literate, but need information on the various opportunities available in the imaging world. Current computer programs are utilized. Lecture and laboratory.

GCM 153 Electronic Imaging (3). This course deals with the technology of electronic imaging relating to the field of graphic communications. The course covers image generation and electronic printing and publishing. Lecture and Laboratory.

GCM 250 Fundamentals of Photography and Photojournalism (3). Camera techniques and film selection. Experience with various cameras, photographic techniques, developing and printing procedures. Lecture and laboratory. Prerequisite: permission of instructor.

GCM 252 Digital Image Conversion (3). Introduction to converting continuous tone and line illustration to digital and film formats. Covers materials, equipment, camera/scanner operation, problem-solving, pre-flighting and imposition techniques. Lecture and laboratory. Prerequisite: GCM 151.

GCM 340 Introduction to Gravure (3). This course covers the magazine and packaging industry as they relate to high volume printing. Included in the course are: pre-flighting, customer service, press production, problem-solving techniques, and distribution systems. Prerequisite: GCM 151.

GCM 342 Finishing and Distribution (3). Introduction to post-press and finishing operations and distribution practices common to the packaging and printing industries. Course covers historical as well as modern aspects of finishing, embossing, foil stamping, die-cutting, and material fulfillment. Prerequisite: GCM 151.

GCM 350 Basic Color Photography (3). A study of color photographic materials and processes including color transparencies, negative analysis, internegatives, transparency duplicates, and color prints. Lecture and laboratory. Prerequisite: GCM 250.

GCM 351 Graphic Communication Processes (3). A study of printing and manufacturing reproduction processes. Includes: 1) traditional and modern image transfer, 2) finishing, 3) distribution, and 4) materials. Prerequisite: GCM 151.

GCM 354 Principles of Estimating (3). Analysis of printing cost procedures using regional costing data and norms. Also, determining cost of materials, equipment and human activity will be determined. Prerequisite: nine hours in graphic communications including GCM 153.

GCM 357 Industrial Photography (3). A study of photography as it is utilized by industry in problem-solving, security, and scientific and technical applications. Lecture and laboratory. Prerequisite: GCM 250.

GCM 358 Commercial Photography (3). A study of the making of photographs in the studio and on location; investigation of the photographic medium as a means of communicating ideas. Lecture and laboratory. Prerequisite: GCM 250.

GCM 359 Publication Photography (3). A study of the make-up of yearbooks and various other publications requiring photography, and the problems of the photographer in preparing materials for printing. Lecture and laboratory. Prerequisite: GCM 250.

GCM 360 Portraiture Photography (3). Formal and contemporary portraiture. Includes studio and informal techniques, printing and finishing instruction. Prerequisite: GCM 250.

GCM 365 Customer Service (3). This course explores all aspects of customer service including, scheduling, human resources, manufacturing, finance, computer systems, and quality control. Prerequisite: GCM 151.

GCM 427 Professional Photographic Practices (3). The course introduces students to the business and marketing practices common to photography. Emphasis is placed on developing professional objectives based upon careful consideration of the financial, legal, organizational, promotional, interpersonal and ethical practices particular to photography. Prerequisite: permission of instructor.

GCM 440 Digital Photography (3). This course deals with desktop electronic imaging and digital photography. Explored is the use of photography and production photographs with a variety of computer hardware and software programs. Lecture and laboratory.

GCM 441 Desktop Multimedia (3). Desktop digital imaging and multimedia presentations are developed with a variety of hard and software. The course is designed to allow the student to cross-platform images from diverse electronic technologies. Lecture and laboratory. Prerequisite: GCM 153.

GCM 442 Digital Interactive Technology (3). This course introduces and explores digital interactive technology as an aspect of electronic imaging. It examines the use of digital technology in the production of interactive presentations; it includes a variety of currently used computer hardware and software. Lecture and laboratory. Prerequisite: GCM 153.

GCM 454 Color Management and Quality Control (3). Materials and procedures of color management and quality control procedures. Included are ICC profiles, spectrophotometry, densitometry, masking, color proofing, quality control devices, and color scanning. Lecture and laboratory. Prerequisites: GCM 151 and 153.

GCM 488 Cooperative Education/Internship (1-3). A meaningful, planned, and evaluated work experience related to the career and educational objectives of the student for which he/she may receive academic credit and possible financial remuneration. May be repeated for a maximum of six hours from any 488/489 courses. Graded pass/fail. Prerequisite: permission of chair.

GCM 489 Cooperative Education/Internship (1-3). A meaningful, planned, and evaluated work experience related to the career and educational objectives of the student for which he/she may receive academic credit and possible financial remuneration. May be repeated for a maximum of six hours from any 488/489 courses.

GCM 558 Trends in Graphic Communications (3). A study of management trends, technical advances, and problems as they pertain to the future of the communications industry. The course will include report writing, verbal presentations and a field experience. Prerequisite: senior standing and 30 hours of GCM courses or substitutes approved by instructor.

GENDER AND DIVERSITY STUDIES**(GDS)**

GDS 201 Introduction to Gender and Diversity Studies (3). This course will provide students with an interdisciplinary examination of the issues concerned with multiculturalism, economic and social class, and gender. Students will gain a broad historical perspective of how these factors have had an impact on the formation of America as a country and as a nation in the international context.

GDS 316 Women and Gender in World History (3). Introduction to the histories of women and gender in diverse societies. Topics include the origins of patriarchal institutions; women's cultures; feminist philosophies and movements; the role of family, work, society, and culture in creation gender and sexual distinctions; and theories and methods in the study of women and gender. (Same as HIS 316.)

GDS 351 Topics in Gender and Diversity (3). Changing topics in the study of gender and diversity, to be determined by the instructor. May be repeated for a maximum of six credit hours. Prerequisite: GDS 201.

GDS 356 The Art of Non-Western Cultures (3). Study of the arts of Asia, Oceania, Africa and the Pre-Western Americas. (Same as ANT, RGS 356.)

GDS 412 Directed Study in Gender and Diversity Studies (3). An independent study course in an area of multicultural, class and/or gender studies. Students must submit a study plan, along with the name of the faculty member with whom they have arranged to work, to the GDS committee for approval prior to registration. May be repeated for a maximum of six credit hours. Prerequisite: GDS 201.

GDS 600 Gender Theory and Research (3). Foundation course for graduate work in gender studies. Advanced survey of theories of gender and sexuality. Introduction to qualitative and quantitative research methods in gender studies. Field work may be required.

GDS 670 Lesbian, Gay, Bisexual and Transgender Studies (3). Survey of issues, theories, and interdisciplinary approaches in lesbian, gay, bisexual, and transgender studies.

GDS 680 Gender, Sexuality, and the Law (3). This course considers gender and sexuality in law and society, the role of law in subordinating women and sexual minorities, the use of law to address gender and sexual inequities, and the application of the gender studies methods to legal issues. The focus is on the broader relationship between law and society; no prior technical legal knowledge is required or assumed. Prerequisite: GDS 600 or permission of the instructor.

GDS 690 Seminar in Gender Studies (3-6). A seminar focusing on a topic, theme, or body of work in gender studies. May be repeated for a maximum of six credit hours if topics vary. Prerequisite: GDS 600 or permission of the instructor.

GDS 699 Scholarly Writing in Gender Studies (3). Capstone course consisting of advanced, original, independent research into a particular issue in gender studies resulting in potentially publishable essay. Prerequisites: GDS 600 and nine additional hours of coursework toward the Certificate in Gender Studies, or permission of instructor.

GERMAN**(GER)**

GER 101 Fundamental Communication in German (3). Basic German in which students learn to describe themselves to someone from another culture; to express preferences, abilities, needs, and obligations; to ask for information; to describe people, places, and things in their world; and to report their typical activities to a German speaker.

GER 102 Social Interactions in German (3). Expanding upon skills built in GER 101, students move toward increasing linguistic and social awareness of German-speaking cultures. Students learn to use past tenses to talk about typical activities or to tell a story; to expand their basic vocabulary and ability to communicate in simple German; and to demonstrate basic understanding of aspects of German culture that may differ from their own. Prerequisite: GER 101 or equivalent.

GER 105 Introduction to German Culture (3). A survey of the contemporary culture of Germany, Austria and Switzerland with emphasis on the values, behavioral characteristics, social and political systems and achievements of the German-speaking people. Conducted in English. No prerequisite.

GER 110 Basic Conversational German (3). A conversation-oriented introduction to pronunciation, essential structures, and vocabulary. Designed to enable students to communicate in simple German in everyday situations in German-speaking countries. Pronunciation, listening comprehension, speaking and simple reading and writing of material related to conversational situations are included. No continuation offered. Not applicable toward German major or minor. Only taught abroad. No prerequisite.

GER 201 Intercultural Communications in German (3). Students strengthen their basic language skills while continuing to broaden cultural awareness of German-speaking societies. Students relate experiences, produce brief reports on course topics, and express opinions concerning a variety of themes. Students learn to communicate on a more complex level in German. Taught in German. Prerequisite: GER 102 or equivalent.

GER 202 Practical Applications in German (3). Students advance their speaking, writing, reading, and listening language skills in this interactive course focused on the practical application of the language in contemporary German-speaking countries. Activities include role-play, projects, reports, and discussions of texts. Taught in German. Prerequisite: GER 201 or equivalent.

GER 203 German for the Working World (3). A continuation from GER 201, this course is a practical application of German for the working world together with grammar review and with emphasis on communication skills on the formal level. Includes further practice in listening, conversation, reading and writing. Students may be required to attend and write a report on two approved cultural events or complete alternative cultural assignments. Taught in German. Students may receive credit for GER 202 or 203, but not both. GER 203 counts toward the minor and the major. Prerequisite: German 201 or equivalent.

GER 210 Intermediate Conversational German (3). A course designed to develop the vocabulary and oral communication skills of the student with a background of one year of college German or equivalent. Emphasis will be placed on bringing the student into contact with German native speakers and various aspects of their culture. May count as an elective for the major or minor. Only taught abroad. Prerequisite: GER 102 or equivalent.

GER 301 Social Issues in German Texts (3). Intensive practice in speaking and writing based on a variety of topics and materials. Prerequisite: GER 202 or equivalent.

GER 302 Conversation and Composition (3). An exploration of social issues through the reading, discussion, and written analysis of authentic texts in German-speaking cultures. While examining these issues, the student will also learn and practice the rudiments of literary interpretation. Prerequisite: GER 301 or permission of instructor.

GER 306 Introduction to German Literature (3). An introduction to literary analysis, designed to develop skills in reading, oral expression and expository writing. A variety of genres will be presented. Prerequisite: GER 301 or 331 or permission of instructor.

GER 310 Conversation and Composition Abroad (3). Intensive practice in speaking and writing based on the student's interaction with native speakers and the international setting. Only taught abroad. Counts toward the major and minor approved electives. Prerequisite: Two years of college German or equivalent.

GER 314 German Cultural Heritage Abroad (3). This course taught in German and taught abroad, focuses on culture in German-Speaking countries. The course entails carefully planned excursions to a number of specific cultural sites in conjunction with readings about the sites and the intellectual history and milieu behind their conception. The student will explore the history, art, architecture, literature, politics, and music of the host country. This will only be taught on study-abroad programs in German-speaking countries. Prerequisite: Permission of instructor.

GER 323 German Culture and Civilization (3). A survey of the contribution of German-speaking people to world culture in art, music, science, education, philosophy and religion. Classes conducted in German. Prerequisite: GER 301 or 331 or permission of instructor.

GER 324 Contemporary German Culture and Civilization (3). A survey of the present-day culture of the German-speaking countries, including Austria, the Federal Republic of Germany, and Switzerland. Course includes the study of German dialects, geography, social and political systems and religious orientation. Classes conducted in German. Prerequisite: GER 301 or 331 or permission of instructor.

GER 330 German Literary Texts in Context (3). Will be taught in study abroad programs in German-speaking countries. It is an introductory course in German literature taught in German. Authentic texts might include poetry, short story, drama or excerpts from long works and might be from any literary period. An effort will be made to take advantage of residence in German-speaking countries through visits to sites that are related to the literature. Prerequisite: GER 202 or 203, or permission of instructor.

GER 331 Advanced Language Practice (3). Course will offer students the opportunity to expand their cultural and linguistic knowledge of German-speaking cultures through a central conceptual framework, such as an international conference, an apartment building, a hotel, or a business. Students will engage in extensive role-play and creative exercises to establish contexts, choose fictive identities, and improvise a series of encounters. Prerequisite: GER 202 or permission of instructor.

GER 332 Phonetics (3). Contrastive study of German and English phonology with individual practice designed to improve pronunciation. Prerequisite: GER 202 or permission of instructor.

GER 401 Survey of German Literature I (3). Historical interpretation of representative literary works from the Medieval periods to the Enlightenment. Prerequisite: GER 301 or 331 or permission of instructor.

GER 402 Survey of German Literature II (3). Historical interpretation of representative literary works from Classicism to the present. Prerequisite: GER 301 or 331 or permission of instructor.

GER 419 European Cinema (3). Survey of European (including British) film by French, English, German, and Spanish directors in the original languages with English subtitles except for the English language films. Selected films will be organized around social themes, which will then be viewed from different national perspectives. The common discussion section on one day will be conducted in English to be accessible to students of all languages; the second discussion section will be conducted in German. Students are required to attend film viewings in a separate lab section. Prerequisite: GER 301 or GER 331 or permission of instructor.

GER 421 Topics in German Literature (3). Course content will vary according to the needs of the German program. May be repeated to a maximum of nine credit hours. Prerequisite: GER 301 or 331 or permission of instructor.

GER 441 Topics in German Cultural Studies (3). Course content will include a variety of factors that contribute to and reflect the cultural life, social themes, and national perspectives of German society. The course content will include literature and may include media and/or film. Students will write a research paper. May be repeated for a maximum of six credit hours. Prerequisite: GER 301 or 331 or permission of instructor.

GER 450 Literary Masterpieces in German (3). A general survey of the literary periods, major authors, and initial acquaintance with their work. May be repeated for a maximum of six credit hours. Prerequisite: GER 301 or 331 or permission of instructor.

GER 451 Directed Study (1-3). Independent work in the area of language, culture or literature, designed to meet the needs and interests of individual students. Prerequisite: permission of instructor.

GER 460 Studies in a Genre (3). The course will explore a particular genre, e.g., the novel, novella, drama, poetry, short story, and the theory behind the respective genre and an examination of a variety of works within that genre. May be repeated as a second course for up to six credit hours provided that the second course covers a different genre. Prerequisite: GER 301 or 331 or permission of instructor.

GER 501 Literature Before 1600 (3). A study of major works chosen to present prominent themes and important literary developments within the period. Prerequisites: junior standing or above, GER 301 or 331 or permission of instructor.

GER 503 Seventeenth- and Eighteenth-Century Literature (3). A study of major works chosen to present prominent themes and important literary developments within the period. Representative authors such as Goethe, Schiller, Novalis and Kleist will be treated. Prerequisites: junior standing or above, GER 301 or 331 or permission of instructor.

GER 505 Nineteenth-Century German Literature (3). A study of literary developments during the era of the industrial revolution and political reform in Germany. Works by Buchner, Heine and representative authors of Poetic Realism and Naturalism will be treated with secondary emphasis placed on the emergence of the *Biedermeier* tradition. Prerequisites: junior standing or above, GER 301 or 331 or permission of instructor.

GER 507 Twentieth-Century Literature (3). A study of the literature and the policies affecting literature during the Weimar Republic, the Third Reich, Post-War Literature and the *Gruppe 47*, and contemporary developments. Prerequisites: junior standing or above, GER 301 or 331 or permission of instructor.

GER 521 Topics in German Literature (3). An in-depth course treating a topic in German literature. Selected according to the needs and interests of the students. Prerequisites: junior standing or above, GER 301 or 331 or permission of instructor.

GER 531 Advanced Grammar (3). A specialized study contrasting German and English grammatical structures and usage. Prerequisites: junior standing or above, GER 301 or 331 or permission of instructor.

GER 532 Phonetics (3). Contrastive study of German and English phonology with individual practice designed to improve pronunciation. Prerequisites: junior standing or above, GER 301 or 331 or permission of instructor.

GER 551 Directed Study I (1-3). Independent work in areas of language, culture or literature, designed to meet needs and interests of individual students. Prerequisites: junior standing or above, GER 301 or 331 or permission of instructor.

GER 552 Directed Study II (1-3). Prerequisites: junior standing or above, GER 301 or 331 or permission of instructor.

GER 555 Study Abroad (3-9). Credit given for approved projects of study in a German-speaking country. Repeatable up to nine hours. Prerequisites: junior standing or above, GER 301 or 331 or permission of instructor.

GER 621 Topics in German Literature (3). An in-depth course treating a topic in German literature. Selected according to the needs and interests of the students. May be repeated for up to six hours of credit. Prerequisite: GER 301 or 331 or permission of instructor.

GER 651 Directed Study I (1-3). Independent work in areas of language, culture or literature, designed to meet needs and interests of individual students. May be repeated for up to six hours of credit. Prerequisite: GER 301 or 331 or permission of instructor.

GER 652 Directed Study II (1-3). Prerequisite: GER 301 or 331 or permission of instructor.

GER 655 Study Abroad (3-9). Credit given for approved projects of study in a German-speaking country. Repeatable up to nine hours. Prerequisite: GER 301 or 331 or permission of instructor.

GEOSCIENCES

(GSC)

GSC100T Transitions (1). Course is designed to assist students in their transition to Murray State University. Content includes orientation to the specific area or major(s) and minor(s) within the academic program; university procedures, policies, and resources; strategies for personal and academic success, and extracurricular opportunities. Only one transitions course will count toward graduation. Graded pass/fail.

GSC 101 The Earth and the Environment (4). An introduction to the materials of the earth and the processes that modify them to form our landscapes and create our physical environment. Includes an introduction to aerial photo and topographic map interpretation. Three hours of lecture and two hours of laboratory per week.

GSC 102 Earth Through Time (4). An introduction to the study of how the earth's environment has changed through time and the geological processes that are causing the changes. Topics include hypotheses regarding the earth's origin, the evolution of the earth's oceans and atmosphere, and the interaction between environmental factors and appearance of life on the earth. The methods that geologists use to measure time will be identified and described. Particular emphasis will be given to the North American continent. The laboratory will focus on interpretation of earth history through the study of minerals, rocks, and fossils. Three hours of lecture and two hours of laboratory per week. Prerequisite: GSC 101 or 199.

GSC 110 World Geography (3). A course designed to introduce students to the geographic distribution of major regions of the world. Attention will be focused on the delicate interrelationships between the natural landscapes of the earth and corresponding major cultural activities.

GSC 115 Dinosaurs (3). Course introduces the scientific study of dinosaurs through the lenses of historical geology, paleontology, and biology. This course will systematically walk through the major groups of dinosaurs focusing on their interrelationships, anatomy, lifestyle and appearance. Special attention will be paid to how we reconstruct dinosaur biology from physical evidence and how our scientific impressions of dinosaurs have changed over time. Topics include fossil preservation, feathered dinosaurs, the origin of birds, thermoregulation, the cause of the dinosaur extinction, and common dinosaur misconceptions.

GSC 125 Weather and Climate (4). Introduction to the dynamics of the atmosphere and how humans interact with and are influenced by atmospheric processes and climatic variations. Three hours of lecture and two hours of laboratory per week.

GSC151 Geosciences of Alcohol (3). Alcoholic beverages and their production are restricted to particular geographic regions. This course will explore the geographic distribution of four different alcohols (Kentucky bourbon, wine, hard cider, and rum) using an interdisciplinary approach as broad as the geosciences department itself (including geology, geography, and archaeology). The discussion of each alcohol will begin by examining the ingredients and chemical processes involved in fermentation as well as the geographic distribution of production centers. We will evaluate how climate, hydrology, geology, and soils within the production center impact the availability, chemistry, and flavor of raw materials (e.g., water, corn, grapes, apples, and sugar cane). By examining the archaeological history of alcohol production, we will explore how the geographically restricted production of each alcohol caused it to be incorporated into the cultural identity of a region and how that translates into impacts on local economies, tourism, and state identity. The course will also include an optional field trip to a regional production facility.

GSC 199 Earth Science (4). This course introduces basic earth science concepts with elaboration on the origin, structure, and the complex interactions between the major earth components of the atmosphere, hydrosphere and lithosphere. Three hours lecture and two hours lab per week.

GSC 200 Introduction to Oceanography (3). An introduction to the study of oceans and marine processes, with emphasis on the morphology of the ocean floor, life in the ocean, oceanic circulation, sea floor spreading and shoreline management. Prerequisite: One college-level physical or biological science course or consent of the instructor.

GSC 202 Introduction to Geographic Information Science (4). This course is designed to provide an introduction to the fundamental principles and concepts of the mapping sciences. The course will focus on digital image processing and geographic information systems as techniques utilized in such areas as land cover and land capability mapping. The introduction of global positioning systems (GPS) as an auxiliary mapping tool is also included in the course. Three hours lecture and two hours lab per week.

GSC210 Hydrology (3). Occurrence, movement, quality and behavior of water in hydrologic cycle with reference to recovery of underground water in areas of detrital and carbonate rocks. Three lectures per week. Prerequisite: GSC 101 or permission of instructor.

GSC250 Geography of the Developing World (3). A survey, by climatic regions, of the cultural, economic and natural setting of the developing world, including the transitional nature of the subtropics.

GSC251 Geography of the Industrialized World (3). A survey, by climatic regions, of the cultural, economic and natural setting of the industrial world.

GSC 300 Economic Geology (3). Distribution, mode of occurrence, origin and uses of mineral deposits. Environmental problems associated with extraction and utilization of mineral resources. Prerequisite: GSC 102 or permission of instructor.

GSC 301 Understanding Scientific Communication (3). Course concentrates on the methods for preparation and presentation of scientific papers, posters, and oral communication. Students will utilize a data set to produce a publication-quality manuscript, a poster suitable for a scientific meeting, and a presentation such as would be given at a scientific meeting. Topics covered include abstracts, nature of scientific writing, structure and organization of scientific publication, use of literature, graphics and graphic design, and methods of polishing the oral and poster presentations. Prerequisites: COM 161 and ENG 105. (Same as SCI 301.)

GSC 303 Introduction to Water Science (3). An introduction to the study of the marine and freshwater environments of the earth. Study of the oceans as the largest component of the earth's hydrosphere will emphasize geological forces which are shaping the ocean floor, ocean currents and tides, the origin of ocean salt, and life in the ocean. Study of freshwater components of the earth's hydrosphere will emphasize connections with the ocean and the special role of each component in the earth's hydrologic cycle. Prerequisite: one college-level physical or biological science course, or permission of instructor.

GSC 305 Introduction to Cartography (3). Course will emphasize the art, science, and history of the mapping process. Elements of map design and construction will be explored, including coordinate systems, map projections, design concerns, and information management necessary for map creation. Fundamental map skills will be developed, common map applications covered, and future mapping trends explored. Lecture topics will be augmented by hands-on exercises using current GIS software.

GSC 306 Landscapes of the National Parks (3). Course explores the most distinctive and intriguing features of America's National Parks. Emphasis is placed on the geology, ecology, and archaeology of each park, with emphasis placed on how each of these components influences the other in a dynamic feedback system. One Saturday field trip will be required. Prerequisite: GSC 102 or permission of instructor. (Same as ARC 306.)

GSC310 Rock and Mineral Resources (3). An introduction to common rock and mineral resources, including ore deposits, fossil fuels, and minerals; igneous rocks; metamorphic rocks; and sedimentary rocks. Emphasis is on geologic occurrence and origin, geographic distribution, and importance to humans. Saturday field trips will be required. Prerequisite: GSC 102 or permission of the instructor.

GSC 312 Introduction to Remote Sensing (4). The purpose of this course is to introduce students to the fundamental concepts and techniques in the processing, interpretation and utilization of remotely sensed imagery. The focus of the course is on applications in such fields as agriculture, environmental studies, minerals exploration and resources management/planning. Three hours lecture and two hours lab per week.

GSC 314 Sediments and Soils (4). An in depth study of sediments and soils. Emphasis will be on the geologic formation, interpretation, and significance of sediments and soils in a variety of geologic, environmental, and archaeological contexts. Three hours lecture and two hours laboratory per week plus one required Saturday field trip. Prerequisite: GSC 102 or permission of the instructor. (Same as ARC 314.)

GSC 320 Geography of North America (3). Regional approach to studying the dynamic interaction between the physical and cultural aspects of North America.

GSC 325 Geography of the Russia and Central Asia (3). Regional approach to studying the dynamic interaction between the physical and cultural aspects of the Russia and the republics of Central Asia.

GSC 327 Geography of the Middle East and North Africa (3). Regional approach to studying the dynamic interaction between the physical and cultural aspects of the Middle East and North Africa.

GSC 330 Economic Geography (3). Course facilitates discussions that focus on the spatial distribution of resources that pertain to economic use, the production, distribution and consumption of goods, the flow of labor and capital and the process of economic and urban development in the context of globalization.

GSC 336 Principles of Geomorphology (4). The origin, characteristics and development of landforms and the processes which determine their formation. Three hours lecture and two hours lab per week.

GSC 339 Field Geology (3). A course designed to acquaint the student with field and laboratory techniques used by the geologist and to familiarize the student with the geology of Kentucky and adjacent areas. Lectures, laboratory, and field study. Prerequisites: GSC 102 and permission of instructor.

GSC 350 Field Techniques in Geosciences (3). An introduction to the variety of field techniques utilized by geoscientists in the geologic, environmental, and archaeological fields. Emphasis is placed on the techniques of field surveying and mapping; locational assessment utilizing Global Positioning Systems; orienteering with compass and topographic map; basic descriptive field geology; soil sampling and description; remote and direct hydrologic assessment; and land cover/land use mapping. Field trips will be taken to locations of geologic or environmental significance to the region. Prerequisite: junior status or permission of the instructor.

GSC 388 International Experience in the Geosciences (3). A short-term (10-14 days of travel) study abroad experience highlighting selected historical and modern contributions to the geosciences from another country and culture. The course includes pre- and post-travel meetings, lectures, readings and discussions. Course may be taken only once for credit. Graded pass/fail. Prerequisite: consent of the instructor.

GSC 390 Geoarchaeology (3). Survey of geological methods and techniques used to answer archaeological research questions. Topics covered include sedimentary and geomorphic processes, depositional environments, site formation processes, environmental reconstruction, and radio metric dating techniques. One Saturday field trip will be required. Prerequisites: ARC 150 and GSC 101. (Same as ARC 390)

GSC 424 Conservation and Environmental Geosciences (3). Course will study human population growth and associated resource requirements considering the physical makeup and history of the earth. Natural resource inventory, protection of the environment, geologic hazards and other conservation related topics will be discussed. Use of Geographic Information Systems (GIS) will be emphasized.

GSC 426 Applied Meteorology (4). A detailed study of synoptic meteorology and weather forecasting. Emphasis placed upon weather maps, their construction and interpretation. Attention given to the micro and meso aspects of meteorology/climatology. Prerequisite: GSC 125.

GSC 427 Population Geography (3). An in-depth look at world population distributions and dynamics including past, present, and future trends and the influence of population growth on world economic activity.

GSC 430 Crystallography and Optical Mineralogy (4). Crystallography, crystal chemistry, optical theory and technique. Identification of the common rock-forming minerals by indices of refraction and other optical properties. Three lectures and two hours of laboratory per week. Prerequisite: GSC 102 or equivalent.

GSC 431 Igneous and Metamorphic Petrology (4). Detailed study of igneous and metamorphic rocks and the processes by which they form. Prerequisites: GSC 310, CHE 105 or CHE 121.

GSC 432 Stratigraphy and Sedimentary Petrology (4). A course to focus on sedimentary petrology and stratigraphy pertaining to environmental modeling, an essential component in the field of petroleum geology. Three lectures and two hours of laboratory per week. Prerequisite: GSC 102 or equivalent.

GSC433 Structural Geology (3). An introductory course in genetic and descriptive aspects of the deformational features of the earth. Two lectures and two hours laboratory per week. Prerequisite: GSC 102 or equivalent.

GSC 488 Cooperative Education/Internship (1-3). A meaningful, planned, and evaluated work experience related to the career and educational objectives of the student for which he/she may receive academic credit and possible financial remuneration. May be repeated for a maximum of six hours from any 488/489 courses. Graded pass/fail. Prerequisite: permission of chair.

GSC 489 Cooperative Education/Internship (1-3). A meaningful, planned, and evaluated work experience related to the career and educational objectives of the student for which he/she may receive academic credit and possible financial remuneration. May be repeated for a maximum of six hours from any 488/489 courses. Prerequisite: permission of chair.

GSC 507 Land Use Planning (3). Analyze the principles and techniques utilized in the planning process. Emphasis is placed on the practical aspects of planning: needs, problems and proposed solutions. (Same as PLN 507.)

GSC 510 Geophysics (3). Practical aspects of applied and environmental geophysics including gravity, magnetics, electricity, electromagnetic theory and practice. Prerequisite: MAT 150 or equivalent.

GSC 512 Remote Sensing (4). Emphasis will be placed upon the fundamentals of image interpretation using a wide variety of image types both airborne and spaceborne. The application of remotely sensed data and techniques in many areas. Three hours of lecture and two hours of laboratory per week. Prerequisite: BIO 240 or GSC 202 or GSC 312.

GSC 515 Geochemistry (3). The chemistry of the geologic environment including the distribution of chemical elements in the earth and natural waters, the nature and causes of chemical processes, and the application of chemical laws, methods and data to the solution of geologic problems. Emphasis is on the low-temperature geochemistry as it pertains to sedimentation, weathering and groundwater quality.

GSC 520 Geography of Kentucky (3). A survey of the topography, soils, climate, industries, commerce and population in Kentucky with emphasis upon the interrelationships between these various phenomena.

GSC 521 Geographic Information Systems (4). Techniques course that introduces digital georeferenced information systems, including data capture, editing and encoding techniques, data storage structures, database management systems, data analysis and model development, and information display methods. Three hours of lecture and two hours of laboratory per week. (Same as PLN 521.)

GSC 522 Digital Cartography (3). The map as a communication system. Special individual projects dealing with cartographic design and the preparation of maps for publications. Practical experience with computer mapping of spatial data. Prerequisite: GSC 305 or equivalent, or permission of instructor.

GSC 523 Problems in Urban Geography and Urban Planning (3). Theories, techniques and research in urban geography and planning. Focus placed on the designs and strategies addressing present-day urban problems. (Same as PLN 523.)

GSC 533 Paleocology (3). The study of the formation of the first ecologies with the origin of life on earth, and the continuing changes in the earth's ecologies through time. Classic paleoecological communities are examined, including Precambrian, Ordovician, Cretaceous and Pleistocene ecosystems. Specific attention paid to the interaction and co-evolution of the organic and inorganic environments. Prerequisite: BIO 101 or GSC 101, or equivalent.

GSC 534 Invertebrate Paleontology (4). The classification, morphology and paleontological significance of fossil invertebrates. Three lectures and two hours of laboratory per week. Prerequisite: GSC 102 or equivalent.

GSC 536 Soils and Geomorphology (3). Students will study soil formation and how it varies as a function of climate, topography, organisms, relief, parent material, and time. They will be trained to describe soil properties in the field and lab, and learn how to infer pedogenic processes using these data. One weekend field trip required. Prerequisite: GSC 336.

GSC 542 Watershed Ecology (3). The study of the movement of water through the environment and its relationship to biotic systems. Areas emphasized include the hydrologic cycle and its influence on groundwater, lotic and lentic systems; the effect of water on plant and animal communities; and the influence of human activity on watershed structure and function. Prerequisite: BIO 330 or permission of instructor. (Same as BIO 542.)

GSC 556 Geophysical Surveying (3). An overview of the application of terrestrial geophysical survey techniques and aerial remote sensing techniques in archaeological research. Emphasis will be placed on terrestrial geophysical survey methods with hands on training in the use of instruments such as ground penetrating radar and magnetic gradiometer. Weekend field trip to local archaeological sites are required. Prerequisite: ARC 300 or permission of instructor. (Same as ARC 556.)

GSC 561 Precision GIS/GPS Applications (1-3). An introduction to Geographic Information Systems (GIS) and Global Positioning System (GPS) applications in natural resources, business and land management. The course is divided into three distinct parts: 1) Introduction to GIS/GPS applications, 2) Business applications, and 3) Precision land management applications. Students must take the introduction phase before continuing with the other two parts. Variable credit hours: one credit for Part 1, two credits for Part 1 and 2 or 1 and 3, or three credits for Parts 1, 2, and 3. Course may be repeated for a maximum of three credit hours.

GSC 562 Hydrogeology (3). Knowledge and experience in the use of hydrologic and erosion models. State-of-the-art surface water, ground water and erosion models will be studied, along with hands-on training in the use of digital computers for applying these models to real-world geological situations. Prerequisite: MAT 150 or equivalent or permission of instructor.

GSC 565 Biogeochemistry (3). Survey and discussion of the scientific literature on global cycles of carbon, nitrogen, phosphorus and man-made chemicals with special emphasis on the biogeochemical and ecological processes that affect terrestrial and aquatic ecosystems. The course will focus on interdisciplinary themes that incorporate new research results from the fields of biology, chemistry, and geosciences. Prerequisite: junior or higher standing in biology, chemistry or geosciences. (Same as BIO/CHE 565.)

GSC 570 Computer Applications in Geosciences (3). Introduction to the use of computers in geoscientific problem-solving and data processing. Students will utilize existing programs and will develop original routines. Prerequisites: GSC 521 or GSC 522 and CSC 101.

GSC 575 Field Vertebrate Paleontology (4). The study of vertebrate fossils in both field and lab, including collection, processing and identification. Field work may include trips throughout the continental United States and occasionally overseas. (Usually taught during summer.) Prerequisites: completion of two semesters of undergraduate laboratory science and upper-class.

GSC 578 Terrestrial Ecosystem Modeling (3). Course will introduce students to the basic concepts of climate and terrestrial carbon cycle. The course will examine terrestrial ecosystem processes that influence the global carbon cycle and the climate. The focus of this course is in the modeling of carbon, water, and energy fluxes between the terrestrial ecosystem and the atmosphere.

Methods for analyzing and modeling these processes at different spatial scales will be presented. Students will participate in at least one field trip to Hancock Biological Station. Prerequisite: GSC 301.

GSC 579 Remote Sensing of Vegetation (3). Course will introduce students to the use of remote sensing imagery to monitor vegetation functions and structure. The course will examine the techniques used to extract remote sensing features related to vegetation functions and structure. The focus of this course is in the use of remote sensing data to model and monitor vegetation carbon and water fluxes at different spatial scales. The aim of this course is to provide students with skills in applied remote sensing, particularly for application related to terrestrial ecosystem. Prerequisite: GSC 512.

GSC 591 Special Problems (1). This course is designed for students who have an aptitude for research in the area of geosciences. Prerequisite: permission of instructor. (May be repeated once.)

GSC 592 Special Problems (2). This course is designed for students who have an aptitude for research in the area of geosciences. Prerequisite: permission of instructor. (May be repeated once.)

GSC 593 Special Problems (3). This course is designed for students who have an aptitude for research in the area of geosciences. Prerequisite: permission of instructor. (May be repeated once.)

GSC 601 Graduate Study in the Geosciences (1). Course will familiarize incoming graduate students with various aspects of graduate education at the university and in the department. Topics will include requirements of the Graduate Office and the department, utilization of library, other campus, and department resources, and an introduction to research methods, instrumentation, types of data and software utilized in the geosciences. The course will be team-taught. Prerequisite: admission to the graduate program in geosciences.

GSC 607 Land Use Planning (3). Analyze the principles and techniques utilized in the planning process. Emphasis is placed on the practical aspects of planning: needs, problems and proposed solutions. (Same as PLN 607.)

GSC 612 Remote Sensing (4). Emphasis will be placed upon the fundamentals of image interpretation using a wide variety of image types both airborne and spaceborne. The application of remotely sensed data and techniques in many areas such as geoscience, agriculture, forestry and planning will be emphasized. Three hours lecture and two hours of laboratory per week.

GSC 616 Isotopic Geochemistry (3). In this class students will comprehend how variations in the isotopic abundances of elements are used to understand past and present Earth systems.

GSC 619 Seminar in Research Techniques (3). Introduces graduate students to the methods and techniques of research in geosciences. Focus is on utilizing modern techniques of problem-solving employing statistical methods, digital image processing/remote sensing, geographic information systems, global positioning systems, environmental modeling, computer mapping and programming language.

GSC 621 Geographic Information Systems (4). Techniques course that introduces digital georeferenced information systems, including data capture, editing and encoding techniques, data storage structures, database management systems, data analysis and model development, and information display methods. (Same as PLN 621.)

GSC 622 Digital Cartography (3). The map as a communication system. Special individual projects dealing with cartographic design and the preparation of maps for publications. Practical experience with computer mapping of spatial data. Prerequisite: GSC 305, or equivalent, or permission of instructor.

GSC 631 Geology for Teachers (4). An introduction of the materials of the earth and the processes to modify them to form our landscapes and create our physical environment. Laboratory is integrated into the classroom lectures and will include study and identification of rocks and minerals and the interpretation of geological maps and photos. The literature of geology teaching will be reviewed with an emphasis on exercises that can be used in the teacher's classroom or laboratory.

GSC 633 Paleocology (3). The study of the formation of the first ecologies with the origin of life on Earth, and the continuing changes in earth's ecologies through time. Classic paleoecological communities are examined, including Precambrian, Ordovician, Cretaceous, and Pleistocene ecosystems. Specific attention will be paid to the interaction and co-evolution of the organic and inorganic environments.

GSC 636 Soils and Geomorphology (3). Students will study soil formation and how it varies as a function of climate, topography, organisms, relief, parent material and time. They will be trained to describe soil properties in the field and lab, and learn how to infer pedogenic processes using these data.

GSC 640 Advanced Remote Sensing (3). The principles associated with the digital processing of remotely sensed imagery. Image enhancement techniques, quantitative accuracy evaluation, unsupervised and supervised, will be stressed. Prerequisite: GSC 612 or equivalent or permission of instructor.

GSC 641 Digital Image Processing Research (3). Application of digital image processing to remotely sensed and other diverse data; hands-on experience using PC and UNIX-based image processing software, such as ENVI and ERDAS Imagine; data conversions and other processing; simple to complex algorithm development/application using a programming language and/or an image processing software. Prerequisite: GSC 640 or equivalent or permission of instructor.

GSC 642 Watershed Ecology (3). The study of the movement of water through the environment and its relationship to biotic systems. Areas emphasized include the hydrologic cycle and its influence on groundwater, lotic and lentic systems; the effect of water on plant and animal communities; and the influence of human activity on watershed structure and function. Prerequisite: BIO 330 or permission of instructor. (Same as BIO 642.)

GSC 643 Soil Micromorphology (4). This course emphasizes practical laboratory microscopic (micromorphological) study of thin sections of surficial (Earth) materials, including modern soil, stream sediments, and weathered rock (saprolite), as well as "fossil soils" preserved in the geological record as paleosols.

GSC 644 Graduate Cooperative Education (3). May be repeated to a maximum of six credits. Graded pass/fail.

GSC 656 Geophysical Surveying (3). An overview of the application of terrestrial geophysical survey techniques and aerial remote sensing techniques in archaeological research. Emphasis will be placed on terrestrial geophysical survey methods with hands on training in the use of instruments such as ground penetrating radar and magnetic gradiometer. Weekend field trip to local archaeological sites are required. (Same as ARC 656.)

GSC 660 Spatial Analysis Techniques (3). Introduces students to spatial analysis and spatial statistical techniques. "Hands-on" experience with software packages and associated algorithms is emphasized. Prerequisite: GSC 640 or permission of instructor.

GSC 661 Precision GIS/GPS Applications (1-3). An introduction to Geographic Information Systems (GIS) and Global Positioning System (GPS) applications in natural resources, business and land management. The course is divided into three distinct parts: 1) Introduction to GIS/GPS applications, 2) Business applications, and 3) Precision land management applications. Students must take the introduction phase before continuing with the other two parts. Variable credit hours: 1 credit for Part 1, 2 credits for Part 1 and 2 or 1 and 3, or 3 credits for Parts 1, 2, and 3. Course may be repeated for a maximum of three credit hours.

GSC 662 Hydrogeology (3). Knowledge and experience in the use of hydrologic and erosion models. State-of-the-art surface water, ground water and erosion models will be studied, along with hands-on training in the use of digital computers for applying these models to real-world geological situations. Prerequisite: MAT 150 or equivalent, or permission of instructor.

GSC 665 Physical/Chemical Limnology (3). This course will consider important physical and chemical processes in lakes and reservoirs. The focus of these processes is their relation to biological processes and their importance to

understanding aquatic ecosystem dynamics. Physical processes to be discussed include heat, light, water movement and thermal structure in lakes. The chemical cycles of carbon, nitrogen, phosphorus and oxygen will be considered in detail. A few intensively studied lakes will serve as models for integrating the various processes. Prerequisite: permission of instructor.

GSC 678 Terrestrial Ecosystem Modeling (3). This course will introduce the students to the basic concepts of climate and terrestrial carbon cycle. The course will examine terrestrial ecosystem processes that influence the global carbon cycle and the climate. The focus of this course is in the modeling of carbon, water, and energy fluxes between the terrestrial ecosystem and the atmosphere. Methods for analyzing and modeling these processes at different spatial scales will be presented. Prerequisite: consent of the instructor.

GSC 679 Remote Sensing of Vegetation (3). This course will introduce the students to the use of remote sensing imagery to monitor vegetation functions and structure. The course will examine the techniques used to extract remote sensing features related to vegetation carbon and water fluxes at different spatial scales. The aim of this course is to provide students will skills in applied remote sensing, particularly for application related to terrestrial ecosystems. Prerequisite: consent of the instructor.

GSC 680 Advanced Geographic Information Systems (3). A project-based course for students seeking greater understanding of GIS theory, technology, and applications. Students will apply GIS to their research interests and gain hands-on experience through using ArcGIS software package. By the end of the class, students will be able to identify the appropriate methods for solving particular research problems, be familiar with current research directions in spatial analysis, and demonstrate their ability to complete a research project. Prerequisite: GSC 621 or PLN 621, or permission of instructor.

GSC 691 Special Problems (1). (May be repeated one time.)

GSC 692 Special Problems (2). (May be repeated one time.)

GSC 693 Special Problems (3). (May be repeated one time.)

GSC 696 Understanding Scientific Communication (2). This course concentrates on the methods for preparation and presentation of scientific paper and oral communications. Students will utilize a data set to produce 1) a publication quality manuscript, 2) a scientific meeting quality poster, and 3) a 15 minute presentation such as would be given at a scientific meeting. Topics covered include abstracts, nature of scientific writing, structure and organization of scientific publication. The course is required of all biological sciences graduate students in their first spring semester of residence and is open to all other graduate students with permission of instructor. One, two-hour course meeting per week. (Same as BIO 696.)

GSC 698 Thesis Research (3).

GSC 699 Thesis Research (3).

GIFTED AND TALENTED EDUCATION

(GTE)

GTE 655 Creativity in Teaching (3). A comprehensive course designed to help participants: (1) explore and enhance their own creative powers; (2) learn how to teach creative problem-solving techniques and creative habits of mind to others; and (3) become aware of the variety of theoretical frameworks, research results and measurements which are available in the area of creativity.

GTE 691 Nature and Needs of the Gifted Student (3). A course to provide opportunities for experienced teachers and teacher trainees to develop knowledge and awareness of the characteristics and needs of gifted children and youth, and provides the individual student with opportunities to apply general educational principles for the gifted and talented to total educational concerns.

GTE 692 Methods and Materials for Teaching Gifted Students (3). This course will focus upon the development of instructional strategies and curriculum materials for use with youngsters with high ability and/or potential. Prerequisite: EDU 691 or permission of instructor.

GTE 693 Educational Programs for Gifted Students (3). A course designed to give experience and develop skills in effective planning, organization and execution of educational programs for gifted students. Prerequisite: EDU 691 and 692, or permission of instructor.

GTE 694 Supervised Practicum in Gifted Education (3). A course designed to provide field experience so the teacher may apply principles and educational procedures for teaching gifted students. This course requires a portfolio score of 82 or above. Repeatable to six hours. Prerequisites: EDU 691 and 692; and either EDU 655, 693, or 695.

GTE 695 Multicultural Gifted Education (3). This course is designed for teachers and counselors to learn practical strategies bridging the fields of gifted education and multicultural education. Theory and practice will be considered to enable educators to help gifted students reach their full potential in multicultural settings. Prerequisite: EDU 691 and 692.

GTE 696 The Social-Emotional Development of Gifted Students (3). Course focuses on the social-emotional development of gifted students. Topics include, but not limited to, various social-emotional characteristics, potential problems and challenges, a variety of special needs, and support and guidance from school and family. It is expected that this course will help students expand their knowledge and understanding of social-emotional issues that gifted students may experience and help them initiate and develop classroom, school, district, family, and community support systems.

GERONTOLOGY (GTU)

GTU 207 Inclusive Recreation (3). A survey of the characteristics and recreational needs of the various types of exceptional children and adults. (Same as REC 207.)

GTU 264 Psychology of Aging (3). The study of the biological, cognitive, affective and social aspects of the aging process. The normal and pathological conditions of aging are emphasized. The interaction of the aged and society is also considered. Prerequisite: PSY 180. (Same as PSY 264.)

GTU 265 Psychology of Death (3). A study of the place of death in the process of human development. Two viewpoints will be stressed: death of self and death of others. Emphasis will be given to the cultural, social, biological and affective aspects related to the final stage of life. Customs, medical practices, financial concerns, legal matters and scientific issues will be considered. Prerequisite: PSY 180. (Same as PSY 265.)

GTU 303 Community Leisure Organizations (3). Study of administrative and leadership procedures related to leisure organizations in the community. (Same as REC 303.)

GTU 305 Services to Older Americans (3). An examination and study of the social problems experienced by older Americans and the modes of social intervention employed by society through the aging network to assist the aging and aged. Prerequisite: junior standing. (Same as SWK 305.)

GTU 330 Death and Dying: Issues for Caregivers (3). Course addresses concepts of cultural, social, and biological aspects for caregivers as they interact with persons in the final stages of life. Methods of assessment, attitudinal change, and skill development that enhance successful communication with families and patients will be included. Field trips will be required. (Same as HEA 330.)

GTU 340 Medical Sociology (3). An examination of sociological perspectives on health and illness. Particular emphasis will be placed upon health disparities, the social demography of illness, access to and delivery of health care, structure and organization of health care institutions, and societal responses to problems of illness and disease. (Same as SOC 340.)

GTU 341 Social Gerontology (3). An introduction to the sociocultural dimensions of the problems of the process of aging and its impact on individuals and society. Prerequisite: SOC 133 or permission of instructor.

GTU 342 Sociology of Retirement (3). Examination of retirement as a process, an event, and a role. Aspects of retirement as a social institution are reviewed with emphasis upon the implications for the social system. Prerequisite: GTU/SOC 341 or permission of instructor. (Same as SOC 342.)

GTU 400 Independent Studies (3). This course will allow different instructors in the gerontology minor to teach special topics not covered by classes regularly offered. Independent projects will cover a variety of issues, topics and class assignments.

GTU 520 Leisure and Aging (3). Introduction to the physiological, sexual and recreational aspects of aging in American society; exploration of the role of recreation with the aging; emphasis on planning leisure programs with the elderly. (Same as EXS/HEA/REC 520.)

GTU 521 Issues in Social Gerontology (3). A study of theory and research on aging, policies and programs related to nutrition, retirement, health and housing of elderly. Prerequisite: SOC/GTU 341 or permission of instructor.

GTU 596 The Minority Elderly (3). This course focuses on the minority elderly including racial, ethnic and lower income groups. Applicable concepts and theories in social gerontology will also be covered. Prerequisite: nine hours of anthropology, gerontology or sociology, or permission of instructor. (Same as ANT 596.)

GUIDANCE (GUI)

GUI 097 Self-Realization and Career Investigation (3). A course developed especially for Student Support Services students as a prerequisite to GUI 100. The course is designed to enhance students' abilities to examine and identify their values. Decision-making skills which are essential to value clarification, occupation, and course work choices are confirmed through role playing and class discussion. Computer software will be used for the purpose of career investigation. Prerequisite: permission of instructor. Credit earned in this course may not be counted toward graduation requirements.

GUI 100 Self-Development and Career Exploration (1-3). A study of decision-making as it relates to the student's life experiences. In-class activities teach the concepts of decision-making, time management, career planning, assertiveness and communication skills. Credit for general elective.

GUI 119 Solutions for Future Success (1). Course designed specifically for participants in Student Support Services to assist students in acclimating to college life. The development of specific success skills with an emphasis on self-assessment, wellness, campus resources and involvement, as well as utilization of on-line resources.

GUI 121 Advanced Strategies for Academic Success (1). Course designed specifically for participants in Student Support Services to assist students development advanced strategies for academic success.

GUI 122 Attitude, Motivation and Personal Development (1). Course developed especially for Student Support Services participants. The course is designed to enhance students' abilities to examine and identify attitude, beliefs, and values as they pertain to motivation and personal development.

GUI 120 Strategies for Academic Success (1). A course designed to assist students in the academic study strategies associated with college life. The development of specific success skills such as attitude, concentration, motivation, self-discipline, self-testing, selecting main ideas, using support materials, time management and test taking strategies will be included in this class. Prerequisites: Must be a Student Support Services participant. Instructor permission required.

GUI 188 Cooperative Education/Internship (1-3). A meaningful, planned and evaluated work experience related to career exploration and educational objectives of the student for which he/she may receive both academic credit and financial remuneration. GUI co-op courses may be repeated to a maximum of four credits and cannot count as an elective toward a major, minor or area. Graded pass/fail. Prerequisites: freshman/sophomore status with permission of instructor and approval of co-op coordinator.

GUI 251 Seminar in Leadership Development and Experiential Activities I (1-3). This course is designed to introduce the dynamics and concepts of leadership and its application. The concepts to be applied will be taught in the class and followed through in university activities. Prerequisite: permission of instructor. May be repeated once for credit. Graded pass/fail. *Note: A maximum of six hours of credit may be earned or scheduled from any combination of GUI 251, 252, and 450.*

GUI 252 Seminar in Leadership Development and Experiential Activities II (1-3). Continuation of GUI 251. May be repeated once for credit. *Note: A maximum of six hours of credit may be earned or scheduled from any combination of GUI 251, 252, and 450.*

GUI 288 Cooperative Education/Internship (1-3). A meaningful, planned and evaluated work experience related to career exploration and educational objectives of the student for which he/she may receive both academic credit and financial remuneration. GUI co-op courses may be repeated to a maximum of four credits and cannot count as an elective toward a major, minor, or area. Graded pass/fail. Prerequisite: permission of instructor.

GUI 321 Career Preparation and Professional Development (1). Course developed especially for participants in Student Support Services to assist them in examining values, strengths, and weaknesses, as they pertain to choosing a career. Emphasis will be placed on career investigation, job-seeking strategies, and developing a professional image.

GUI 450 Seminar in Personnel Services (3). This seminar will serve as an observation, discussion, participation and evaluation laboratory for individuals who are working in the areas of personnel services. May be repeated once for credit. Prerequisite: permission of instructor. *Note: A maximum of six hours of credit may be earned or scheduled from any combination of GUI 251, 252, and 450.*

HEALTH CARE ADMINISTRATION (HCA)

HCA 301 (401) Overview of the Health Care Delivery System (3). This course is designed to provide the student with a basic understanding of the American health care system by focusing on the people, places and processes of health care delivery. The course surveys important trends in health care delivery and utilization and develops a model of the care seeking process. The major health care resources (personnel, facilities and programs, and the government) and processes (financing, planning and quality assurance) are discussed in detail. (Same as HIA 301.)

HCA 395 Cultural Diversity for Health Care Organizations (3). Course provides an overview of how to define and assess an organization's culture. The course will focus on cultural diversity and how this impacts health care organizations. Emphasis is placed upon developing cultural goals and an overall cultural diversity strategy. The course will focus on some successful healthcare cultures and how each of these cultures provides unique benchmarks.

HCA 405 Hospital and Health Services Administration (3). Prepares administrators and practitioners to manage health care organizations by introducing concepts and skills essential to effective health care administration.

HCA 410 Health Care Planning (3). A course designed to provide health care administrators and practitioners an understanding of the critical issues and techniques used in successful planning efforts, including a comparison of public sector program planning and private sector strategic planning.

HCA 415 Financial Aspects of Health Service Organizations (3). A course designed to provide health care administrators and practitioners a basic understanding of health care financial management principles and their application to the practical aspects of managerial decision-making in health care facilities.

HCA 450 (390) Human Resource Management in Healthcare (3). Concepts in human services management as applied to health services organizations are presented. Topics include the relationship between human resources management and general management, the nature of work and human resources, compensation and benefits, personnel planning, recruitment and selection, training and development, and employee appraisal and discipline. Labor relations topics focus on the history of the labor movement; legal regulations related to labor; union structure and formation; the analysis of union contracts; the collective bargaining process; grievance and arbitration; and the problems of managing with and without a contract. Prerequisite: HCA 405 or consent of instructor.

HCA 480 Special Problems in Healthcare Administration (1-3). This course is variable credit hours from 1 credit hour to 3 credit hours. This course provides

an opportunity for students to engage in research at the undergraduate level. Research projects will be individually arranged with faculty members who agree to direct the research. This course may be repeated up to six credit hours. Prerequisite: Permission of instructor.

HUMAN DEVELOPMENT AND LEADERSHIP (HDL)

HDL 592 Group Processes (3). A study of the history and characteristics of group processes and structure as well as issues in leadership style and development of a model in small group interaction. May not be used toward school counseling certification.

HDL 625 Legal and Ethical Issues (3). Course will present the legal ramifications of work place compliance laws. Plus the ethical aspects of being in a leadership role in today's complex society. An in-depth examination of current contemporary issues in this area will highlight the course.

HDL 631 Educational Data Management Techniques (3). A study of educational data management techniques using the R programming environment for statistical computing and graphics.

HDL 632 Advanced Statistical Analyses of Educational Data (3). A study of advanced statistical techniques (such as regression, power analysis, and bootstrapping) to analyze educational data using the R programming environment for statistical computing and graphics. Prerequisites: HDL 631.

HDL 633 Educational Data Mining (3). A study of educational data mining techniques using the R programming environment for statistical computing and graphics. Prerequisites: HDL 631.

HDL 634 Observational and Interview Data Assessment (3). A study of techniques for the collection and assessment of observation and interview data in educational and clinical settings.

HDL 655 Social Intelligence: Interpersonal Processes (3). Course is an option in of the core of Human Development and Leadership. It helps students to examine and explore the critical area of Social Intelligence, particularly interpersonal processes and effective social competencies.

HDL 660 Developing Human Potential Seminar (3). A course designed to familiarize students with those factors which prevent individuals from reaching their full personal, social and professional potential. Emphasis will be on developing student ability to recognize these factors and the skills for positively effecting individual potential.

HDL 670 Multicultural and Diversity Issues in Leadership (3). The purpose of this course is to focus on the role that cultural environment and diversity plays in the lives of people and the implications of those roles for leaders. There will be an overview of the different micro-cultures to which individuals belong, customs and traditions, diversity issues, with application to self and the role of leader. It is expected that the student will expand his/her multicultural and diversity perspectives and gain greater knowledge of the understanding and practice of intercultural leadership.

HDL 675 Assessment of Human Potential (3). Course focuses on the understanding and utilization of assessment related to personal and professional growth and development.

HDL 681 Leading and Developing Others (3). Course offers an in-depth examination of the complexities of leading others in a dynamic and ever-changing workplace. The applied nature of the course allows students to develop skills related to coaching and mentoring, as well as relational competencies associated with giving appropriate feedback, building leadership capacity in others and creating a workplace culture conducive for growth and development.

HDL 682 Leading Organizations: Processes of Critical Thinking & Problem Solving (3). Course presents approaches for leaders to facilitate change and transformation in organizations and communities. Processes for strategic planning, critical thinking, problem solving and decision-making are examined.

HDL 683 Assessment and Application of Leadership Research (3). This Capstone course offering provides students with an opportunity to explore advanced

organizational research methodologies and information-gathering processes that are essential for leaders in the workplace. The course is designed to provide techniques and skills that students can utilize to advance their research project from ADM 630. Prerequisite: ADM 630.

HDL 684 Contemporary Issues in Leadership Development Seminar (3). The purpose of course is to investigate current trends and issues impacting leadership development. Special topics explored in course include contemporary practices in leadership effectiveness and efficiency, trends in leadership self-care and wellness initiatives and life-work integration. Additionally, topics include an overview of how to plan, design, and facilitate effective professional development and learning experiences for a multi-generational and global workforce.

HDL 692 Individual, Group and Team Dynamics (3). A study of the history and characteristics of group and team dynamics and structure focusing on development of a model for individual and small group and team development. Strategies will include theory and the effective utilization of individual, group, and teams for interventions, development, and facilitation of growth needs for diverse populations. May not be used toward school counseling certification.

HEALTH (HEA)

HEA 100T Transitions (1). Course is designed to assist students in their transition to Murray State University. Content includes orientation to the specific area or major(s) and minor(s) within the academic program; university procedures, policies, and resources; strategies for personal and academic success, and extracurricular opportunities. Only one transitions course will count toward graduation. Graded pass/fail.

HEA 101 Strategies for Success in College and Life (3). Course is designed to help high school students investigate some effective ways to approach college and life's challenges. It will teach the students practical strategies, hints, and tips that can lead to success. Topics include preparation, organization, work ethics, self-evaluation, and rethinking options. While enrolled in the class, students will be required to make one visit to a college/university of their choice.

HEA 190 Personal Health Issues (2). Course designed to educate students about wellness through the acquisition of knowledge, attitudes, and behaviors. The major health-related problems in society are addressed, as well as an understanding of individual developmental patterns and health needs. Broad ranges of factors affecting wellness, including identification of risks and health promotion behaviors, are covered. Topics include, but are not limited to, substance use and abuse, nutrition, sexually transmitted diseases, health risk factors, mental and emotional health, and exercise.

HEA 191 Personal Health (3). This course is designed to educate students about wellness through the acquisition of knowledge, attitudes and behaviors. The major health-related problems in society are addressed, as well as an understanding of individual developmental patterns and health needs. Personal fitness is assessed and activities that promote lifelong fitness are practiced. A broad range of factors affecting wellness, including identification of risk and health promotion behaviors, are covered. Topics include, but are not limited to, substance use and abuse, nutrition, sexually transmitted diseases, health risk factors, mental and emotional health, exercise.

HEA 195 First Aid and Safety (2). The purpose of this course is to give the student knowledge of the practice of first aid including the performance of cardiopulmonary resuscitation. Emergency Cardiac Care and First Aid certifications may be earned.

HEA 201 Introduction to Public and Community Health (3). Course is designed to address aspects of public and community health, survey career opportunities for health professionals, and explore the public, community, and health care delivery systems. Legal, ethical, and philosophical foundations of public and community health will be explored. Topics include health through the lifespan, promoting public and community health, environmental health, and health resources and services.

HEA 260 Introduction to Medical Ethics (3). Course will provide an introduction to basic ethical theory and various approaches to clinical ethical decision-making. This course will cover topics such as truth-telling, informed consent, disability and bioethics, conscientious objection, right-to-die, and responsible conduct of research. Clinical problems related to the practice of health professions will be examined contextually, with attention to institutional, cultural, discursive, and moral issues that undergird controversies in clinical ethics. The course aims to consider the defense of general views on the moral values involved in bioethics, as well as the complicated issues of applying this general knowledge to particular situations.

HEA 300 International Experience in Wellness (3). A study abroad experience highlighting selected historical and modern contributions to health and wellness in a particular country and culture. Prerequisite: consent of instructor.

HEA 301 Chronic and Communicable Diseases (3). Provides an overview of chronic and communicable diseases. Students will examine the processes used in modern society to assist in the identification, prevention, and control of disease. Emphasis will be placed on information and concepts required as foundation knowledge for community health professionals. Prerequisites: BIO 101 and HEA 191 or permission of instructor and overall GPA of 2.0.

HEA 302 (200) Consumer Health (3). Course is designed to address the principles of consumer concepts, marketing, economic protections and source of information in selecting health products and services. Analysis of major consumer health issues and the social and psychological factors that influence consumer choices. Prerequisite: HEA 191 and 201, or permission of instructor and overall GPA of 2.0.

HEA 303 Health Behavior (3). Study of the major theories of health behavior and strategies used to implement health interventions. Students will examine the social, cultural, and environmental influences on behavior and the links between behavior and health. Emphasis will be placed on strategies for putting theory into practice via basic health counseling. Prerequisites: HEA 191 and PSY 180, or permission of instructor and overall GPA of 2.0.

HEA 304 Mental Health: A Public Health Perspective (3). Course is an introductory study of a broad range of common health behavior pathologies with emphasis on how these maladaptive behaviors interfere with one's health and how these behaviors can be an asset or hindrance to health behavior change. This will include the evolution of the biopsychosocial model (multidimensional integrative model), assessment and classification of psychological disorders, different theoretical perspectives on psychological disorders, research methods utilized in the study of psychological disorders, etiology of various psychological disorders, current approaches to treatment of these psychological disorders, treatment options under the United States health care system, mental health programming, cultural competency, and the public health side of mental health. Prerequisite: HEA 303 or permission of the instructor.

HEA 310 Biostatistics in Public Health (3). This course will cover principles of biostatistics in the context of public health application. It will include the basic and advanced statistical techniques for analyzing and investigating public health issues including disparities. A statistical package, like SPSS, will be used. Prerequisites: HEA 201 and MAT 140 or permission of instructor.

HEA 311 Epidemiology (3). Course will introduce and outline the science of epidemiology as it relates and contributes to the fields of public health, medicine, and the social sciences. Additionally, this course will focus on the epidemiology methods used to investigate health outcomes in different situations and populations through identifying causative and associative factors of disease and exposure. Prerequisites: HEA 201 and 310, PSY 300 or STA 135, MAT 140, and overall GPA of 2.0; or permission of instructor.

HEA 330 Death and Dying: Issues for Caregivers (3). This course addresses concepts of cultural, social, and biological aspects for caregivers as they interact with persons in the final stages of life. Methods of assessment, attitudinal change, and skill development that enhance successful communication with families and patients will be included. Field trips will be required. Prerequisites: HEA 110 or 191 or permission of instructor. (Same as GTY 330.)

HEA 338 Oral Health: A Public Health Perspective I (3). Course exposes students to the community-based role of the dental hygienist and the skills required to plan, implement, and assess an oral health promotion program focusing on access to care issues for underserved populations varied in age and setting. This course will prepare the student to complete one cycle of the health promotion program process applying theories, skills, and strategies discussed in class to provide a health promotion event within the local community. Prerequisite(s): HEA 303 or permission of the instructor.

HEA 350 (110) Foundations of Community Health Education (3). Examines the concepts that form the foundation of standards-based comprehensive community health education and promotion. Reviews the National Health Education Standards, Unified Code of Ethics for Health Professionals, and the areas of responsibility for entry-level health educators as identified by the National Commission for Health Education Credentialing (NCHEC). Students will gain experience in designing health instruction for a variety of populations. Assessment plans, including rubrics, will be introduced as a mode for determining the success of health promotion programs. This course is part of the Service Learning Scholars program. Prerequisites: HEA 201 or permission of instructor and overall GPA of 2.0.

HEA 356 Health Promotion Programing (3). Provides practical application of the skills required to plan, implement, and assess a health promotion program for populations varied in age and setting. Students will complete one cycle of the process, applying theories, skills, and strategies discussed in class to provide a health promotion event within the local community. Prerequisite: HEA 303 or instructor permission. This course is part of the Service Learning Scholars program. (Same as EXS 356.)

HEA 360 Health Education Services (3). This course is designed to prepare the health education student with the skills necessary to coordinate and provide resources for health education programming and presentation. The purpose is to assist the student in assessing the available health-related services at the local, state and national levels, determining the resources and materials available for use in health education programs, and enhancing coordination and collaboration among personnel in health services and health education programs. Prerequisites: HEA 110, HEA 191, HEA 200 or permission of instructor.

HEA 386 Health and Disability (3). This course will address the evolving view of disability in the field of public and community health. Students will be introduced to a broad range of topics to increase their understanding of the contemporary experience of disability in America, such as the medical, psychosocial, vocational, political, and cultural aspects of disability. This course will examine how the intersection of education, employment, and/or environment impacts the health and wellbeing of people with disabilities and acquaint students with an array of service modalities used to address health and adjustment of people with disabilities. Prerequisite: HEA 201 or permission of instructor.

HEA 412 Environmental Health: A Public Health Perspective (3). Course examines factors in the environment that impact human health. This course is designed to explore ways in which humankind may control the environment in order to minimize deleterious effects on health and quality of life. Topics such as how certain environmental health conditions could be an asset or barrier to health, health behavior change, and community participation; environmental health advocacy, justice, and programming; the public health side of environmental health; and environmental epidemiology will be discussed. Prerequisite: HEA 201 or permission of the instructor.

HEA 415 Communication Techniques for Health Care Providers (3). Course explores various effective communication techniques for health professionals. Prerequisite: permission of instructor.

HEA 438 Oral Health: A Public Health Perspective II (3). Course exposes students to the community-based role of the dental hygienist and provides practical application of the skills required to plan, implement, and assess an oral health promotion program focusing on access to care issues for underserved populations varied in age and setting. This course will prepare the student to complete one cycle of the health promotion program process applying theories, skills, and strategies discussed in class to provide an oral health promotion even within the local community. Prerequisite: HEA 338 or permission of the instructor.

HEA 448 (411) Health Policy (3). Course provides a systematic and critical review of health policy development, implementation, and evaluation. This course provides a comprehensive analysis of health policies and their impact on health care. This will include the policy process of health care in the United States, the impact of these policies at all levels of government, and the role of providers, industry, labor, and consumer in health policy. Prerequisites: HEA 201, HEA 302, and HCA/HIA 301; or permission of instructor.

HEA 460 Human Sexuality (3). This course is designed to acquaint students with issues of human sexuality. Topics include gender, sexual anatomy and physiology, love, sexual arousal and response, sexual behaviors and relationships, conception, pregnancy, contraception, sexually transmitted diseases including HIV/AIDS, and sexual victimization. The purpose is to examine human sexuality from biological, psychological, behavioral, clinical, and cultural perspectives. Prerequisites: HEA 303 and HEA 350 or permission of instructor and overall GPA of 2.5.

HEA 470 Education for Drug Abuse Prevention (3). This course seeks to develop the student's concept of drug education through in-depth exploration, research and discussion of problems related to alcohol, tobacco and other drugs. Special emphasis on the effects of abuse for the individual and on the effects of abuse for the individual and society. Prerequisites: HEA 303 and HEA 350 or permission of instructor and overall GPA of 2.5.

HEA 475 Health Assessment and Evaluation (3). Course presents concepts, procedures, and methods for the identification of population-based needs for public and community health interventions, development of programs to meet those needs, and evaluation of the effectiveness of these interventions. The course integrates several knowledge and skill areas including research methods, epidemiology, biostatistics, proposal writing, budget planning, project management, and program evaluation. Prerequisite: HEA 356 or permission of instructor.

HEA 480 Special Problems in Public and Community Health (1-3). Course provides an opportunity for students to engage in research at the undergraduate level. Research projects will be individually arranged with faculty members who agree to direct the research. This course may be repeated for a maximum of six credit hours. Prerequisite: permission of instructor.

HEA 490 Senior Seminar in Public and Community Health (1). This seminar course is for public and community health students with a primary focus on preparation of seniors for a variety of employment environments and professional development. Recommended for students enrolled in their next to last undergraduate semester. This course will help prepare students to participate in HEA 499. Prerequisite: senior standing or permission of instructor.

HEA 499 Professional Experience in Public and Community Health (3-6). A course designed for the public and community health major to serve with a community health organization or agency under the direction of faculty and field supervisors. This course is designed to be taken when the majority of other coursework has been completed and just prior to graduation. A minimum of 320 service hours are required. May be repeated for a maximum of six credit hours. Prerequisite: HEA 490, senior standing, permission of instructor, and overall GPA of 2.50.

HEA 520 Leisure and Aging (3). Introduction to the physiological, sexual and recreational aspects of aging in American society; exploration of the role of recreation with the aging; emphasis on planning leisure programs with the elderly. Prerequisites: senior standing, permission of instructor, and overall GPA of 2.5. (Same as EXS/GTY/REC 520.)

HEA 575 Human Sexuality II (3). This course is an advanced study of issues of sexuality including sexual exploitation, sexual victimization, sexual abuse, sexual harassment, altered body image and sexual function, family structures, the law and sexuality issues, and new research in sexual health. Prerequisite: HEA 460, senior standing, permission of instructor, and overall GPA of 2.5.

HEA 648 Health Policy (3). Course provides a systematic and critical review of health policy development, implementation, and evaluation. This course provides a comprehensive analysis of health policies and their impact on health care. This will include the policy process of healthcare in the United States, the impact of these policies at all levels of government, and the role of providers, industry, labor, and consumer in health policy. Prerequisite: permission of instructor.

HEALTHCARE INFORMATION ADMINISTRATION**(HIA)**

HIA 301 Overview of the Healthcare Delivery System (3). Course provides an overview of historical and contemporary topics associated with health care systems and their components. The course examines the complex components of the nation's health care system and their interactions including, organizational structure, financing, the impact of technology, utilization determinants and the involvement of federal agencies as well as private sectors. (Same as HCA 301.)

HIA 302 Legal Aspects of Health Information Administration (3). Course examines the legal dimensions of administration of quality health care. The course will explore legal issues that impact health care institutions, patients, and health care employees as well as current trends associated with changes in the law, technology, and populations. Prerequisites: BIO 220, CIS 317, and TSM 351.

HIA 303 Healthcare Coding and Classification (3). Course provides the student an introduction to the skills of medical coding and classification of disease, injuries, encounters, and procedures using standard applications of medical coding guidelines to support reimbursement of health care services. Prerequisite: BIO 220.

HIA 401 Healthcare Quality Management (3). Course will explore the essential principles and techniques of quality improvement applied to patient care and the management of services in health care organizations will be emphasized. Prerequisites: HEA 310, PSY 300 or STA 135, HIA 301, and overall GPA of 2.5; or permission of instructor.

HIA 402 Medical Coding and Reimbursement Systems (3). Course provides the student with knowledge and skills needed to work in the health information field. Emphasis will be on a comprehensive overview of insurance, billing, medical coding, electronic records, and reimbursement systems. Students will learn about claim submissions, Health Insurance Portability and Accountability Act of 1996 (HIPPA) regulations, review of medical records, verification of patient benefits, secondary claims, posting payments, and appealing insurance decisions. Prerequisite: BIO 220 and HIA 303.

HIA 410 Healthcare Data Structures and Management (3). Course provides the student with the knowledge of standards and best practices needed to perform effective project management, information technology management, and change management for implementing digital medical records. The core management processes that take place within each knowledge area are reviewed. These areas include the initiating, planning, executing, controlling, and closing stages of a healthcare technology project. Prerequisites: HIA 401 and overall GPA of 2.5; or permission of instructor.

HIA 480 (499) Special Problems in Health Information Administration (1-3). Course provides an opportunity for students to engage in research at the undergraduate level. Research projects will be individually arranged with faculty members who agree to direct the research. This course may be repeated for a maximum of six credit hours. Prerequisite: permission of the instructor.

HISTORY**(HIS)**

HIS 100T Transitions (1). Course is designed to assist students in their transition to Murray State University. Content includes orientation to the specific area or major(s) and minor(s) within the academic program; university procedures, policies, and resources; strategies for personal and academic success, and extracurricular opportunities. Only one transitions course will count toward graduation. Introductory seminar for all first semester history majors. Graded pass/fail.

HIS 105 History of Fashion (3). This introductory seminar examines major trends in fashion, with an emphasis on fashion as a historically and culturally constructed system that both reflected and shaped political, economic, social, and cultural systems.

HIS 106 Revolutions and World History (3). An introductory seminar on the history of revolutions. The course explores the concept of revolution and various contexts in which revolutions have taken place, and it examines examples such as the American, French, Haitian, Russian, Chinese, Mexican, and Iranian

revolutions. This course helps students grapple with the difficult moral and ethical issues raised by revolutionary upheaval and its consequences for different groups in society.

HIS 108 The Holocaust (3). An introductory seminar focusing on the history of the Holocaust. This course explores the various genocidal projects implemented by Nazi Germany from 1933 to 1945. It also deals with issues of memory and with the legacies of the Holocaust for world history and seeks to engage students in the difficult moral and ethical questions raised by the Holocaust.

HIS 110 Special Topics in History for Study Abroad (3). Designed for students enrolled in a study abroad program, HIS 110 is an academic course involving both traditional classroom learning and experiential learning opportunities in an international setting. This course will cover a particular historical topic, period, personality or problem. Specific subject matter will vary according to student and faculty interest and in relation to study abroad locations and opportunities. Does not count toward history major or minor.

HIS 120 Exploring Chinese Cities: Heritage and Modern Life (3). This introductory seminar examines major themes of tradition, modernity, and globalization in the history of four Chinese cities: Beijing, Shanghai, Xi'an, and Qingdao. It also explores tourist attractions and day-to-day life in these Chinese urban centers.

HIS 130 Sports and Society in Modern America (3). Course will offer a survey of development of sports in American society since 1945. It will focus on the major spectator sports and emphasize international, professional, collegiate, and youth sports around the themes of race, gender, economics, and culture.

HIS 176 History of the United States Constitution (3). This course will analyze the historical development of the U.S. Constitution from its inception in the late seventeenth century to the present day.

HIS 201 Modern Europe (3). A study of major political, economic, social and intellectual forces in European history, tracing their development through the past five centuries. This course is designed both to provide history majors and minors with background for work in upper-level courses and to acquaint students in other fields of study with the persons, forces and values that have created modern Western civilization.

HIS 202 Understanding Global History (3). A study of major themes and methods of exploring global history. The course focuses on approaches to understanding the world and is designed to provide background for upper-level courses as well as to acquaint students with the forces and ideas that have shaped global history.

HIS 221 American Experience to 1865 (3). A thematic approach to the history of the U.S. to 1865, designed as a University Studies social science elective. Three basic themes will be included: the transplantation of European and African cultures to America and their interaction with the cultures of native American Indians; the emergence of distinctive American values and institutions and the establishment of the American nation; and the stresses that culminated in the Civil War.

HIS 222 American Experience Since 1865 (3). A thematic approach to the history of the U.S. since 1865, designed as a University Studies social science elective. Students will examine three themes: the forces that transformed America from a predominantly rural, agricultural society to a predominantly urban, industrial one; the rising political consciousness of various American groups and the expanding regulatory role of the federal government; and the emergence of America as a world power.

HIS 300 Introduction to Historical Studies (3). Introduction to the methods by which historians study the past and present their conclusions to the public. Students will be expected to write a research paper in which the emphasis will be placed on developing research skills, organizing the results in a coherent form, and developing an effective writing style. Required for history majors as a prerequisite for 400-level courses and recommended for anyone interested in developing research and writing skills. Prerequisites: ENG 101 and 102 or ENG 105 or 150; two of the following or transfer equivalents: HIS 201, 221, or 222.

HIS 301 Ancient History to the Fall of Rome (3). A study of the Near East, Greece and Rome with particular emphasis on the influences of these civilizations on modern Western civilization. Particular attention will be paid to the development of democratic and republican forms of government.

HIS 302 Medieval Europe (3). A survey of the major events in Western history from the Fall of Rome to the Renaissance, with special emphasis on those political, economic, social and cultural-intellectual forces and institutions that helped form the modern world outlook. (Same as RGS 302.)

HIS 304 The History of Ireland (3). A systematic investigation of the history of Ireland from first human habitation, with an emphasis on the period since 1500. The course will look at the development of, and interactions among, the various cultural/religious traditions of Ireland and the long struggle of the Irish people to attain self-government.

HIS 305 The Irish Diaspora (3). A systematic study of the dispersal of Irish people around the world, focusing on their interaction with the various host cultures they have encountered both as settlers and in other roles. Particular attention will be given to the Irish on the European continent and in Britain, the United States, Canada, Australia, South Africa, and South America, especially Argentina.

HIS 306 Europe in Renaissance and Reformation (3). A survey of the development of Western Europe, emphasizing the Protestant and Catholic Reformations, the Crisis of the seventeenth century, the Scientific Revolution, the English Revolutions of the seventeenth century, and France under Louis XIII and XIV. (Same as RGS 306.)

HIS 307 Imperial Russia (3). An exploration of Russia's history beginning with the establishment of an empire in the sixteenth century, to the reigns of Peter the Great and Catherine the Great, and the revolutions of 1917. Six themes will be stressed: the state's exercise of power, dissent and rebellion, social/gender relationships, intellectual thought, cultural production, and daily life.

HIS 308 (408) Modern Russia (3). Course focuses on revolutionary and Soviet eras (1905-1991), as well as the years since the collapse of the USSR. Political, social, and cultural history are stressed.

HIS 309 Survey of World Religions (3). A study of the historical development of Christianity, Islam, Buddhism, and other world religions, with special attention to their similarities and differences. (Same as RGS 309.)

HIS 310 History at the Movies (3). This course, which treats films as cultural products and historical documents, explores the ways in which films represent the historical past, examines changes in popular understandings of the past, and considers debates over cinematic versions of history. Topics will vary depending on instructor.

HIS 311 (411) Modern France (3). A study of political traditions which have divided French people, challenges posed to the Third Republic, and the transformation of French society since World War II.

HIS 312 (412) Modern Germany (3). A study of the political, social-economic, and cultural history of Germany from the late eighteenth century to the present, with particular attention to how the history of Germany was connected to the affected broader European and global history.

HIS 313 (409) Tudor and Stuart England (3). A study of the molding of the English monarchy and of the eclipse of its authority by the social and political groups which came to dominate Parliament by the seventeenth century.

HIS 315 Women in American History (3). This course will examine the position and contributions of women in American society from the colonial period to the present from the perspective of the major trends in American history. It will focus on significant women in each period, while emphasizing several particular themes.

HIS 316 Women and Gender in World History (3). Introduction to the histories of women and gender in diverse societies. Topics include the origins of patriarchal institutions; women's cultures; feminist philosophies and movements;

the role of family, work, society, and culture in creation gender and sexual distinctions; and theories and methods in the study of women and gender. (Same as GDS 316.)

HIS 317 Modern Greece and Italy (3). A study of major themes and methods of exploring modern Greek and Italian history. This course focuses on the tremendous changes that occurred in these societies during the modern period and it examines the commonalities and connections between recent Greek and Italian history.

HIS 319 (406) Europe Since 1945 (3). An advanced survey of the history, politics, and culture of post-WWII Europe. Particular attention will be given to the Cold War, the rise of the European welfare state, the formation of the European Union, and the challenges faced by an increasingly cosmopolitan Europe in the twenty-first century.

HIS 320 African-American History (3). A survey of the history of black Americans from their African heritage to the present. Special attention will be devoted to the African background, the experiences of slavery, and the various forms of black resistance to discrimination.

HIS 321 (422) United States Social and Cultural History Since 1865 (3). The development of American society and thought since the end of the Civil War. Emphasis is placed upon the forces that have shaped the daily lives of the American people: racial and ethnic diversity, industrialization and urbanization, immigration, mass media, religious traditions, and modern transportation.

HIS 322 History of Religion in the United States (3). The historical development of organized religion in America, with special attention to the relationships between religion and other features of American society. (Same as RGS 322.)

HIS 323 The Great American West (3). A survey of the westward movement from the Mississippi River to the Pacific Ocean, beginning with the Lewis and Clark expedition in 1804 and ending with the closing of the frontier in 1890. Emphasis is placed on the political and economic development of the Trans-Mississippi region; attention will also be devoted to biography, social, institutions, and folkways.

HIS 324 Science in the Modern World (3). A survey of the development of science in the Western world from Newton to the present.

HIS 325 Disease in History (3). This course investigates the impact of disease on human society from ancient times to the 20th century. We explore how societies of the past have responded to both epidemic and endemic diseases, including plague, cholera, leprosy, influenza, syphilis, smallpox, and HIV. We also examine the history of germ theory, the development of biological weapons, and future threats to human health.

HIS 326 History of American Roots Music (3). Course is designed to provide undergraduates with an introduction to the historical development influences, and impact of American Roots Music. This course focuses upon early oral traditions and development of diverse recognized American musical forms, and the history of the evolution of American music as a mega-media industry and global force for social and political change.

HIS 327 America's Eastern Frontier to 1830 (3). A survey course that examines the European invasion during the contact era from the Atlantic Tidewater to the Mississippi River, the conquest and consolidation of the pre-colonial America to nationhood, and ends with Indian removal in 1830. Emphasis is placed upon the frontier experience, cultural, social, and ethnic issues, population movements, the expansion of American ideals and institutions, and the history of American Indians.

HIS 329 The North American Indians (3). A history of the Indians of North America from the earliest times until the late nineteenth century. This course focuses on the cultures, customs and traditions of the various Indian civilizations of the United States.

HIS 330 Sports in America (3). This course will offer a survey of the institutional development of American sports from the colonial period to the present. It will focus on the major spectator sports and emphasize the role of professional sports as an institution of social mobility, the development of race relations,

the bureaucratization and professionalization of sports as an entertainment industry, and the struggle of athletes for collective bargaining rights.

HIS 331 A Global History of Piracy (3). Course is designed to provide undergraduates with an introduction to the history of the universal phenomenon of piracy and its economics and global impact upon empires from piracy's beginnings to the present day. Particular emphasis will be given to how pirates shaped colonial economies, societies, and cultures of the U.S., Caribbean, Far East, Mediterranean, and Africa. World religions, cultural diversity, gender, and consolidation of empire are also discussed.

HIS 332 (430) Colonial America to 1763 (3). An explanation of the transplantation of European and African culture to the United States, the adaptation of these cultures to the New World environment, their impact upon eastern Indian cultures and the rise of distinctly American institutions and ideas. The course will emphasize the evolution of English colonial policies and the comparison of New England, Middle Atlantic and Southern colonial experiences.

HIS 333 Military History of the United States (3). A consideration of American military history from colonial militias through the role of the military in Vietnam. Topics covered include the causes of war, methods of recruitment, military policies, and the effect of the industrial revolution and technology on war. (Same as MIL 333.)

HIS 334 Food and Agriculture in the United States (3). An exploration of the historical development of food and agriculture in the United States, from the colonial period to the present. Emphasis will be on agricultural production, labor conditions, technological changes, and environmental transformations, alongside developments in regional and national cuisines.

HIS 335 (431) America in Revolution (3). Spanning the revolutionary and early national periods of American history, this course focuses upon the United States' transformation from colonies to a nation. It emphasizes the American struggle for independence, economic as well as political, and the clash of values, interests and ambitions that produced the American system of government.

HIS 340 Modern East Asia (3). This course is designed to provide undergraduates with an introduction to the history of the major countries of the Far East. The development of modern China and Japan will be examined, with special attention given to their varying responses to both western intrusion and internal social problems, from the seventeenth century to the present.

HIS 341 (434) Civil War and Reconstruction (3). Covers the period from the beginning of the Civil War to the presidential election of 1877. If the course has a distinguishing emphasis, it is on political history, but the course gives due attention to military, economic and social history.

HIS 346 (446) History of Kentucky (3). The process of political, economic and social evolution in Kentucky is traced from early settlement to the modern era. Geographical influences upon the patterns of Kentucky development, Kentucky's changing role within an expanding union, and the Commonwealth's participation in national movements and events are stressed.

HIS 350 History of Latin America (3). A survey of Latin American history from pre-colonial times to the present. Special attention will be given to the early Indian Civilizations, Spanish colonization, the struggles for independence and the problems of Latin American nations in the modern world.

HIS 352 20th Century World (3). A history of the 20th century world from the age of High Imperialism to the end of the Cold War, the subsequent globalization (economic, political technological, environmental) and conflicts emerging from resistance to that process.

HIS 354 Ancient Near East (3). A survey of Near Eastern history from prehistoric times to the end of the Persian Empire. Included are the emergence and development of civilizations in Mesopotamia, Asia Minor, Syria, and the Levant; the origins and influence of Near Eastern religions including polytheistic cults, Judaism, and Zoroastrianism; and the development of societies from city-states to large territorial empires. Special attention will be given to the art, literature, philosophy, and material culture of the civilizations within the region. (Same as RGS 354.)

HIS 355 Islamic Middle East (3). History of the Middle East from the 7th century to the 19th century. The course will examine the apostleship of Muhammad, the question of succession and the Sunni-Shi'ah schism, the government, society, and culture of the High Caliphate, the decline of Arab power and the rise of the Turks, the Islamic perspective of the Crusades, the revival of Islamic power under the Gunpowder Empires, and the decline of Islamic civilization in the face of Western expansion. (Same as RGS 355.)

HIS 356 Modern Middle East (3). History of the Middle East from 1700 to present, emphasizing political, social, and economic development of the region. Topics include the decentralization of empires, European imperialism, nationalism, constitutionalism, secularism, and state building. (Same as POL 356.)

HIS 357 Modern Iraq and Iran (3). Course compares the histories of Iran and Iraq from 1500 to the present. The two neighbor states share a majority Shi'i Muslim population, but have also developed bitter rivalries. Topics include economic, social, and political developments of the two nations.

HIS 359 Early India (3). The course examines the formation of India's traditions, cultures, and identities from c. 2500 B.C.E. to c. 1500 C.E. and analyzes the various approaches and perspectives that have contributed to our knowledge of this ancient past. An interdisciplinary approach is emphasized to better appreciate the rich diversity in art, literature, religions, and languages that accompanies the political, economical, and social changes of this period in India's distinctive regions and locales. Prerequisite: CIV 201 or 202.

HIS 360 Modern India (3). Course surveys the historical development of the peoples, nations and cultures of the Indian subcontinent since the seventeenth century. The course begins with the Mughal period, then examines British colonial rule, independence movements and Partition, and concludes with an analysis of the problems of post colonial nation-state building. The major themes and topics considered include representations of tradition and modernity in identity, culture and community, tensions between political and economic centralization and regionalism, and continuity and change in the organization of state, society and economy in imperial, colonial and postcolonial India. Prerequisite: CIV 201 or CIV 202.

HIS 361 Teaching History (3). A course offering practical approaches for teaching history in the public schools using a concepts-and-problems approach. The course will focus on either the history of the United States or world history, and therefore could be taken twice for credit if the focus is different the second time. Does not count toward the major in history. Consult the department chair.

HIS 362 Ancient Egypt (3). A survey of Egyptian history from prehistoric times to the Late Period. Included are developments during the pre- and proto-dynastic periods, the formation and general history of the Old, Middle, and New Kingdoms, and the collapse of Egyptian society leading to the Persian conquest. Topics covered will include Egyptian religious beliefs, organization, daily life, and contributions to world culture. (Same as RGS 362.)

HIS 363 Ancient Greece (3). A survey of Greek history from prehistoric times to Alexander the Great. Included are developments during the Bronze Age Minoan and Cycladic cultures; Mycenaean civilization; the origin and formation of the Greek city-state; and the history of individual city-states such as Athens and Sparta. Special attention will be given to Greek art, literature, and philosophy, as well as the impact of Greek culture on later civilizations. (Same as RGS 363.)

HIS 364 Ancient Rome (3). A survey of Roman history from prehistoric times to the Third Century Crisis. Included are the origins of the city of Rome; the Roman monarchy; the origin and formation of the Roman Republic; Republican society and philosophy; the transition from Republic to Empire; and the impact of Rome on the territories and peoples it conquered. Special attention will be given to Roman artistic, literary, and philosophical influences, as well as the impact of Roman culture on later civilizations. (Same as RGS 364.)

HIS 370 History of Africa (3). A survey of the main trends in African history from the origins of man through the successes of African nationalism in the mid-twentieth century. Emphasis will be placed on the development of African civilizations, their interaction with Islamic and European civilizations, and the adaptations resulting from those contacts.

HIS 380 Introduction to Public History (3). An introduction to the various areas in which historians work outside academe, including museums, historic preservation programs, archives and special collections libraries, and oral history programs, among others.

HIS 381 Environmental History of the Americas (3). This course examines American environmental history from a global perspective. It emphasizes patterns of environmental practices in Native American, European, and African contexts as a basis for studying the ecological history of the Americas in the modern period, and engages in a comparative analysis of how colonialism an imperial expansion affected ecological practices in the United States and Latin America. Field trip may be required.

HIS 382 Ecological History (3). This interdisciplinary course emphasizes the historical relationship between humans and the physical environment in world history and explores theoretical questions about the meaning of “nature” and the place of humans in the “natural world.” Field trip may be required.

HIS 385 The Atlantic World (3). Course surveys the history of the “Atlantic World”, defined as a zone of interaction between peoples in Europe, Africa, and the Americas. It explores transatlantic connections from 1450 through the nineteenth century and questions whether the cultural, social, ecological, economic, and political links across the ocean during this period integrated a fundamentally Atlantic World. While focused on the Atlantic, this course considers parallel developments in the histories of colonization and empire in the Indian Ocean and Pacific regions.

HIS 390 Special Topics (3). A course designed as an elective for the general student; it will cover a particular topic, period, personality or problem of the past. Specific subject matter varies from semester to semester, according to student and faculty interest. Open to history majors and minors with approval of the instructor. May be repeated for a maximum of nine credit hours with permission.

HIS 400 Professional Engagement Senior Seminar (3). An applied learning capstone course for history majors based on research, writing, oral forum presentation and evaluation of a senior research project, in which the student will work at least twenty-five hours on an approved project utilizing skills related to the study of history. Required for all history majors. Prerequisites: HIS 300 and senior standing or permission of the instructor or department chair.

HIS 401 The French Revolution (3). This course has three main areas of emphasis: eighteenth-century French society and culture, the causes of the French Revolution, and the career of Napoleon Bonaparte. The course’s main theme is that the Revolution was a watershed in history.

HIS 402 Nineteenth-Century Europe (3). A social, political and cultural history of Europe’s great age, the period from the French Revolution and Napoleon to the outbreak of the First World War.

HIS 403 Europe Since 1914 (3). Readings on topics in twentieth-century Europe since 1914. Students should have a basic understanding of European history. Prerequisite: HIS 201 or 202.

HIS 407 Modern Imperialism and Colonialism (3). Advanced survey of the history, politics, economics, and culture of global empires since the fifteenth century. Particular emphasis will be given to the European colonial empires in the Americas, Asia, and Africa. States such as the Ottoman, Qing, and Japanese empires will also be discussed. The course explores how modern empires were built and maintained, the ways in which colonized people sought to deal with empire, the effects of imperialism on home countries, and the reasons that empires collapsed.

HIS 410 Modern Britain and Empire (3). A study of Britain since the Stuarts, including its age of greatness in the nineteenth century and its decline in the twentieth century. Political and cultural history are emphasized.

HIS 413 Revolutionary Russia (3). A study of the Russia revolutionary era, from the late tsarist to the early Soviet era. The course examines the sources, process, and consequences of revolution, stressing political, economic, social, and cultural transformation. Differing historical interpretations of Russia’s revolutions will also be considered.

HIS 414 Europe During World War I and World War II (3). An introductory survey of European history from 1914 to about 1945. It will describe and analyze the events leading to both World Wars as well as some of the consequences of those wars, delineating the major military figures and the military history of the World Wars.

HIS 415 Women in History (3). An examination of the position and contributions of women in history. Topics will vary.

HIS 418 World War II in Asia and the Pacific (3). The course will examine the origins of the course of the war that began in Manchuria in 1931, expanded to China south of the Great Wall in July of 1937, from there to Pearl Harbor, Southeast and South Asia and the Pacific Islands by late 1941, and ended at Hiroshima and Nagasaki.

HIS 419 The Third Reich (3). An advanced survey of the history, politics, and culture of the Third Reich in Germany (1933-1945). This course will cover the rise, fall, and aftermath of the Nazi regime with a particular emphasis on the Holocaust and the Second World War. Prerequisites: HIS 300 or permission of instructor.

HIS 421 United States Social and Cultural History to 1865 (3). The development of American society and thought from the colonial period to the end of the Civil War. Special emphasis is placed upon the forces that have shaped the daily lives of the American people: immigration, religious traditions, the frontier, economic change, ethnic diversity, slavery, and war.

HIS 424 United States Foreign Relations Since 1898 (3). An analysis of the United States’ relations with other nations since 1898. Special emphasis is placed on the role of “ideals and self-interest” in foreign relations.

HIS 433 Jacksonian America and Sectional Conflict (3). Covers the period from 1815 to the presidential election of 1860 and the break-up of the union. Emphasis is on the political, social and economic conditions as they related to the sectional controversy that raged during this part of the nineteenth century. Some specific topics include the rise of the common man, the Jacksonian era, slavery, and the abolitionist movement.

HIS 435 Transformation of America 1877-1929 (3). A study of the transformation of the United States from an agricultural to a modern industrial nation. Topics included within this broad theme are the rise of big business and labor unions, urbanization, immigration, the closing of the frontier, reform movements, the struggles of blacks and women for equal rights, national politics, and cultural changes.

HIS 436 Recent America (3). A study of the Great Depression, the New Deal, World War II, and the subsequent forces that have shaped contemporary American life. Emphasis is placed on the role of the United States in international relations, the civil rights movement, and domestic economic developments.

HIS 441 History of the Old South (3). A survey of southern history from colonial times through the Civil War. Emphasis is placed on examining slavery, social life, the emergence of southern nationalism, and the South during the Civil War.

HIS 442 History of the New South (3). A survey of southern history from the end of the Civil War to the present. Emphasis is placed on the enduring characteristics of the South as well as the process of change since World War II.

HIS 449 Islam in the Modern and Post-Modern World (3). The course will examine major trends and movements within Islam from the eighteenth century until today, including Salafism, Wahhabism, post-colonialism, nationalism, feminism, terrorism, and jihadism. In addition to considering developments in the Middle East and North Africa, this course will explore expressions of Islam around the globe, particularly in South Asia, Africa, Europe, and North America. (Same as RGS 449.)

HIS 450 Modern Africa (3). A study of Africa since about 1880, including the transformation of African societies in contact with other cultures, the growth of nationalism and nationalist movements, and the questions of African unity and neocolonialism. (Same as POL 450.)

HIS 451 Africa, Slavery and the Diaspora (3). An advanced survey of the history of slavery in Africa and the African diaspora. This course closely examines the period from 1400 to 1800, as well as slavery in Africa in the nineteenth and twentieth centuries. Particular emphasis will be given to the effects of slavery on the social and political fabric of Africa and the world beyond.

HIS 456 The Arab-Israeli Conflict (3). Study of the historical background to the conflict between the state of Israel and the Arab states. Examines the origins of Zionism and of Arab nationalism in the 19th century, the phases of Jewish settlement in Palestine, the consequences of the First World War for Zionist and Arab nationalist movements, the British Mandate in Palestine, the Israeli war for independence in 1948, Nasserism, the Suez War, the Six-Day War, the invasion of Lebanon, the Intifada, and the possibilities for peace.

HIS 459 Genocide in World History (3). An advanced survey of the causes, course, and consequences of genocide throughout world history from the ancient world to the present. This course will explore case studies from different areas of the world across time. Special attention will also be given to the issues of memory, recollection, and justice. Prerequisites: HIS 300 or permission of instructor. (Same as RGS 459.)

HIS 472 Modern China (3). A study of the political, economic, social and intellectual forces in modern China from 1850 to the present. This course is designed to provide the student with an in-depth knowledge of the major civilization of East Asia.

HIS 474 China in Revolution (3). A study of the last decade and collapse of the Qing dynasty and China's subsequent search for unity and political form, beginning with the Republic, proclaimed in 1912, and ending with the Tiananmen massacre of 1989.

HIS 475 Modern Japan (3). The cultural and political history of Japan from its unification under the Tokugawa Shogunate to the present. Major topics examined include the Japanese success in meeting the challenge of Western imperialism in the nineteenth century, Japan's own venture into imperialism on the Asian mainland in the twentieth century, and the Japanese economic phoenix in the postwar era.

HIS 476 The World Since 1945 (3). A survey of new directions in modern history, particularly the rise of the USA and the USSR as world powers and the end of the colonial empires of Asia and Africa. This course will discuss the Cold War through international relations, the escalation of wars in Southeast Asia, Africa, Latin America, and the Middle East, as well as rival strategies for economic and cultural development in the post-war world.

HIS 478 Comparative Civilizations after 1500 (3). Comparative analysis of civilizations after 1500. The course will introduce comparative methodology and analyze values and institutions across cultural boundaries. Particular attention will be given to comparative change within Asian, African, and Western civilizations during the era of Western expansion. Prerequisites: CIV 201 and 202 or equivalent world history survey.

HIS 479 Comparative History Topics (3). This course is designed to provide upper-class students with specialized studies of topics (such as racism, industrialism, nationalism and revolution) that cross national, class and chronological boundaries. Topics offered will vary with interests of students and instructors. May be repeated for a maximum of nine credit hours with permission of chair and instructor.

HIS 481 Revolutionary Mexico 1810 to the Present (3). An in-depth examination of Mexico's history since 1810. Emphasis will be given to economic development and diplomacy during the Diaz regime, the role of culture and North American influence in Mexico's development, and the coming of the 1910 revolution and the one-party state.

HIS 488 Cooperative Education/Internship (1-3). A meaningful, planned, and evaluated work experience related to the career and educational objectives of the student for which he/she may receive academic credit and possible financial remuneration. May be repeated for a maximum of six hours from any 488/489 courses. Graded pass/fail. Prerequisite: permission of chair.

HIS 489 Cooperative Education/Internship (1-3). A meaningful, planned, and evaluated work experience related to the career and educational objectives

of the student for which he/she may receive academic credit and possible financial remuneration. May be repeated for a maximum of six hours from any 488/489 courses. Prerequisite: permission of chair.

HIS 490 History Study Abroad (1-3). Course will offer students a direct experience of history through a study abroad program linked to a standard, semester-long Corequisite upper or lower level history course. Course will give students opportunities to travel abroad in a structured program to historic sites and museums related to the subject matter of the Corequisite course. May be repeated for up to six hours. The instructor reserves the right to admit students who have completed the Corequisite course as well as MSU faculty/staff. Corequisite: HIS 490 must be taken with a semester-long history course designated for that purpose. Prerequisite: HIS 300 or permission of instructor.

HIS 491 Domestic Travel History (1-3). Offers students a direct experience of history through a focused travel program linked to standard on-campus history course. This is intended to supplement normal classroom learning activities by giving students opportunities to visit historic sites and museums related to the topic or time period of the course. May be repeated for up to six hours. Corequisite: Must be taken with a semester-long history course designated for that purpose. Prerequisite: HIS 300 or permission of instructor.

HIS 492 Historic Preservation (3). This course will provide a general overview of the different aspects of historic preservation, including downtown revitalization, neighborhood organization, historic house management, preservation legislation, preservation education and historic architecture. Much of the class is taught in a laboratory atmosphere, with students making on-site visits to a variety of historic preservation projects. Emphasis is given to the study of the development of American architectural styles, so that students can recognize historic houses and place them in a wider context.

HIS 493 Archival Principles and Practices (3). An in-depth introduction to the care of historical materials, including archives, manuscripts, photographs and ephemeral items.

HIS 494 Historic Interpretation Internship (3). This course will provide on-the-job training in historical interpretation for museums, public or private agencies and historic sites. Each student will be placed in an internship (generally for 12 weeks in the summer) in which he or she will work in an interpretative capacity and conduct a major research project related to the historic interpretation programs of the agency. The student will present the results of this research in a formal paper to a designated advisor in the Department of History. This course will count as a part of the major, but no student will be permitted to repeat the course for credit.

HIS 495 Special Topics II (3). A course designed as an elective for the upper level undergraduate student; it will cover a particular topic, period, personality or problem of the past. Specific subject matter varies from semester to semester, according to student and faculty interest. Repeatable with permission for total of six hours. Prerequisites: HIS 300 or permission of instructor.

HIS 498 Museum Studies (3). This course will provide a broad introduction to the field of museum work. Topics included will be the history and philosophy of museums; the social, economic and political trends that shape museums; the staffing, management and financing of museums; and the multiple functions of museums—collection and care of objects, exhibition design and interpretation, educational programs, research activities and public relations. (Same as ARC 498.)

HIS 499 Directed Studies (3). Individualized instruction for the exceptional student. May be repeated for a maximum of nine credit hours. Prerequisite: permission of department chair.

HIS 600 Development of Historical Thinking (3). A reading seminar introducing students to historical problems, interpretations, and methodologies, as well as a study of the history of historical scholarship. Students generally must complete a study of a significant historian or historical problem in European, American or non-Western history. Required of first-year history graduate students.

HIS 601 The French Revolution (3). This course has three main areas of emphasis: eighteenth-century French society and culture, the causes of the

French Revolution, and the career of Napoleon Bonaparte. The main theme of the course is that the French Revolution represented a watershed in history.

HIS 602 Reading in European History (3). A systematic reading of major works on selected topics in European history from 1500 to the present. May be taken more than once for credit; consult the department chair.

HIS 603 Europe Since 1914 (3). An advanced treatment of the social, political, intellectual, and cultural history of Europe from World War I to the present.

HIS 604 Nineteenth-Century Europe (3). A treatment of the social, political, intellectual, and cultural history of Europe's great age, the period from the French Revolution and Napoleon to the outbreak of the First World War.

HIS 605 Seminar in European History (3). A critical examination of a major topic or selected topics in European history since 1500, using primary sources. Topics vary and the course may be taken more than once for credit; consult the department chair.

HIS 606 Europe Since 1945 (3). Survey of the history, politics, and culture of post-WWII Europe. Particular attention will be given to the Cold War, the rise of the European Union, and the challenges faced by an increasingly cosmopolitan Europe in the twenty-first century.

HIS 607 Modern Imperialism and Colonialism (3). Course is a graduate level survey of the history, politics, economics, and culture of global empires since the fifteenth century. Particular emphasis will be given to the European colonial empires in the Americas, Asia, and Africa. States such as the Ottoman, Qing, and Japanese empires will also be discussed. The course explores how modern empires were built and maintained, the ways in which colonized people sought to deal with empire, the effects of imperialism on home countries, and the reasons that empires collapsed.

HIS 610 Modern Britain and Empire (3). A study of Britain since the Stuarts, including its age of greatness in the nineteenth century and its decline in the twentieth century. Political and cultural history are emphasized at an advanced, graduate level.

HIS 612 Modern Germany (3). An advanced level study of the political, socioeconomic, and cultural history of Germany from eighteenth century to the present, with particular attention to how the history of Germany was connected to a broader European and global history.

HIS 614 Europe from WWI through WWII (3). Course provides a survey of European history from about 1914 to about 1945. It will describe and analyze the events leading to both World Wars as well as some of the consequences of those wars, delineating the major military figures and the military history of the World Wars.

HIS 618 World War II in Asia and the Pacific (3). The course will examine the origins and course of the war that began in Manchuria in 1931, expanded to China south of the Great Wall in July of 1937, from there to Pearl Harbor, South east and South Asia and the Pacific Islands by late 1941, and ended at Hiroshima and Nagasaki.

HIS 619 The Third Reich (3). An advanced survey of the history, politics, and culture of the Third Reich in Germany (1933-1945). This course will cover the rise, fall, and aftermath of the Nazi regime with a particular emphasis on the Holocaust and the Second World War.

HIS 621 Studies in U.S. Social History to 1865 (3). This course is a systematic exploration of the social history of the United States from the first settlement by Europeans through the Civil War.

HIS 622 Readings in United States History (3). A systematic reading of major works on selected topics in United States history from colonial times to the present. May be taken more than once for credit; consult the department chair.

HIS 624 United States Foreign Relations Since 1898 (3). An analysis of U.S. relations with other nations since 1898, placing special emphasis on the interplay of ideals and self-interest in foreign relations.

HIS 625 Studies in U.S. Social History Since 1865 (3). A systematic, exploration of the social history of the United States from the end of the Civil War to the present.

HIS 630 Studies in American Colonial History (3). A systematic exploration of the United States from the first European settlement to the beginning of the American Revolution.

HIS 631 Seminar in United States History to 1865 (3). A critical examination of a major problem in United States history to 1865 using primary sources. Topics vary and the course may be taken more than once for credit; consult the department chair.

HIS 632 Studies in the Era of the American Revolution (3). A systematic exploration of the events that led to the independence of the United States and the establishment of the Constitution.

HIS 633 Seminar in United States History Since 1865 (3). A critical examination of a major problem in United States history since 1865, using primary sources. Topics vary and the course may be taken more than once for credit; consult the department chair.

HIS 634 Civil War and Reconstruction (3). This offering covers the period from 1815 to the presidential election of 1877, with emphasis on political, military, social, and economic conditions as they related to the sectional controversy raging during this part of the nineteenth century.

HIS 635 The Transformation of America 1877 to 1929 (3). An advanced study of the transformation of the United States from an agricultural to a modern industrial nation. Topics included within this broad theme are the rise of big business and labor unions, urbanization, immigration, the closing of the frontier, reform movements, the struggles of blacks and women for equal rights, national politics, and cultural changes.

HIS 636 Recent America (3). A study of the Great Depression, the New Deal, World War II, and the subsequent forces that have shaped contemporary American life. Emphasis is placed on the role of the United States in international relations, the civil rights movement, and domestic economic developments.

HIS 637 Jacksonian America and Sectional Conflict (3). This course covers the period from 1815 to the presidential election of 1860 and the break-up of the Union. Emphasis is on the political, social, and economic conditions as they related to the sectional controversy that raged during this part of the nineteenth century. Some specific topics include the rise of the common man, the Jacksonian era, slavery, and the abolitionist movement.

HIS 641 History of the Old South (3). This course is an advanced survey of southern history from colonial times through the Civil War. Emphasis will be placed on examining, among other topics, the development and changing characteristics of slavery, southern economic organization in relation to the international colonial system, women in southern society, the South and the Revolutionary War, the South and the development of the U.S. Constitution, the emergence of southern nationalism, and the coming of the Civil War.

HIS 642 History of the New South (3). A survey of southern history from the end of the Civil War to the present, emphasizing the economic, political, social, and cultural aspects of southern history. A major theme will be the juxtaposition of the enduring characteristics of the South with the process of change since World War II.

HIS 646 History of Kentucky (3). The process of political, economic and social evolution in Kentucky is traced from early settlement to the modern area in this graduate course. Geographical influences upon the patterns of Kentucky development, Kentucky's changing role within an expanding union, and the Commonwealth's participation in national movements and events are stressed.

HIS 649 Islam in the Modern World (3). Beginning with the 18th century, the course will cover Islamic reform movements, then look at Muslim responses to Western and modern influence in the Islamic world. Finally, the course will examine the rise of radical and moderate trends in Islam. The geographical reach of this course is Eurasia and Africa. Special attention will be paid to political Islam and Islamic terrorist organizations.

HIS 650 Modern Africa (3). This course considers the causes for European colonization of Africa, the ways in which African resistance and collaboration with Europeans set the stage for the formation of new economies, societies, and policies in Africa, and the process of decolonialization, with an emphasis upon how that process shaped modern African states.

HIS 651 Africa, Slavery and the Diaspora (3). Survey of the history of slavery in Africa and the African diaspora. The course closely examines the period from 1400 to 1800, as well as slavery in Africa in the nineteenth and twentieth centuries. Particular emphasis will be given to the effects of slavery on the social and political fabric of Africa and the world beyond.

HIS 656 The Arab-Israeli Conflict (3). A study of the historical background to the conflict between the state of Israel and the Arab states. This course will examine the origins of Zionism and of Arab nationalism in the 19th century, the phases of Jewish settlement in Palestine, the consequences of the First World War for Zionist and Arab nationalist movements, the British Mandate in Palestine, the Israeli war for independence in 1948, Nasserism, the Suez War, the Six-Day War, the invasion of Lebanon, the *Intifada*, and the possibilities for peace.

HIS 659 Genocide in World History (3). A graduate survey of the causes, course, and consequences of genocide throughout world history from the ancient world to the present. This course will explore case studies from different areas of the world across time. Special attention will also be given to the issues of memory, reconciliation, and justice.

HIS 660 History of Race Relations in the U.S. (3). An examination of the social, political, and economic influences upon race relations in the United States from the colonial era to the present. Emphasis will be placed on the sources of change in race relations, the various forms of racial discrimination, and the responses to discrimination in American history.

HIS 663 Readings in Global History (3). A systematic reading of major works on selected topics in the history of Africa, Asia, or Latin America. May be taken more than once for credit; consult the department chair.

HIS 664 Public History: Professional Practice (3). An overview of the field of public history that focuses on the historical development of the field and of Americans' thinking about their history, current professional practice in the various areas of public history, including professional ethics, and the particular skills involved in each of these areas.

HIS 665 Oral History: Project Development (3). A detailed, advanced consideration of the planning, development, and operation of oral history projects for colleges, libraries, museums, corporations, professional organizations, and public schools.

HIS 666 Administration of Historical Organizations (3). A comprehensive consideration of the issues involved in the administration and management of historical organizations, including museums, archives and special collections libraries, historic preservation organizations, and local historical societies.

HIS 668 Museum Studies: Professional Practice (3). Introduces students to the development of the museum as a cultural institution in the United States and to professional practice regarding the care of collections, the development of exhibits, and other aspects of the profession. Also addresses professional ethical standards in the museum profession. Field trips and a semester project will give students an opportunity to apply what they study.

HIS 669 Historic Preservation: Professional Practice (3). An in-depth exploration of the field of historic preservation, with an emphasis on current professional practice and the application of historical research methods and analytical skills to the field.

HIS 674 China in Revolution (3). A study of the last decade and collapse of the Qing dynasty and China's subsequent search for unity and political form, beginning with the Republic, proclaimed in 1912, and ending with the Tiananmen massacre of 1989 and market reforms.

HIS 675 Modern Japan (3). The cultural and political history of Japan from its unification under the Tokugawa Shogunate to the present are covered at an

advanced level. Major topics examined include the Japanese success in meeting the challenge of Western imperialism in the nineteenth century, Japan's own venture into imperialism on the Asian mainland in the twentieth century, and the Japanese economic phoenix in the postwar era.

HIS 676 The World Since 1945 (3). A survey of new directions in modern history, particularly the rise of the USA and the USSR as world powers and the end of the colonial empires of Asia and Africa. The course will discuss the Cold War through international relations, the escalation of wars in Southeast Asia, Africa, Latin America, and the Middle East, as well as rival strategies for economic and cultural development in the post-war world.

HIS 681 Revolutionary Mexico, 1810-Present (3). An in-depth examination of Mexico's history from 1810 to the present, with emphasis on economic development and diplomacy in the era of Porfiro Diaz (1876-1911), the role of culture and North American influence in the Revolution of 1910-1920, the emergence and seventy-five-year rule of the Party of the Institutional Revolution (PRI), and the post-NAFTA resurgence of revolutionary activity.

HIS 690 Directed Study and Research (3). Supervised independent or group study of a topic or topics in European, United States, or non-Western history. May be taken more than once for credit. Prerequisite: permission of department chair.

HIS 691 Directed Studies in Public History (3). Supervised independent or group study in one or more of the following public history fields: historic preservation, historic interpretation, museum studies, and oral history. May be taken more than once for credit.

HIS 692 History Study Abroad (1-3). Offers students a direct experience of history through a study abroad program linked to a standard, semester-long corequisite graduate level history course. This course will give graduate students opportunities to travel abroad in a structured program to historic sites and museums related to the subject matter of the corequisite course. The instructor reserves the right to admit students who have completed the corequisite course as well as MSU faculty/staff. Instructors will also drop students who have dropped the corequisite course. May be repeated for up to six hours. Prerequisite: permission of instructor.

HIS 693 Domestic Travel History (1-3). Will offer students a direct experiences of history through a focused travel program linked to a standard, semester-long graduate-level course. This course will supplement normal classroom learning activities by giving students opportunities to travel to historic sites and museums related to the topic or time period of the corequisite course as well as MSU faculty/staff. To receive credit, the student must remain in the corequisite course for the duration of the semester. Prerequisite: permission of instructor.

HIS 695 Special Topics (3). A course designed as an elective for the graduate student; it will cover a particular topic, period, personality, or problem of the past. Specific subject matter varies from semester to semester, according to student and faculty interest. Repeatable with permission of the chair for a total of six hours.

HIS 698 Thesis (3).

HIS 699 Thesis (3).

HONORS COURSES

(HON)

Note: Courses with an HON prefix are open only to Honors College students.

HON 100T Transitions for Undeclared Incoming Honors Students (1). Course is designed to assist students in their transition to Murray State University. Content includes orientation to the specific area or major(s) and minor(s) within the academic program; university procedures, policies, and resources; strategies for personal and academic success, and extracurricular opportunities. Only one transitions course will count toward graduation. A one-hour semester course designed for incoming Honors College students with an undeclared major. Graded pass/fail. Prerequisite: Must be admitted to the Honors College.

HON 101 Topics in Business and Public Affairs (3). Introductory course treating topics or issues in one or more of the following areas of study: economics, management, marketing, finance, accounting, or computer science. Prerequisite: admission to the Commonwealth Honors Academy.

HON 102 Topics in Communication (3). Introductory course treating topics or issues in one or more of the following areas of study: organizational communication, radio-television, print journalism, advertising, or public relations. Can not count as a JMC course (minor or major) or as a liberal arts limited elective for JMC students. Prerequisite: admission to the Commonwealth Honors Academy.

HON 106 Topics in Science, Engineering and Technology (3). Introductory course treating topics or issues in any of the following areas of study: biology, physics, chemistry, engineering technology, geosciences, geology or mathematics. Open only to students enrolled in the Commonwealth Honors Academy.

HON 107 Topics in Agriculture and Animal Science (3). An introductory course treating topics or issues in any of the following area of study: agriculture, animal science, or animal health. Prerequisite: admission to the Commonwealth Honors Academy.

HON 109 Interdisciplinary Humanities and Fine Arts (3). Introduction to ways of knowing, issues, and practices in selected humanities and fine arts disciplines, including philosophy, literature, history, art, music, and theater. The course is open only to students in the Commonwealth Honors Academy. The work of the various disciplines (and different sections) will be rotated and organized around a general theme each time the course is offered. Prerequisite: acceptance into the Commonwealth Honors Academy.

HON 110 Special Honors Topics (3). A special topics elective course that will introduce students to concepts, issues, and practices in one of the academic disciplines. Prerequisite: admission to the Commonwealth Honors Academy.

HON 133 Honors Seminar in Sociology (3). Course will introduce students to sociology and the sociological perspective by focusing upon contemporary societies. Through a study of key concepts such as cultures, society, group behavior, population, family, stratification, community, social institutions and change, students will be given the tools by which to understand better their society and others around the world. Open only to students in the Honors College. HON 133 will fulfill the requirements for and can replace SOC 133. SOC 133 will not fulfill the requirements of HON 133.

HON 140 Honors Seminar in American National Government (3). Course is designed to introduce students to the American political system, its constitution, institutions, and process. Fulfills three hours of the University Studies requirement in place of POL 140. A student may not receive credit for both HON 140 and POL 140. Prerequisite: Open only to students in the Honors College.

HON 150 Honors Seminar in Archaeology (3). A survey of archaeology's contribution to humankind's knowledge of prehistoric and historic development on a worldwide basis with emphasis placed upon discoveries rather than methods or archaeology. Open only to students in the Honors College. HON 150 will fulfill the requirements for and can replace ARC 150. ARC 150 will not fulfill the requirements of HON 150.

HON 161 Honors Seminar in Visual Arts (3). An exploration of the importance of the visual arts in human culture through visual presentations, readings, discussion and participation. Open only to students in the Honors College. A University Studies fine arts elective. A student cannot have credit for both this course and ART 121.

HON 162 Honors Seminar in Music (3). An exploration of the importance of music in human culture through aural presentation, reading, discussion, and participation. Open only to students in the Honors College. A University Studies fine arts elective. A student cannot have credit for both this course and MUS 105.

HON 163 Honors Seminar in Theatre (3). An exploration of the importance of theatre in human culture through reading, attendances at dramatic interpretations, discussion, and participation. Open only to students in the Honors College. A University Studies fine arts elective. A student cannot have credit for both this course and THD 104.

HON 164 Honors Seminar in Arts and Culture Abroad (3). An interdisciplinary exploration, in study-abroad settings, of the visual arts, architecture, music, theatre, and cinema. Classes will consist of lectures, discussions, and presentations based on cultural experiences of the fine arts abroad, with related readings. Research and critical writing will be emphasized. Assignments will include class excursions, museum visits, and attendance at concerts, plays, and films. Prerequisite: Open only to students in the Honors College as a fine arts elective.

HON 165 Honors Seminar in Communications (3). An exploration of interpersonal communication and public address skills necessary for personal and professional success. A University Studies communication and basic skills elective. A student cannot have credit for this course and COM 161 or COM 131. Prerequisite: must be enrolled in the Honors College.

HON 180 Honors Seminar in Psychology (3). A basic survey introducing the student to Psychology as a science that can be applied to practical problems and everyday issues by learning the methods, concepts, and terminology of the discipline.

HON 201 Honors Seminar in World History I (3). An interdisciplinary course involving readings and discussion of environmental, social, economic, and political influences and developments in the major civilizations of the world prior to 1500 A.D. Open only to students in the Honors College. Fulfills three hours of the world civilizations University Studies requirement in place of CIV 101. A student cannot have credit for both this course and CIV 101.

HON 202 Honors Seminar in World History II (3). An interdisciplinary course involving readings and discussion of environmental, social, economic and political influences and developments in the major civilizations of the world since 1500 A.D. Open only to students in the Honors College. Fulfills three hours of the world civilizations University Studies requirement in place of CIV 102. A student cannot have credit for both this course and CIV 102.

HON 203 Honors Seminar in American History (3). Course introduces students to North American history, focusing on cultures and societies from pre-Columbian to present day and the historical events which shaped the United States.

HON 212 Honors Seminar in Ethics (3). Introduction to classic and contemporary problems of personal and social morality and to the systems and methods proposed by the philosophers, past, and present, in response to questions of good and evil. Open only to students in the Honors College. HON 212 will fulfill the requirements for and can replace PHI 202. PHI 202 will not fulfill the requirements of HON 212.

HON 232 Honors Seminar in Economics (3). An introduction to the application of the basic principles of supply and demand to issues in aggregate economics and to the behavior of individual economic agents. Open only to students in the Honors College. A student cannot have credit for this course and both ECO 230 and 231. Prerequisites: MAT 117, 140, 150, or 220; or and ACT math standard score of at least 23; or permission of instructor.

HON 251 Honors Seminar in Literature and Philosophy I (3). An exploration of the roots of modern ethics and values through intensive study, in a lecture/precept setting, of the world's literary and philosophical works from the ancient to the modern eras. Open only to students in the Honors College. Fulfills three hours of the humanities University Studies requirement in place of HUM 211. A student cannot have credit for both this course and HUM 211.

HON 252 Honors Seminar in Literature and Philosophy II (3). An exploration of modern ethics and values through intensive study, in a lecture/precept setting, of the world's literary and philosophical works in the modern to post-modern eras. Open only to students in the Honors College. Fulfills three hours of the humanities University Studies requirement in place of HUM 212. A student cannot have credit for both this course and HUM 212.

HON 261 Honors Seminar in Science I (3). An exploration through readings and discussion of various topics in the history and philosophy of science. Open only to students in the Honors College. Prerequisite: four hours of lab sciences to be approved by the Honors College Director.

HON 262 Honors Seminar in Mathematics (3). An exploration through guided discovery activities and discussion of various topics in the history and methods of mathematics. Open only to students in the Honors College. Prerequisites: Enrollment in the Honors College and the completion of at least one University Studies mathematics course.

HON 270 Honors Seminar in International Relations (3). The nature of international society and the forces affecting the behavior of states in their relations with one another. Open only to students in the Honors College. HON 270 will fulfill the requirements for and can replace POL 250. POL 250 will not fulfill the requirements of HON 270.

HON 272 Honors Seminar in Comparative Politics (3). Course provides the student with comparative and evaluative concepts and approaches necessary to developing an intelligent understanding and appreciation of the world's diverse political systems, focusing particularly on how democracy works. Open only to students in the Honors College. HON 272 will fulfill the requirements for and can replace POL 252. POL 252 will not fulfill the requirements of HON 272.

HON 290 Honors Seminar in Service and the Nonprofit Sector (3). This course is designed to introduce students to notions of service and volunteering, as well as to the broad roles of nonprofit organizations in society. Includes an emphasis on the values embodied in philanthropy and the nonprofit sector, such as service, volunteering, human and cultural diversity, trust, stewardship, and social justice. Provides a direct exposure to the working of a local nonprofit organization or community service organization through service learning projects. Part of the Service Learning Scholars Program. Fulfills three hours of the University Studies requirement in place of NLS 290. Fulfills NLS 300 for students in the Honors College. A student may not receive credit for both HON 290 and NLS 290. Prerequisite: Open only to students in the Honors College.

HON 355 Honors, Independent Study Abroad (3). This course is designed for those students who elect to engage in an individualized study or project which will provide an international experience. It may take the form of an exchange, internship, and/or extended research study. Permission for enrollment and course requirements must be secured from the academic department sponsoring the study and approved by the Honors College.

HON 364 Advanced Honors Seminar in Arts and Culture Abroad (3). An advanced interdisciplinary exploration of the visual arts, architecture, music, theatre, cinema, and folk and popular culture. Offered only in study-abroad programs sponsored by Murray State University. There will be at least 37 contact hours in a formal classroom setting, and additional "lab" requirements that will depend upon cultural offerings in the program locale and in excursion destinations. This course will be cross-listed with HON 164, but substantial additional independent research and critical writing will be required. Prerequisite: junior-level standing, with at least three hours previous credit in the fine arts, and with at least a 3.0 cumulative GPA at the time of application to study-abroad program.

HON 437 Senior Honors Thesis (3). A faculty-supervised thesis and/or project which allows Honors College students with a senior standing to undertake advanced research. A thesis paper and/or written review of the exhibit or performance is required.

HON 440 Honors Professional Engagement Project (3). A faculty-supervised major project related to the student's field that includes research into the issue, a faculty committee-approved plan, the project itself, and a final committee review of the finalized project. A substantial written report on the project is required. Open only to students in the Honors College.

HON 444 Honors Researched Internship Analysis (3). A faculty-supervised major project following a substantial internship in the student's field that identifies a professionally significant issue encountered during the internship, includes research into and analytical reflection on the issue, and concludes with a final committee review of the final analysis. A substantial written report on the project is required. Open only to students in the Honors College.

HEALTH AND PHYSICAL EDUCATION

(HPE)

HPE 175 Foundations of Health and Physical Education (3). Designed to provide an overview of health and physical education. This will examine the scope, history, philosophy, aims and objectives of health and physical education programs as well as career opportunities in the field. Prerequisite: permission of the program coordinator.

HPE 360 Teaching Strategies in Sex Education (3). This course is designed to address comprehensive sex education in schools, including human sexuality, sexual anatomy, and physiology; sexual arousal and response; sexually transmitted diseases including HIV/AIDS; contraception; conception; pregnancy; gender roles; sexual communication; love and intimacy; behaviors and relationships; and sexual victimization. Prerequisite: permission of the program coordinator.

HPE 370 Teaching Substance Abuse Education (3). This course is designed to address comprehensive drug education programs in school and community settings which include drugs, violence, and wellness; factual account of drugs; alcohol, tobacco, and well-being; prevention and treatment of drug abuse; and instructional strategies. Topics covered in this course will include promotion of responsible and healthful behavior; drug actions and reactions; stimulant, sedative-hypnotic, and narcotic drugs; marijuana, hallucinogens, inhalants, over-the-counter, and prescription drugs; anabolic steroids; alcohol; tobacco; prevention and treatment of drug abuse; drug education curriculum. Prerequisite: HPE 175 and permission of program coordinator.

HPE 409 Evaluation and Assessment in Health and Physical Education (3). Basic statistical techniques and paper/pencil testing methodologies applicable to health and physical education plus other physical and mental testing techniques commonly employed in these fields. Various physical and skill tests will be covered. Field experiences required. Prerequisite: HPE 175.

HPE 450 Teaching Strategies in Health Education (3). This course is designed to address comprehensive school health education. Topics covered include the health status of children, adolescents and young adults; *Healthy People 2020*; school health services; school health education; program goals and objectives; and instructional strategies. Content covered in the school health education program: mental/emotional health; life skills; family and relationship skills; human sexuality; growth and development; nutrition; personal fitness; substance use and abuse; diseases and disorders; consumer health; safety and injury prevention; and community and environmental health. Prerequisite: HPE 175 and permission of program coordinator.

HPE 480 Special Problems in Health and Physical Education (1-3). May be repeated for a maximum of six credit hours with permission of advisor and chair.

HUMANITIES

(HUM)

HUM 100T Transitions (1). Course is designed to assist students in their transition to Murray State University and will serve as an introduction to the university. Content includes orientation to the specific area or major(s) and minor(s) within the college; university procedures, policies, and resources; strategies for personal and academic success, and extracurricular opportunities. Only one transitions course will count toward graduation. Graded pass/fail.

HUM 205 The Humanistic Tradition Abroad (3). Study of traditional ideas and values as reflected in various international cultures; specific content will vary. Satisfies University Studies humanities elective requirement. Prerequisite: concurrent enrollment in study abroad program approved by Murray State University.

HUM 211 The Western Humanities Tradition (3). An exploration and analysis of the major ideas and questions in the humanities, as these have been expressed in works from the ancient past to the modern world. A student cannot have credit for both this course and HON 251. Prerequisite: ENG 105 or 150 or equivalent.

HUM 212 The Humanities in the Modern World: Diversity (3). An exploration of humanistic themes as reflected in literary and philosophical works of the modern period. A student cannot have credit for both this course and HON 252. Prerequisite: ENG 105 or 150 or equivalent.

HUM 215 Humanities in the Contemporary World: Border Crossings (3). A study of one or several contemporary global issues through poetry, fiction, drama, film, non-fiction, and other artistic expressions from a variety of world cultures. Prerequisite: ENG 105 or 150 or equivalent.

INTERDISCIPLINARY COURSES (IDC)

IDC 100T Transitions—Undeclared Majors (1). Course is designed to assist students in their transition to Murray State University. Content includes orientation to the specific area or major(s) and minor(s) within the academic program; university procedures, policies, and resources; strategies for personal and academic success, and extracurricular opportunities. Only one transitions course will count toward graduation. Graded pass/fail.

IDC 150 Issues in Sustainability Studies (1). Course helps students increase awareness of timely issues and topics regarding sustainability. Class meetings will include guest speakers from the university and local region, and topics may be local, national, and/or global relevance.

IDC 199 Residential College Seminar (1). A course to provide the student with an opportunity to explore a stimulating topic in a small group setting within a residential college. Seminar topics will vary. May be repeated for up to three hours of credit.

IDC 300 Graduate Record Examination (GRE) Preparation (1). Preparation for the Graduate Record Exam (GRE) through practice exams, readings, lecture, and writing exercises. Fall class open only to those majoring in science, technology, engineering, and mathematics (STEM) majors. Spring class open only to McNair Scholars.

INFORMATION STUDIES (INF)

INF 101 Research in the Information Age (3). A course designed to explore the phenomena, activities, and issues surrounding the development, gathering, organization, and use of information and resources in a global community. Designed to acquaint students with best practices in information-seeking behavior for various situational, civic, and scholarly purposes, with specific attention given to the ethics of using and creating information.

INF 250 Advanced Information Gathering: Resources and Strategies (3). Advanced information gathering techniques to teach students to report, gather, process, and transform information. The course will involve seeking sources in libraries, public records, books, magazines, journals, corporate reports, online databases, personal interviews, and internet resources. Field trip will be required. Prerequisite: INF 101.

INF 260 Censorship, Propaganda, and Privacy (3). Course is a critical analysis of historical, national, and international instances and accusations of propaganda, censorship, and privacy violations. The course will examine definitions, motives, and consequences of each in a democratic society. Attention will be given to current and potential public policy on information technology access, net neutrality, corporate and government privacy concerns, and other topics as relevant. Prerequisite: INF 101.

INF 270 Intellectual Property in the Information Age (3). This course will serve as an exploration into the purpose and history of intellectual property protections throughout the world, and in particular the benefits and weaknesses of United States copyright law on the creation and diffusion of creative and scientific works in the information age. This course will primarily focus on public policy implications and will explore cases and controversies of interest for continuing the creation of information. Prerequisite: INF 101.

INF 280 Introduction to Information for Health Practitioners and Consumers (1). An eight-week online course designed for the health sciences disciplines and professions to explore methods of information retrieval in online health science databases and grey literature, finding and evaluating consumer health medicine for various literacy levels, and learning the process of evidence-based practice (EBP) including question building, searching, and critical appraisal of studies.

INF 310 Medical Information for Practitioners and Consumers (3). A course designed for those with a practitioner or consumer interest in the health sciences to explore methods of information retrieval in online health science

databases and grey literature, finding and evaluating consumer health medicine for various literacy levels, and learning the process of Evidence-based medicine (EBM) including question building, searching, and critical appraisal of studies. Prerequisite: INF 101 or permission of instructor.

INF 320 Examination of Scientific Communication (3). This course is designed to critically examine the current status, new trends, and evolving models in scientific scholarly communication. It is also designed to discuss the importance of communicating science to the general public; in particular, the course will cover how the ever-evolving cyberspace complicates scientific communication, the importance of rethinking the interface between the science community and the public, and the role of science journalism. Prerequisite: INF 101.

INF 330 History of Libraries and the Written Word (3). This course is designed to give students a firm understanding of the evolution of the written word and the role of libraries. This class will explore libraries and the written word throughout different eras in history and then intensely focus on the development of the library institution in the United States through the 20th century. This will help frame conversations about the future of libraries and the written word facing the advent of the Internet, global technology, and the digital revolution. Prerequisite: INF 101.

INF 340 Children's and Young Adult Literature and Storytelling (3). A course designed for anyone who embraces children's and young adult literature and storytelling as an essential part of information delivery in the 21st century. This course will provide an overview of the main authors, illustrators, theories, and awards of children's and young adult literature and elements and role of storytelling in the genre. Students will gain experience in various techniques and digital tools for story creation. Prerequisite: INF 101.

INF 350 Topical Seminar in Information Studies (3). A course designed as an elective for the upper level undergraduate student pursuing a minor in Information Studies. The course will cover selected topics and problems related to information studies. Specific subject matter may vary from semester to semester, according to student and faculty interest. May be repeated for a maximum of six credit hours provided topics vary. Prerequisite: INF 101.

INF 400 Directed Study (3). Independent work in the area of information studies to meet the needs and interest of individual students. May be repeated for a maximum of six credit hours provided topics vary. Prerequisite: permission of instructor.

INTERNATIONAL STUDIES (INT)

INT 100T International Transitions (1). Course is designed to assist students in their transition to Murray State University. Content includes orientation to the specific area or major(s) and minor(s) within the academic program; university procedures, policies, and resources; strategies for personal and academic success, and extracurricular opportunities. Only one transitions course will count toward graduation. Course to provide international students with information and experiences necessary for successful adjustment to life in the U.S. and at Murray State University. The course will include MSU facilities, American culture and educational systems, health care, culture shock, government regulations, international student organizations, and the Murray community. Similar to Transitions required of all American students. Required of all matriculating international students. Graded pass/fail.

INT 310 International Student Exchange (3-15). Individual study abroad through a Murray State sponsored program as administered by the Institute for International Studies; pre-approval within specific disciplines required; pass/fail. Prerequisite: consent of academic advisor and pre-approval by instructors prior to registration; undergraduate level.

INT 600 Seminar in Global Studies (1-3). Course is a seminar focusing on selected topics and taught outside the United States. Topics and content will vary with instructor and course location. It may be repeated for credit. Prerequisite: permission of instructor.

INT 610 International Student Exchange (3-15). Individual study abroad through a Murray State sponsored program as administered by the Institute for International Studies; pre-approval within specific disciplines required; pass/fail. Prerequisites: consent of academic advisor and pre-approval by instructor prior to registration.

INSTITUTE OF ENGINEERING

(IOE)

IOE (IET) 100T Transitions (1). Course is designed to assist students in their transition to Murray State University. Content includes orientation to the specific area or major(s) and minor(s) within the academic program; university procedures, policies, and resources; strategies for personal and academic success, and extracurricular opportunities. Only one transitions course will count toward graduation. Meetings with advisors, departmental personnel, service areas, and campus field trips comprise the main involvement. Availability of the University resources is stressed with emphasis on personal needs. Graded pass/fail.

IOE (IET) 125 Analytic Methods in Engineering Technology (3). Introduction to problem-solving methods used in engineering technology. Graphing, mathematical modeling and presentation of analysis results. Includes use of spreadsheet, equation solver, and analysis software. Prerequisite: MAT 130 or MAT 150.

IOE 350 Technology Management (3). Course introduces the concept and tools for effectively managing/supervising engineering and technology-based businesses. Emphasis will be placed on managerial topics to include: strategic planning, budgeting, human resource planning, organizational structure, conflict resolution, and the management decision-making process. Prerequisites: ENG 105 and MAT 130 or MAT 140, Institute of Engineering majors only.

IOE (IET) 380 Professional Internship I (1-3). Work experience or training in industry. Evaluation of experience made by department. Graded pass/fail. Prerequisite: junior standing or permission of instructor.

IOE (IET) 381 Professional Internship II (3). Work experience or training in industry. Evaluation of experience made by department. Graded pass/fail. Prerequisite: junior standing or permission of instructor.

IOE (IET) 397 Undergraduate Research (3). Research projects arranged individually with faculty members who agree to direct the research. A written plan of research must be filed with the instructor within two weeks of the beginning of the semester. A written summary of the research performed, data obtained, and conclusions following from the work must be submitted not later than the final week of classes. May be repeated for a maximum of nine credit hours. Prerequisites: junior standing and permission of the instructor.

IOE (IET) 399 Professional Development Seminar I (1). Seminar for students of industry and technology programs, focusing on the job search process, employment opportunities, and related problems. Recommended for students in the sophomore or junior year. Graded pass/fail.

IOE (IET) 419 Senior Project (3). A course in which the student assumes the responsibility of design of a technology project utilizing the knowledge gained from previous coursework. Complete documentation of the project is required. Prerequisite: senior standing. (Fall and Spring)

IOE (IET) 481 Supervised Work/Observation (1-4). Assignments individually made, with university approval, to afford opportunities for supervised employment in industry. Agreement by both the university and participating employer as to extent and nature of the experience prerequisite to actual assignment, with credit to be determined accordingly.

IOE (IET) 488 Cooperative Education/Internship (1-3). A meaningful, planned, and evaluated work experience related to the career and educational objectives of the student for which he/she may receive academic credit and possible financial remuneration. May be repeated for a maximum of six hours from any 488/489 courses. Graded pass/fail. Prerequisite: permission of instructor.

IOE (IET) 489 Cooperative Education/Internship (1-3). A meaningful, planned, and evaluated work experience related to the career and educational objectives of the student for which he/she may receive academic credit and possible financial remuneration. May be repeated for a maximum of six hours from any 488/489 courses. Prerequisite: permission of instructor.

IOE (IET) 491 Technology Management and Design (3). The capstone course requires analyses and design of manufacturing, civil, environmental, electrical and computer systems. It requires analyses of management philosophies

from conceptualization to implementation of engineering projects. Students are teamed based upon academic concentration and teams are coupled with industrial representatives. Each team produces a viable industrial design. Prerequisite: senior standing.

IOE (IET) 499 Professional Development Seminar II (1). Seminar for students of industry and technology programs, focusing on the transition to the world of work and related problems. Recommended for students in the senior year. Graded pass/fail. Prerequisite: IOE 399.

IOE (IET) 550 Robotic Systems (4). A quantitative analysis of robotic systems that includes kinematics, actuators, drives, adaptive control, off line programming and computer simulation. Emphasizes applications in manufacturing processes. Three hours lecture and three hours laboratory. Prerequisites: EMT 261, 262, 361, and TSM 210.

IOE (IET) 551 Introduction to Electrohydraulic Motion Control (3). An introduction to the integration of the basic principles of hydraulics, electronics, controls and system dynamics as they pertain to electrohydraulic motion control.

IOE (IET) 571 Problems in Industrial and Engineering Technology (3). Individual study and research pertaining to special problems in industrial and engineering technology. Prerequisite: permission of instructor

IOE (IET) 575 Workshop in Industrial and Engineering Technology (1-4). Workshops on topics pertinent to industrial and engineering technology. May be repeated for a maximum of nine credit hours.

IOE (IET) 576 Industrial Relations (3). Industrial relations responsibilities, procedures, and applications in job evaluation, wage surveys, union negotiations, hiring employee counseling, and affirmative action awareness. Prerequisite: junior standing.

IOE (IET) 582 Production Systems and Computer Integrated Manufacturing (4). Includes a survey of various topics in production, automation and related systems such as flow-line production, numerical control, industrial robots, computer-aided manufacturing, process monitoring, flexible manufacturing systems and computer-integrated manufacturing. Three hours lecture and two hours lab. Prerequisites: EMT 261, 262 and TSM 110.

IOE (IET) 584 Engineering Economic Analysis (3). Economic evaluation and financial analysis of engineering alternatives to optimize the engineering decision process.

IOE (IET) 587 Quality Control (3). Examines the various aspects of quality control from the viewpoint that product and service quality requires managerial, technological and statistical concepts throughout all the major functions in an organization. Prerequisite: CIS 243 or STA 135.

IOE (IET) 591 Materials Management (3). The design of an organizational and managerial system to balance the conflicting interests in the company in the considerations of quality, quantity, delivery and cost of materials with the aim of optimizing the return of the materials investment.

IOE (IET) 619 Industrial Energy Management (3). A study of energy utilization in manufacturing environments. Through applied engineering principles and case histories, energy conversion systems are analyzed and designed. Remediation and conservation principles are discussed as are energy policies and utility rate structuring and negotiation..

IOE (IET) 644 Graduate Cooperative Education (3). May be repeated for a maximum of six credits. Graded pass/fail. Prerequisite: permission of instructor.

IOE (IET) 650 Robotic Systems (4). A quantitative analysis of robotic systems that includes kinematics, actuators, drives, adaptive control, off line programming and computer simulation. Emphasizes applications in manufacturing processes. Three hours lecture and three hours laboratory. Prerequisites: EMT 261, 361, ENT 111, 365.

IOE (IET) 651 Introduction to Electrohydraulic Motion Control (3). An introduction to the integration of the basic principles of hydraulics, electronics, controls and system dynamics as they pertain to electrohydraulic motion control.

IOE (IET) 671 Problems in Industrial and Engineering Technology (3). Individual study and research pertaining to special problems in industrial and engineering technology. Prerequisite: permission of instructor.

IOE (IET) 675 Workshop in Industrial and Engineering Technology (1-4). Workshops on topics pertinent to industrial and engineering technology. May be repeated for additional credit.

IOE (IET) 676 Industrial Relations (3). Industrial relations responsibilities, procedures, and applications in job evaluation, wage surveys, union negotiations, hiring employee counseling, and affirmative action awareness.

IOE (IET) 678 Seminar in Industrial and Engineering Technology (3). The identification and study of current problems, issues and trends in the field of industrial and engineering technology with special emphasis on the philosophical and psychological assumptions underlying these areas.

IOE (IET) 679 Technical Writings (3). Laboratory experimentation and research, analysis of technical data and the preparation and application of technical reports in industrial-technical fields.

IOE (IET) 682 Production Systems and Computer Integrated Manufacturing (4). Includes a survey of various topics in production, automation and related systems such as flow-line production, numerical control, industrial robots, computer-aided manufacturing, process monitoring, flexible manufacturing systems, and computer-integrated manufacturing. Three hours lecture and two hours lab. Prerequisites: ENT 111, EMT 261, 361.

IOE (IET) 684 Engineering Economic Analysis (3). Economic evaluation and financial analysis of engineering alternatives to optimize the engineering decision process.

IOE (IET) 687 Quality Control (3). Examines the various aspects of quality control from the viewpoint that product and service quality requires managerial, technological, and statistical concepts throughout all the major functions in an organization.

IOE (IET) 691 Industrial Operations (3). Quantitative analysis for planning, organizing, and controlling a production/operations system.

IOE (IET) 692 Plant Layout and Material Handling (3). A study of the arrangement of physical facilities and material handling to optimize the interrelationships among operating personnel, material flow, information flow, and the methods required in achieving enterprise objectives efficiently, economically, and safely.

IOE (IET) 693 Systems Management Technology (3). A course dealing with the practical applications of systems management theory to business and industrial situations.

IOE (IET) 694 Research in Industry, Training and Technical Education (3). A study of techniques and procedures used in designing, conducting, interpreting and evaluating research in industrial, training, and technical education settings. Applications, advantages and limitations of various research methods are studied and explored.

IOE (IET) 695 Industrial Supervision (3). An in-depth study of the qualities necessary in order for a frontline supervisor to be a vigorous leader, an effective leader, a source of technical know-how and a deft mediator between policy-setting management and the rank-and-file worker.

IOE (IET) 696 Teamwork and the Management of Technology (3). A study of how teamwork is used to effectively increase productivity, quality and profits simultaneously in a manufacturing environment. Analysis of historical and current literature shows the evolution from Scientific Management to TQM and ISO-9000 and the advantages of team problem-solving for complex design/production problems. The fundamentals for an effective teamwork environment redeveloped through a wide variety of books and articles. Methods for implementation of a teamwork system are presented, discussed, and evaluated.

IOE (IET) 697 Research in Industrial and Engineering Technology (3). Independent study under the guidance of a supervising faculty member in a

problem area of industrial education as selected by the student. Prerequisite: permission of instructor.

IOE (IET) 698 Thesis (3).

IOE (IET) 699 Thesis (3).

INDUSTRIAL TECHNOLOGY AND DESIGN (ITD)

ITD 100T Transitions (1). Course is designed to assist students in their transition to Murray State University. Content includes orientation to the specific area or major(s) and minor(s) within the academic program; university procedures, policies, and resources; strategies for personal and academic success, and extracurricular opportunities. Only one transitions course will count toward graduation. Meetings with advisors, department personnel, service areas, and campus field trips comprise the main involvement. Availability of university resources is stressed with emphasis on personal basis. Graded pass/fail.

ITD 101 Introduction to Design and Graphic Communications (4). An introduction to the fundamental theory and practice of technical design communication, engineering sketching and CAD drafting conventions. Techniques are presented with emphasis on both theory and practical applications. The course includes an introduction to product design, the engineering design process, orthographic projection of product geometry and dimensioning/specifications. Lecture and laboratory-six contact hours. Open only to engineering graphics and design majors.

ITD 102 CAD Applications (3). An introductory course with emphasis in multiview projection for mechanical components and the design file creation using 3D parametric modeling. Cannot be taken for credit by ITD/Engineering Graphics and Design majors/minors.

ITD 103 Technical Sketching (2). Techniques of freehand and sketching. Delineation and rendering in two and three dimensional drawings. Lecture and laboratory.

ITD 104 Computer Aided Design (4). An intermediate course in the theory and practical applications of computer aided systems for drafting/design fields. A review of two-dimensional drawing techniques is presented followed by three-dimensional drawing techniques with emphasis on wireframe, surface and solid modeling. An introduction to parametric design is included. This course includes hands-on experience on interactive graphics equipment. Lecture two hours; laboratory four hours. Prerequisite: ITD 101 or ITD 107. (For ITD students only.)

ITD 107 Introduction to Technical Drawing and Computer Aided Drafting (4). A survey course in conventional and computer aided drafting theory and practice. The application of design principles, multi-view drawing techniques and precision use of conventional drafting equipment will be complemented by an introduction to computer aided drawing software, including setting up, drawing, editing, saving and plotting drawings. Lecture and laboratory-six contact hours. Restricted to CET and ITD majors.

ITD 108 Applied Computer-Aided Design (4). An intermediate course in the theory and practical application of computer-aided systems for drafting/design fields. A review of two-dimensional drawing techniques is presented followed by emphasis in the creation of architectural drawings. This course includes hands-on experience with interactive graphics equipment. Prerequisite: ITD 101 or ITD 107.

ITD 120 Processes and Materials (3). Study of manufacturing processes and materials as they apply to contemporary industrial products. May not be taken for credit by ITD majors.

ITD 130 Manufacturing Processes and Materials (3). Study of manufacturing processes and materials as they apply to contemporary industrial and consumer products. For ITD majors only or permission of chair. Lecture and laboratory-five contact hours.

ITD 204 Parametric Modeling and Rendering (4). An intermediate course in the theory and practical application of computer aided design. Emphasis will be on the planning and operational techniques required producing parametric

models with corresponding photo-realistic renderings. This course includes hands-on experience on interactive graphics equipment. Two hours lecture and three hours laboratory. Prerequisite: ITD 104. ITD majors only.

ITD 205 Computer Graphics Application (3). A survey course in the current theory and practice of computer-generated graphics. The application of micro and mainframe computers as a tool for figurative and abstract drawing, graphics, graphing and technical drafting.

ITD 221 Design Visualization (3). Application of art elements and principles of design to everyday living. Lecture, two hours; laboratory, two hours.

ITD 240 Woodworking Design and Practices (3). Fundamental instruction in woodworking materials, design, planning procedures, hand tool use, machine tool operations, construction techniques and safety principles and practices. This is a practical course for the beginner and woodworker with intermediate knowledge and skill. Lecture and laboratory.

ITD 241 Woodturning (2). Spindle, face plate, chucking operations and procedures involved in woodturning. Experiences in designing, turning and finishing. For beginning woodturners and those who want to improve their skill. No prerequisite. Lecture and laboratory.

ITD 251 Equipment (3). Selection, use, and care of materials and equipment used in the home, principles of kitchen and laundry planning. Lecture, two hours; laboratory two hours.

ITD 252 Housing and The Family (3). Housing alternatives, constraints, norms, needs, and selection; comparison of economic factors of various types of shelter; procedure for purchasing shelter.

ITD 253 Interior Design Studio I (3). Studio problems in interior design. Programming, basic drawing skills and application of art elements and principles of design in solving interior design problems. Emphasis is on developing basic drawing skills for presenting design solutions. Laboratory, four hours. Prerequisite: ITD 221.

ITD 254 Furniture Construction and Finishes (2). A study of construction and finishing techniques used in the furniture industry. Lecture two hours.

ITD 300 Industrial Product Design (2). Design principles relative to industrial products. Principles of functional, structural and visual design. Lecture and laboratory. Prerequisites: ITD 101 and 130.

ITD 301 Architectural Design Studio I (4). Introductory course with an emphasis on the architectural responses to peoples basic needs for shelter. At the fundamental level, these needs, physical, psychological, sensual, intellectual, cultural and aesthetic are met through physical design. The students will use BIM (Building Information Modeling) computer tools to solve problems at the introductory level addressing design documentation through various lab activities. Lecture and laboratory-six contact hours. Prerequisite: ITD 101 or 107.

ITD 302 (202) Applied Engineering Drawing (4). Applied engineering problem-solving techniques, calculations of coordinate tolerance stacks for product engineering, principles and practices as applied to: mechanical engineering product design, thread specification, piping, weldment and sheet metal developments. This course emphasizes technical/engineering sketching and CAD. Lecture and laboratory-six contact hours. Prerequisite: ITD 101 or 107 and 104; ITD majors only.

ITD 303 (304) Advanced Parametric Modeling (4). An advanced course in the theory and application of computer aided system for parametric drafting and design manufacturing. Two hours lecture and four hours laboratory. Prerequisite: ITD 204. (Spring)

ITD 305 Sketching and Industrial Blueprint Reading (3). Technical sketching fundamentals as applied to the needs of industrial shop personnel and field technicians. Emphasis is placed on the readings and interpreting of selected types of industrial drawings.

ITD 306 Engineering Graphics (4). Orthographic projection with an emphasis on auxiliary projection and descriptive geometry. Descriptive geometry theory

and techniques are used to solve applied engineering problems. Lecture and laboratory-six contact hours. Prerequisite: ITD 302. (Spring)

ITD 309 Engineering Models Design and Construction (2). A course in the principles of design and construction of scale model representation of engineering, architectural, and related structures, including materials and processes. Prerequisites: ITD 101 and 130.

ITD 322 Introduction to Plastics (4). Industrial plastics and polymer sciences. Experience with plastic materials and manufacturing methods. Lecture and laboratory. Prerequisites: ITD 101 and 130.

ITD 330 Machine Tool Processes (4). A study in the shaping of metallic products using traditional and computer numerical control processes and equipment. Includes examination of precision measuring methods, cutting tools properties and methods required in achieving an efficient, economical, and safe material removal process. Lecture and laboratory-six contact hours. Prerequisite: ITD 130.

ITD 333 ANSI Fundamentals for Mechanical Product Design (4). Focuses on the intermediate technical fundamentals of ANSI standards applicable to mechanical product design and engineering graphics. Engineering sketching and 3D parametric modeling will be emphasized. Two hours lecture and four hour laboratory. Prerequisites: ITD 204, 302, and 330. (Spring)

ITD 350 Construction Systems (4). A study of the construction industry theory and practice. Emphasis is placed on the structural and mechanical systems in single-family detached dwellings and non-residential light commercial civil construction projects. Lecture and laboratory-six contact hours. Prerequisites: ITD 101 or 107 and 130.

ITD 351 Materials and Textiles for Interiors (3). Consumer-oriented study of textiles emphasizing fibers, yarns, fabric construction and finishes in relation to use, serviceability and care of apparel and household fabrics.

ITD 352 History of Interiors I (3). A survey of architecture and interiors from ancient times to 1800. Emphasis is on furnishings, interior architectural details, accessories, materials, significant designers and architects of the periods, and current sources of reproductions of furniture and accessories.

ITD 353 Interior Design Studio II (3). Study of and practical experience in space planning of residential interiors. Emphasis is on functional, aesthetic and economic considerations, materials and codes; perspectives and color board preparation techniques. Graphic and oral presentations of interior design projects. Laboratory, four hours. Prerequisites: ITD 104. and 253.

ITD 356 Practical Problems in Interior Design (3). Hands-on experience in implementing plans for diverse background treatments for residential and commercial interiors using a variety of materials in a laboratory setting. Design and produce accessory and display items; develop estimates; practice installation techniques. Prerequisites: ITD 221, 251, 253, and 352.

ITD 357 Interior Design Studio III (3). Preparation of portfolio plus self-initiated, large-scale, complex interior design project. Emphasis is on synthesizing all learning to date and critiquing work. Presentation of complete project and portfolio. Lecture and tutorial. Prerequisite: ITD 353.

ITD 368 Computer-Aided Manufacturing and Robotics (4). A study of basics of computer-aided manufacturing; computer numerical control (CNC), computer aided design and machining (CAD/CAM) and robotics applications in manufacturing. Laboratory work in manual and automatic programming and setup of CNC machines and robots. Prerequisites: ITD 101 and 130; junior standing.

ITD 401 Architectural Design Studio II (4). An intermediate course focused on the design of small buildings with emphasis on schematic and presentation drawings and 3D model building. Students will develop intermediate level design documentation to include construction details, notations, and applications. Analysis and synthesis of architectural form generated by program requirements, physical systems, spatial organization, available technologies, and review of historic precedents and aesthetics will also be explored. Lecture and laboratory-six contact hours. Prerequisites: ITD 301. (Fall)

ITD 403 Product and Tooling Design (4). This course utilizes parametric, feature-based, solid modeling software and techniques applied to problem solving and representation of product and tooling components and assemblies. Emphasis is placed on dimensioning, geometric dimensioning and tolerancing, 3-D modeling and design of mechanical devices, and principles of tooling design. Lecture and laboratory-six contact hours. Prerequisites: ITD 304, 330, and 333. (Fall)

ITD 404 (490) Computer-Aided Engineering Design Graphics (4). The utilization of state-of-the-art computer applications focusing on industrial product and tooling design. Design modeling techniques will be addressed that reduce product cost by taking into account quantified design parameters defined as a result of manufacturing processes and geometric tolerancing. Theory and applications of geometric dimensioning and tolerancing for industrial product and tooling design will be applied. Discussions of design criteria and print/design file interpretation. A review of product design communications as applied by product designers, tooling designers, setup and production personnel and quality assurance/verification specialists. Prerequisites: ITD 204 and 333.

ITD 420 Equipment Maintenance and Materials Processing (4). Maintenance and adjustment of industrial machinery and equipment such as (but not limited to) metalworking, woodworking and drafting equipment. Theory and activities in the design, materials, and equipment of durable goods manufacturing industries. Emphasis on modern production materials, robotics, CNC, and production design systems. Prerequisites: ITD 130 and 330.

ITD 431 Advanced Numerical Control and CAD/CAM (4). A study of programming machine tools through the application of computer aided manufacturing (CAM) software. Course will include experiences in 2D and 3D programming systems — drilling, milling and turning operations. Economic analysis of computer aided manufacturing will be reviewed. Six contact hours. Prerequisites: ITD 368 and a CAD class.

ITD 450 Problems in Housing (3). Analysis of family housing needs for contemporary living. Selected topics will be chosen from these major areas: home energy needs and energy conservation, housing and interiors for special needs groups, housing for low-income families, and practical problems in interior design. May be repeated for a maximum of six credits. Prerequisite: senior standing.

ITD 452 History of Interiors II (2). A study of architecture and interiors from 1800 through the present time. Emphasis is on French, English and American styles, significant designers and architects, international movements influencing designs, product quality and furnishing resources. Laboratory, four hours. Prerequisite: ITD 352.

ITD 453 Interior Design Studio IV (3). Application of elements and principles of design in planning public interiors. Business practices and professional ethics included. Prerequisite: ITD 357.

ITD 454 Studio Problems in Interior Design (3). Studio problems in interior design. Practical problems with historical and contemporary interiors. Issues include environmental concerns, economics, special needs, quality and sources of materials. Experience with renderings, cost estimates and specifications. Graphic and oral presentation of designs. Laboratory, four hours. Prerequisites: ITD 221, 251, 253, 353, and ITD 104.

ITD 455 Interior Design Studio V (3). Analysis of shelter needs for handicapped and elderly persons. Synthesis of needs into design of facilities, both residential and commercial, to meet these needs emphasis on universal design. Specifications for and cost estimates of design features. Prerequisite: ITD 453.

ITD 456 Internship (3). Placement in an appropriate position in an approved firm to provide professional development through observation and supervised performance of assigned tasks. Intention to participate must be made a semester in advance. Placement is based on selection of study by business via resume and interviews and is not guaranteed. Required for certification by the National Kitchen and Bath Association (NKBA). Repeatable for six credit hours. Minimum 300 clock hours of field experience. Prerequisites: GPA 2.5 and approval of faculty advisor.

ITD 458 Professional Support (1). Course provides the student the opportunity to interact with professionals in the interior design field by participating in dialogue with interior designers at seminars, design firms, and professional meetings. Course may be repeated for a maximum of three credit hours.

ITD 459 Professional Practice (1). A review course for the National Council for Interior Design Qualification (NCIDQ) exam to become a professional member of the American Society of Interior Designers (ASID) and the National Kitchen and Bath (NKBA) exams and for becoming a certified kitchen and/or bath designer. Timed problem solving drawing exams and objectives exams over specific sections of knowledge will be administered. This course is intended for seniors in the interior design option.

ITD 490 Computer Aided Engineering Design Graphics (4). The utilization of state-of-the-art computer applications focusing on industrial product and tooling design. Design modeling techniques will be addressed that reduce product cost by taking into account quantified design parameters defined as a result of manufacturing processes and geometric tolerancing. Theory and applications of geometric dimensioning and tolerancing for industrial product and tooling design will be applied. Discussions of design criteria and print/design file interpretation. A review of product design communications as applied by product designers, tooling designers, setup and production personnel and quality assurance/verification specialists. Prerequisites: ITD 120, ITD 303, senior standing or instructors approval.

ITD 492 Plant Layout and Material Handling (3). A study of the arrangement of physical facilities and materials handling to optimize the interrelationships among operating personnel, material flow, information flow, and the methods required in achieving enterprise objectives efficiently, economically, and safely. Prerequisite: junior standing (Spring)

ITD 495 Industrial Supervision (3) An in-depth study of the qualities necessary in order for a frontline supervisor to be a vigorous leader, an effective leader, a source of technical know-how and deft mediator between policy-setting management and the rank-and-file worker. Prerequisite: junior standing. (Fall)

ITD 498 Senior Design (4). Study of product design principles, production methods and simultaneous manufacturing techniques. Laboratory activities are centered around the design and prototyping a product. Lecture and laboratory-six contact hours. Prerequisites: ITD 403.

ITD 503 Architectural Design Studio III (4). An advanced course that will focus in the increasing complexity of preliminary design, schematic design, and design development of an institutional or commercial building. This will be an advanced course concerning design documentation that will include a wide range of construction documentation, industry standard applications, and innovative architectural design practices. Developing the student's ability to research, analyze, and evaluate information as the design evolves will be emphasized through a major BIM project. Lecture and laboratory-six contact hours. Prerequisites: ITD 401.

ITD 504 Advanced Study in Computer Aided Drafting/Design (4). An advanced course in the theory and application of computer aided systems for the drafting and design field. Lecture and laboratory. Prerequisite: ITD 304 or permission of instructor.

ITD 522 Industrial Plastics (4). Materials and processes used in plastics manufacturing industries; includes mold design and construction. Lecture and laboratory.

ITD 531 Numerical Control/Computer NC Machining Systems (4). A study of automatic manufacturing by NC/CNC. Technical, social and economic aspects of NC/CNC machining systems. Laboratory work in manual and computer-assisted numerical control programming. Setup and operation of machines. Six contact hours.

ITD 532 Metallurgy (2). Structure, properties, behavior and use of metals. Laboratory analysis and research. Lecture and laboratory.

ITD 533 Technology and Production Tooling (2). Machine setups, tooling and inspection procedures. Lecture and laboratory. Prerequisite: ITD 531 or 532.

ITD 541 Industrial Wood Fabrication (4). Material, equipment, processes and nomenclature of the woods manufacturing industry; emphasis on design and planning for production. A study of both traditional and innovative wood processing techniques. Prerequisite: ITD 341.

ITD 601 Advanced Engineering Drawing (4). Current and emerging theories and practices in the identification of course content and the teaching of projection theory, two- and three-dimensional representation and problem-solving techniques. Lecture and laboratory. Prerequisite: permission of instructor.

ITD 602 Technical Illustration (4). Illustration drawing, rendering and creative techniques related to illustration.

ITD 603 Architectural Drafting and Design-Light Commercial (4). Theory and practice in instrument and computer aided drafting and design for architectural structures. Topics will include the review and evaluation of existing designs, plans and specifications for nonresidential light commercial structures. Structures in the building code classifications of: assembly, business, and mercantile will be included. Program and design architecture will be included. Lecture and laboratory. Prerequisite: permission of instructor.

ITD 604 Advanced Computer Graphics (3). Computer graphics applications to various industrial fields, problem-solving situations, design, and research. Prerequisite: permission of instructor.

ITD 606 Machine Design and Drawing (4). Functional drawing practices, design considerations, and problem-solving techniques as applied to machine and tooling situations. Prerequisite: permission of instructor.

ITD 621 Plastics Technology (4). Industrial plastics with emphasis on research and experimentation. Prerequisite: permission of instructor.

ITD 630 Technology of Metals Processes (4). Supplementary and comprehensive instruction in the technology related to the processes of forming, shaping, fastening and finishing of metal products. Emphasis on the design, function, and efficiency of the processes involved. Lecture and laboratory.

ITD 631 Research in Metal Technology (3). Experience in research and experimentation related to metals and metal working processes. Research activities center around group and individual laboratory experiences. Prerequisite: permission of instructor.

ITD 641 Research in Wood Technology (3). Experimentation and research in adhesives, finishes, abrasives, woods and wood products; properties and application to school and industrial usage. Lecture and laboratory.

ITD 651 Advanced Study in Manufacturing (3). The materials, processes, equipment, products, and occupations relating to the manufacturing industry will be studied. The selection, design, and production of typical products will be undertaken, using mass production techniques, drawing upon the experiences gained through courses in the technical specialization component. Lecture and laboratory. Prerequisite: permission of instructor.

JOURNALISM AND MASS COMMUNICATIONS (JMC)

JMC 100T Transitions (1). Course is designed to assist students in their transition to Murray State University. Content includes orientation to the specific area or major(s) and minor(s) within the academic program; university procedures, policies, and resources; strategies for personal and academic success, and extracurricular opportunities. Only one transitions course will count toward graduation. Graded pass/fail.

JMC 168 Contemporary Mass Media (3). The mass media, stressing development, nature, controls under which they operate, economic and political foundations, social implications and future roles. Open to non-majors as an elective.

JMC 194 Newswriting (3). Principles of newswriting for print and electronic media. Prerequisites: ENG 101 or ENG 105 or 150 with a grade of B or better.

JMC 270 Basic Audio/Video Production (3). Introduction to production technology including audio control room operations, audio and video recording, camera operations and editing. Prerequisites: JMC 168 with a grade of C or better, ENG 101 or 105 or 150 with a grade of B or better.

JMC 304 Multimedia Writing (3). Advanced news story construction for print and electronic media as well as basics of copy preparation for the World Wide Web. Emphasized new style, language usage, and news story construction. Prerequisites: JMC 194 with a grade of C or better; and CSC 125 and GCM 153.

JMC 305 Copyediting (3). Basics of handling newspaper copy, including headline writing, copy editing and proofreading. Prerequisite: JMC 194 with a grade of C or better.

JMC 322 Mass Media Study Abroad (3). Study of current trends and practices in mass media in foreign nations; specific content will vary. Prerequisites: consent of supervising instructor and department chair; acceptance in a study abroad program approved by Murray State University.

JMC 330 Mass Media Effects (3). A systematic approach to mass media in terms of structure, functions and effects; includes such topics as meaning, perception, selectivity, ethics persuasion, subliminal seduction, violence and erotica, political socialization, learning, agenda-setting, and uses and gratifications. Prerequisite: JMC 168 with a grade of C or better.

JMC 336 Script Writing (3). Theory and practice of writing for radio and television. Includes dramatic scripts; radio and TV copy conventions; script outlines and documentaries. Prerequisites: JMC 168 with a grade of C or better, ENG 101 or ENG 105 or 150 with a grade of B or better; CSC 125 and GCM 153.

JMC 358 Television Studio Production (3). Television studio production technology including camera operation, recording, audio and video control, video switching, electronic graphics, lighting, staging, and production organization, with an emphasis on broadcast-quality results. Prerequisites: JMC 168, 270, and 336 with a grade of C or better; ENG 101 or 105 or 150 with a grade of B or better.

JMC 369 Audio/Video Post Production (3). A project-based course that emphasizes the integration of nonlinear video editing with graphic production, 3-D compositing, enhanced audio and DVD authoring. Prerequisites: JMC 270 and 336 with a grade of C or better.

JMC 384 Sports Media (3). The symbiotic relationship between sports and the media that cover them. Also, the impact these two institutions working in tandem have on American society. Prerequisite: permission of instructor.

JMC 385 Directed Individual Study (1-3). Repeatable up to three hours.

JMC 391 Public Relations Principles (3). A study of the profession of public relations, skills, jobs, case studies, media relations, and writing. Students may not be enrolled in JMC 391 and JMC 412 simultaneously. Online sections are for non-public relations majors only. Prerequisites: ENG 101 or 105 with a grade of B or better, JMC 168 or permission of instructor. Business program students: MKT 360.

JMC 394 Introduction to Advertising (3). A survey course on the role and function of advertising in society; emphasis on the basic structure and techniques of advertising, marketing, media roles, creative strategies and the agency system. Prerequisites: ENG 101 or 105 or 150 with a grade of B or better. Business program students: MKT 360.

JMC 396 Publication Design (3). Advanced editing class emphasizing newspaper design, layout and graphics. Prerequisite: JMC 305 with a grade of C or better.

JMC 397 Reporting for Print Media (3). Techniques of news gathering and reporting for the print media. Provides general assignment, specialized and beat reporting experiences by emphasizing the acquisition of information through interviews, direct observation and journalistic research. Prerequisites: JMC 304 with a grade of C or better; CSC 125 and GCM 153.

JMC 398 Reporting for Broadcast and Online Media (3). News gathering and reporting for broadcast and online media. Surveys news operations and emphasizes construction of news copy, elementary news packaging techniques, and journalistic ethics. Prerequisites: JMC 194 and JMC 270 with a grade of C or better.

JMC 400 International Mass Communications (3). Study of world's communications systems and the roles they play. Analysis of international news flow. The effect of the basic philosophical differences among the media in the developed and developing worlds and the changing communication technologies will be examined. Prerequisite: junior standing or permission of instructor.

JMC 412 Writing for Public Relations (3). Emphasis placed on writing across the media, for diverse publics, to achieve organizational objectives. Basic formats include, but are not limited to, news releases, feature articles, fact sheets, newsletters, brochures, and business correspondence. Basic copy editing and design concepts will be covered. Analysis of publicity methods used in professional campaigns will also be included. Prerequisites: JMC 194 and 391 with a grade of C or better; and CSC 125 and GCM 153.

JMC 417 Advertising, Copywriting and Layout (3). A study of the theory, techniques and practical skills needed for both writing advertising copy and doing basic advertising layout. Prerequisites: JMC 394 with a grade of C or better; and CSC 125 and GCM 153.

JMC 426 Advertising Media Sales (3). Theory and practical application of media advertising sales. Advertising strategy, policy formulation and implementation. Creative and media decision-making structure and procedure. Management of media sales personnel. Students prepare and present advertising sales plan. Prerequisite: JMC 394 with a grade of C or better.

JMC 439 Advertising Media Planning (3). The study and application of media analysis, planning, and buying. Students prepare and present an advertising media campaign. Prerequisite: JMC 394 with a grade of C or better.

JMC 440 Research Methods for Public Relations (3). Use of social science research methods in public relations. Emphasis will be on survey techniques and focus groups, interpretation, application, and communication of research findings to the public. Prerequisites: JMC 168 and 330 with a grade of C or better.

JMC 444 Public Relations Strategies: Tools and Trends (3). A study of the strategy, tactics, tools, techniques and trends pertinent to the "business" of public relations. The course focuses on new and digital media; social networks and promotional applications; and event planning. Course work includes hands-on use of the latest tools and technologies, including blogs and social websites, monitoring with metrics and analytics, online news releases and new digital methods of disseminating information, Internet promotion and content generation, and special event planning and implementation. Prerequisites: JMC 168, 194, 391 and 412, with a grade of C or better.

JMC 445 Community Journalism (3). An examination of community news media, including organization, content, production, and distribution. Prerequisite: JMC 394 or permission of instructor. Students are encouraged to take ACC 200 and MGT 350 before enrolling in this course.

JMC 448 Television Production Operations (3). Creating a plan and proposal for a television program, including audience analysis, market appraisal, concept, treatment, script, budget, facilities, crew, cast, location, shooting schedule, and distribution across multiple digital platforms. Prerequisites: JMC 336 and 358.

JMC 451 Television Field Production (3). Single camera and multi-camera electronic field production, non-linear editing and postproduction to create a variety of television productions from spots to full-length programs, with an emphasis on broadcast-quality results. Prerequisites: ENG 105, JMC 168, 270, and 336; junior standing or permission of instructor.

JMC 455 Television Program Development (3). Capstone seminar in creating television programs. Topics include program concepts, target audiences, scripting, budgeting, pre-production planning, producing and marketing pilots. It is anticipated that for a successful outcome, students will commit a minimum

of nine hours per week to this course plus an additional 30 hours during the semester working on special projects and productions. Work outside the studios may be required for some productions. Prerequisites: JMC 270, 336, 358, 451. Preference given to television production majors.

JMC 456 Advertising Campaigns (3). A seminar course designed to bring together the knowledge acquired in advertising, marketing and communications courses and apply them to a realistic problem. Students develop management ability in analysis and preparation of complete advertising campaign. Students are required to work in teams to prepare plans books and give formal ad agency presentations. Prerequisites: JMC 417, 426, and 439 all with a grade of C or better.

JMC 466 Advanced Electronic News Reporting and Production (3). Advanced electronic journalism, including emphasis on compiling, writing, videotaping, editing and producing news for television. Students serve as reporters, photographers and producers and gain practical work experience at MSU-TV. Includes 30 hours arrangeable lab work. Prerequisites: JMC 270 and 398 with a grade of C or better.

JMC 488 Cooperative Education/Internship (1-3). A meaningful, planned, and evaluated work experience related to the career and educational objectives of the student for which he/she may receive academic credit and possible financial remuneration. May be repeated for a maximum of six hours from any 488/489 courses. Graded pass/fail. Prerequisite: permission of chair.

JMC 491 Advanced Public Relations (3). A capstone seminar course designed to provide students an opportunity to demonstrate their mastery of the skills, techniques, and knowledge acquired in previous major and minor courses. Working in teams, students will research, develop, and create a public relations campaign, as well as give formal presentation of their work that includes production of all materials supporting the campaign. This semester-long project should further enhance the students public relations skills and knowledge, as well as develop their management and analytical skills. Prerequisites: JMC 412, 440, and 444 with a grade of C or better.

JMC 492 Feature Writing (3). Techniques of researching, writing, editing and marketing feature articles. Prerequisite: JMC 194 with a grade of C or better.

JMC 499 Senior Seminar (1). A required course for all graduating seniors in advertising, public relations, journalism, and radio-TV. A forum for career preparation on such topics as resume and portfolio preparation, job searches, interviews and graduation requirements. Graded pass/fail.

JMC 586 Special Topics (3-6). Seminar for juniors or seniors concerning a current topic affecting the mass media. May be repeated one time for a total of six hours of credit. Prerequisite: permission of instructor; junior or senior standing.

JMC 590 Mass Communication Law (3). The law as it affects journalism and broadcasting. History and background of the freedom of the press and broadcast industries with emphasis on First Amendment and FCC regulations, including such areas as seditious libel, libel, obscenity, privacy, copyright, advertising and the Fairness Doctrine. Primarily a lecture and reading course. Prerequisite: JMC 330 with a grade of C or better.

JMC 593 Opinion Writing (3). A course in the writing of opinion, including editorials, personal columns, commentaries, Web logs, and reviews. Prerequisites: JMC 194 and 330 with a grade of C or better or permission of instructor.

JMC 596 Internship (3). Course for students majoring in advertising, journalism, public relations, or television production who have completed a minimum of eight weeks as an intern with the media or an advertising or public relations organization. Students will prepare and present case studies on their work experience. Prerequisite: permission of instructor.

JMC 597 Advanced Reporting (3). Capstone course in journalism. Project-based advanced techniques of specialized reporting, emphasizing community-based journalism and civic journalism for print, broadcast, and online platforms. Includes overview of issues concerning diversity, journalism ethics, and legal concerns. Prerequisites: JMC 397 and 398 with a grade of C or better.

JMC 600 Seminar in International Mass Communication (3). Analysis of theories and research in international mass communication. Focus on transnational information flow and the role of media in facilitating international knowledge and understanding.

JMC 601 Media, Culture, Gender, and Race (3). An analysis of theories and research in mass media influences on images of culture, race, and gender in our society. Focus on the role of news, entertainment, and advertising media in the construction and perpetuation of systemic views about members of these particular groups. Prerequisite: permission of the instructor.

JMC 602 Seminar in Advertising (3). An in-depth study of the profession of advertising, with a focus on contemporary issues, problems, and challenges; guided discussion and analysis of case studies. Enrollment is limited, with preference to JMC majors.

JMC 603 Seminar in Public Relations (3). An in-depth study of the profession of public relations with a focus on contemporary issues, problems, and challenges using guided discussion and analysis of case studies. Enrollment is limited, with preference to JMC majors.

JMC 610 Introduction to Graduate Studies in Mass Communications (1). Course to orient the new graduate student to graduate study in mass communications. Students are presented with an overview of key skills needed in most research-driven courses. Topics include exploring the library, abstracting research articles, conducting a literature search, developing a research plan, choosing a research topic, examining data and graphics, writing for the social sciences, writing styles for the social sciences, establishing research partnerships, exploring research ideas, and presenting seminars. Students must enroll in this course during their first semester in the graduate program.

JMC 615 American Media History (3). History of journalism and broadcasting with emphasis on the role of newspaper, radio, television, and other communications media in the United States.

JMC 616 Professional Internship in Mass Communications (3). Course for advanced students who have completed a minimum of eight weeks as an intern with the media or a public relations or advertising agency. Case studies are prepared by the students on their work experience. Prerequisite: permission of instructor.

JMC 620 Strategic Communications (3). Course is designed to explore strategic communication strategies for businesses and other organizations which must communicate with the public. The course addresses the media, methods and ethics of institutions' interactions with a variety of publics. This course uses a lab-based format each week to apply the concepts of the course material. Students should be prepared to think, write, compose, and practice strategic communication skills on weekly basis.

JMC 622 JMC Study Abroad (3). Study of current trends and practices in mass media in foreign nations; specific content will vary. Prerequisites: admission to graduate studies; consent of supervising instructor and department chair; and acceptance in a study abroad program approved by Murray State University.

JMC 630 Theories of Mass Communications (3). The communications process in terms of definitions, characteristics, models, language, and nonverbal elements, with a particular emphasis on such empirical effects as selective attention, perception and retention, functions, uses and gratifications, agenda-setting, aggressive behavior due to violent content, and effects of advertising on children.

JMC 648 Mass Media Industries (3). Basic principles of markets and economics and how they apply to media industries. Topics include ownership, convergence, regulation, market forces, and technological forces.

JMC 658 New Technologies (3). The development of technology in media industries and related businesses, such as consumer electronics and office systems. Topics include the nature of technical innovation, economic feasibility, public policy, social impact, and diffusion models.

JMC 660 Methods of Communications Research (3). The research process in mass communication including survey, experimental, and archival. Students will become familiar with the philosophy and techniques of social science research, data collection methods, sampling procedures, and statistical analysis. Students will also conduct a research project.

JMC 670 Philosophical and Ethical Concepts of the Mass Media (3). Lecture and seminar course in concepts of the role of the mass media in society. Philosophical background to include legal and ethical issues.

JMC 677 Directed Individual Study (3). A course designed to allow student pursuit of individual interests. Proposal must be approved by the graduate faculty instructor prior to registering for the course.

JMC 685 Specialized Mass Communications (1-3). Directed individual study. Can be a journalistic effort in areas such as science, sports, government, religion, graphics, etc., or a project in radio or television such as a major production or series, an extensive research project on paper, or other approved project. Repeatable up to three hours. Prerequisites: permission of instructor and written approved proposal required prior to registration.

JMC 686 Special Topics (3-6). Seminar for graduate students concerning a current topic affecting the mass media. May be repeated one time for a total of six hours of credit. Prerequisite: permission of instructor.

JMC 690 Comprehensive Project (3). Capstone of the mass communications degree. An individual independent research, creative, or professional project, designed by the student under the direction of the graduate coordinator and one other JMC faculty member. Prerequisites: proposal submitted to and approved by the graduate coordinator by October 15 for spring enrollment–March 15 for summer or fall enrollment; completion of 21 hours in the program; JMC 630 and 660.

JAPANESE (JPN)

JPN 101 Elementary Japanese I (3). Introductory course in modern spoken and written Japanese, designed to develop fundamental skills in the areas of speaking, listening, reading, and writing. Gives contextualized instructions to develop both communicative and cultural competency. Systematically introduces the Japanese writing system (Hiragana, Katakana, and Kanji characters).

JPN 102 Elementary Japanese II (3). A continuation of JPN 101. Prerequisite: JPN 101.

JPN 105 Introduction to Japanese Culture (3). A survey of contemporary Japanese character and society from a historical perspective. Attitudes, achievements, institutions and life styles of the Japanese people are explored. Conducted in English.

JPN 110 Basic Conversational Japanese (3). A conversation-oriented introduction to pronunciation and essential structures and vocabulary. Pronunciation, listening comprehension, speaking and simple reading and writing of material related to conversational situations are included. No continuation offered. Only taught abroad.

JPN 201 Intermediate Japanese I (3). Continuing study of Japanese at the intermediate level. Stresses reading comprehension, spoken fluency, and composition, with materials organized around social and cultural topics; continues to introduce new Kanji characters.

JPN 202 Intermediate Japanese II (3). A continuation of JPN 201. Prerequisite: JPN 201 or permission of instructor.

JPN 210 Intermediate Conversational Japanese (3). Course designed to develop the vocabulary and oral communication skills of the student with a background of one year of college Japanese or equivalent. Emphasis will be placed on bringing the student into contact with the Japanese people and various aspects of their culture. No continuation offered. Only taught abroad. May count as a required language course. Prerequisite: JPN 102 or equivalent.

JPN 301 Japanese Conversation and Composition I (3). Intensive practice in speaking and writing based on a variety of topics and materials. Prerequisite: JPN 202 or permission of instructor.

JPN 302 Japanese Conversation and Composition II (3). Additional intensive practice in speaking and writing based on a variety of topics and materials. Prerequisite: JPN 301 or permission of instructor.

JPN 306 Introduction to Japanese Literature (3). As an introduction to literary analysis, this course is designed to develop abilities in analytical reading, oral presentation, and expository writing. The course surveys a variety of literary genres, and is conducted in Japanese and in English. Prerequisite: JPN 301 or permission of instructor.

JPN 310 Conversation and Composition Abroad (3). Intensive practice in speaking and writing based on the student's interaction with native speakers and the international setting. Only taught abroad. No continuation offered. May count toward the major and minor approved electives. Prerequisite: Two years of college Japanese or equivalent.

JPN 314 Japanese Culture Abroad (3). Japanese culture taught in Japanese and only taught in study-abroad programs in Japan. The course entails planned activities as well as excursions to cultural sites in conjunction with readings about the activities, the sites, and the intellectual history and milieu behind their conceptions. The student will explore the history, art, literature, politics, and music of the host country. Prerequisite: JPN 202 or equivalent, or consent of instructor.

JPN 315 Global Cinema in Japanese (3). A study of Japanese cinema and film industry through the examination of significant directors and film movements. The course includes a two-hour per week film screening in addition to class meetings. The course is conducted in Japanese. Prerequisite: JPN 301 or permission of instructor.

JPN 323 Japanese Culture and Civilization (3). Survey of the contributions of Japan to world culture including the historical development of Japan from pre-historic time up to the Meiji Restoration (1868). The class is conducted in Japanese. Prerequisite: JPN 301 or permission of instructor.

JPN 324 Contemporary Japanese Culture and Civilization (3). A survey of attitudes, achievements and behavioral characteristics of the Japanese people from the Meiji Restoration (1868) to the present. The class is conducted in Japanese. Prerequisite: JPN 301 or permission of instructor.

JPN 331 Advanced Language Practice (3). Course will offer students the opportunity to expand their cultural and linguistic knowledge of Japanese culture through series of conceptual frameworks, such as an international conference, an apartment building, a hotel, or a business. Students will engage in extensive "role play" and creative exercises to establish contexts, choose fictive identities, and improvise a series of encounters. The class is conducted in Japanese. Prerequisite: JPN 202.

JPN 350 Modern Japanese Literature in Translation (3). This course surveys Japanese fiction from the Meiji Restoration (1868) to the present day. We will examine the personal voice, manifest in literary works, and explore the ways in which literature has been closely interwoven with historical movements and social changes of modern times. Prerequisite: ENG 105 or 150. (Same as ENG 350.)

JPN 401 Advanced Japanese I (3). This course is the first semester of the fourth-year Japanese curriculum, which is a continuation of JPN 302 and is designed to further develop the student's four language skills (speaking, listening reading, and writing) and cultural knowledge. The class is conducted in Japanese. Prerequisite: JPN 302.

JPN 402 Advanced Japanese II (3). This course is the second semester of the fourth-year Japanese curriculum, which is designed to further develop the student's four language skills (speaking, listening, reading, and writing) and cultural knowledge through various means including the study of authentic materials and classroom activities. The class is conducted in Japanese. Prerequisite: JPN 401

JPN 421 Topics in Japanese literature (3). Analysis and discussion of characteristics and representative authors from different historical periods and genres of Japanese literature. Course content will vary according to the needs of the Japanese Program. May be repeated to a maximum of nine credit hours. The course is conducted in Japanese. Prerequisite: JPN 302.

JPN 441 Topics in Japanese Cultural Studies (3). This course explores a variety of factors that contribute to and illustrate the cultural life, social themes, and national perspectives of Japanese society. The course topic will vary depending on the semester during which the course is offered and according to the needs of the students in the Japanese program. The course may be repeated for a maximum of six credit hours. The course is conducted in Japanese and in English. Prerequisite: JPN 302.

JPN 460 Studies in a Genre (3). The course will explore a particular genre of Japanese literature (e.g., the novel, novella, drama, poetry, short story, etc.), the theory behind the respective genre, and an examination of a variety of works within that genre. May be repeated as a second course for up to six credit hours provided that the second course covers a different genre. The course is conducted in Japanese. Prerequisite: JPN 302.

JPN 551 Directed Studies (1-3). Course work designed to meet specific needs and interests on an individual basis. Prerequisite: junior standing or above.

LIBERAL ARTS (LBA)

LBA 100T Transitions (1). Course is designed to assist students in their transition to Murray State University. Content includes orientation to the specific area or major(s) and minor(s) within the academic program; university procedures, policies, and resources; strategies for personal and academic success, and extracurricular opportunities. Only one transitions course will count toward graduation. An introduction to university life in general and the liberal arts major in particular. Graded pass/fail.

LBA 438 Seminar in Liberal Arts (3). Capstone course limited to Liberal Arts majors. It is designed to help students who are completing their coursework refine writing, thinking research, and document design skills through the development and completion of a multidisciplinary research-oriented project. Prerequisite: permission of program coordinator.

LBA 488 Cooperative Education/Internship (1-3). A meaningful, planned, and evaluated work experience related to the career and educational objectives of the student for which he/she may receive academic credit and possible financial remuneration. May be repeated for a maximum of six hours from any 488/489 courses. Graded pass/fail. Prerequisite: permission of program coordinator.

LBA 489 Cooperative Education/Internship (1-3). A meaningful, planned, and evaluated work experience related to the career and educational objectives of the student for which he/she may receive academic credit and possible financial remuneration. May be repeated for a maximum of six hours from any 488/489 courses. Prerequisite: permission of program coordinator.

LIBRARY SCIENCE (LIB)

LIB 600 Libraries and Education (2). Course is an introduction to the concept of school librarianship, providing an overview of the role of the school media librarian as a teacher and leader in a school community. Students will be required to observe different aspects of a school librarian's activities as part of a field experience activity. The course must be taken during the first semester of the program. Field experience required. Prerequisite: permission of instructor.

LIB 601 Learning and Libraries (3). The role of libraries and librarians in encouraging learning, and the concept of information literacy as an essential competency for the enhancement of lifelong learning.

LIB 604 Library in the School Curriculum (3). An approach to understanding the role of the library media specialist and the media center in the school curriculum, with the aim of developing the school as a learning community, stressing collaboration between administrators, teachers, and media specialists in planning curriculum and professional development.

LIB 610 Collection Management (3). Principles, standards, practices, and problems in managing and maintaining library collections, with a focus on school library media centers; examination of the major selection tools and critical evaluation of reviewing sources; integration of external sources, particularly those on the web, into the collection; and consideration of weeding techniques and principles.

LIB 613 Clinical Experiences in Library Media (3). Students seeking initial certification in library media will participate in a supervised clinical experience for a total of 12 weeks of student teaching. Graded pass/fail. Prerequisite: admission to Teacher Education and Student Teaching.

LIB 617 Research in Young Adult Literature (3). An in-depth study of chosen areas of young adult literature with emphasis on electronic and print sources by and about authors, genres, and issues, which may include a field experience where students explore the pedagogical implications of their study.

LIB 620 Library Administration (3). The theories, principles and processes underlying the administration and organization of library service for a learning community; planning; organizing, staffing, directing, coordinating, evaluating, reporting, programming, scheduling, public relations/marketing, budgeting, equipping and housing. May include visits to school library media centers or other libraries for observations or to consult resources as required by course assignments.

LIB 621 Library Practicum: Capstone Experience (3). Observation and supervised practice work in an assigned media center upon the completion of the required course work. Students are assigned to an approved school library media center, under the supervision of a certified school media specialist as well as a university coordinator, where they must spend a minimum of 150 clock hours “on the job” to earn a total of three hours of semester credit. Prerequisites: EDU 626, LIB 620, LIB 630, and LIB 640.

LIB 626 Administration Practicum in Library Media (1). Course provides students with field experience in an assigned school library with a focus on administration of the school library. Students are assigned to an approved school library, under the supervision of a certified, experienced school media librarian as well as a university coordinator, where they must spend a minimum of 50 hours observing or leading activities in or related to the school library. Field experience required. The course is graded pass/fail. Prerequisite: permission of instructor.

LIB 630 Organizing and Managing Library Collections (3). Course will introduce the student to principles for organizing and managing library collections, and trace the life cycle of library materials from selection and acquisition, cataloging, classification, and organization on the shelf, to the removal of materials from the library’s collection in deselection or weeding.

LIB 636 Collections Practicum in Library Media (1). Course provides students field experience in an assigned school library with a focus on managing and organizing a school library collection. Students are assigned to an approved school library, under the supervision of a certified, experienced school media librarian as well as a university coordinator, where they must spend a minimum of 50 hours observing or leading activities in or related to the school library. Field experience required. The course is graded pass/fail. Prerequisite: permission of the instructor.

LIB 640 21st Century Skills and Services (3). A consideration of 21st century skills and the services delivered in libraries in order to serve the needs of library users in communicating, collaborating, and cultivating critical thinking and problem solving skills to answer questions, and compile information into knowledge, using both print and digital information sources.

LIB 646 21st-Century Skills Practicum in Library Media (1). Course provides students with field experience in an assigned school library with a focus on the teaching of 21st-century skills and on reference services in the school library. Students are assigned to an approved school library, under the supervision of a certified, experienced school media librarian as well as a university coordinator, where they must spend a minimum of 50 hours observing or leading activities in or related to the school library. Field experience is required. The course is graded pass/fail. Prerequisite: permission of the instructor.

LIB 656 Technology Practicum in Library Media (1). Course provides students with field experience in an assigned school library with a focus on the teaching and management of technology in the school library. Students are assigned to an approved school library, under the supervision of a certified, experienced school media librarian as well as a university coordinator, where they must spend a minimum of 50 hours observing or leading activities in or related to the school library. Field experience required. The course is graded pass/fail. Prerequisite: permission of the instructor.

LIB 699 Exit Seminar in Library Media (1). This course provides culminating experiences for the Library Media Education Master’s Degree program. Students will reflect on their program activities and document their professional growth and development toward becoming school media librarians. The course must be taken in the last semester of the master’s program but can be taken with other courses. Prerequisite: Permission of the instructor.

LOGISTICS AND SUPPLY CHAIN MANAGEMENT (LSC)

LSC100T Transitions (1). Course is designed to assist students in their transition to Murray State University. Content includes orientation to the specific area or major(s) and minor(s) within the academic program; university procedures, policies, and resources; strategies for personal and academic success, and extracurricular opportunities. Only one transitions course will count toward graduation. Graded pass/fail.

LSC 343 Fundamentals of Operations and Technology (3). A study of the concepts and processes of the operations function with emphasis on the application of these to the management of various types of systems. Special attention is given to the management of technology, quality and globalization. The student is introduced to models commonly used in decision-making. Prerequisites: MAT 120 or higher and conditional or full admission to upper-level business courses or junior standing.

LSC 452 Process Management (3). Course examines the major aspects of developing, analyzing, improving, and managing business processes. The focus is on processes, as opposed to functions. Virtually all businesses are made up of a series of sequential and/or parallel business processes, many of which cut across functional and organizational boundaries. The ability to understand, design, and manage these complex processes is a critical skill, and competent business process analysts, managers, and architects are in high demand in the job market. Prerequisite: LSC 343 with a minimum grade of C.

LSC461 Principles of Purchasing and Supply Management (3). Course provides in-depth exposure to the ideas and concepts of purchasing or procurement. These areas include: procurement objectives, ethical standards, strategies and policies, the basic purchasing process, organizing and staffing, supplier selection and relations, international purchasing, price/cost analysis, negotiation, legal aspects, and managing material flows. A focus on the career opportunities in procurement, materials management, and logistics management will be provided.

LSC470 Introduction to Quantitative Decision Making (3). Course is an introduction to the quantitative analysis of logistics and supply chain systems. Students learn how to analyze, model, and solve a variety of business problems to support managerial decision making. Emphasis is placed on developing fundamental mathematical modeling skills and Excel solution methods. Prerequisites: LSC 343 (with a minimum grade of C) and CIS 243 or STA 135.

LSC 475 International Transportation and Logistics Management (3). Course is an introduction to business logistics and international freight distribution. Emphasis is placed on supply chain management (SCM) theories, practice, and problems. Students will also explore a Geographical Information Systems (GIS) software package through case study assessments. Prerequisite: LSC 343 with a minimum grade of C.

LSC 480 Supply Chain Management Strategy (3). Studies and analyzes the dynamic nature of supply chain management for products and services. The course investigates the linkage between a firm’s supply chain strategy and business strategy by means of case analysis and focuses on the development and mastery of concepts, insights, practical tools, and decision support systems important for the effective management of the supply chain. Prerequisites: LSC 343 with a minimum grade of C and CIS 243 or STA 135.

LSC 488 Cooperative Education/Internship (1-3). A meaningful, planned, and evaluated work experience related to the career and educational objectives of the student for which he/she may receive academic credit and financial remuneration. May be repeated for a maximum of six hours from the 488/489 course sequence. Graded pass/fail.

LSC 489 Cooperative Education/Internship (1-3). A meaningful, planned, and evaluate work experience related to the career and educational objectives of the student for which he/she may receive academic credit and financial remuneration. May be repeated for six hours from the 488/489 course sequence. Letter-graded.

LEGAL STUDIES

(LST)

LST 240 The Legal Environment of Business (3). This course involves a presentation of the basic principles of law as they apply to business.

LST 242 Real Estate Law (3). Comprehensive survey of the law of realty as it affects the real estate professional. A study which involves historical and recent developments in legislation and court precedent affecting real estate, with emphasis in license law, real estate commission rules and regulations and professional ethics. (Same as RES 242.)

LST 250 Mock Trial (3). A legal studies course that teaches basic trial advocacy skills through preparation for and participation with the MSU Mock Trial Team in American Mock Trial Association sanctioned competition. May be repeated for up to six hours credit. Prerequisite: permission of instructor.

LST 300 Introduction to Legal Research (3). An introduction to primary and secondary sources of law including finding tools; federal and state court reports and citation forms; legal digests and encyclopedias; annotated law reports; legal periodicals, including periodical indexes; treatises and restatements; federal and state administrative law; federal, state, and local court rules; research aids.

LST 310 Legal Analysis and Writing (3). A course intended to teach students to think, analyze, research, and write like law-trained professionals. Since legal research is involved in solving some homework problems, LST 300 provides helpful preparation for this course.

LST 320 Family Law (3). This course will explore various areas of family law, such as the formation and dissolution of domestic relations, which includes the law of marriage, annulment, separation, dissolution and maintenance, as well as the custody and support of children.

LST 350 Legal Services for the Elderly (3). An in-depth survey of the major public benefit programs affecting the elderly including Social Security, Supplemental Security Income, Medicare, and Medicaid. The course also studies the law relating to pensions, wills, protective arrangements and nursing homes and is intended to prepare paralegal students to assist the elderly having legal problems in these areas.

LST 370 Law and Literature (3). A course that explores the intersections between law and literature within larger cultural contexts. Prerequisites: CIV 101 and 102, HUM 211 and 212, or equivalent. (Same as ENG 370.)

LST 400 Litigation and Trial Practice (3). Course that explores pre-trial discovery and preparation methods, attorney client privilege, rules of evidence, rules of civil and criminal procedure, and some trial motions. The course will conclude with a moot court trial wherein students will participate as litigating attorneys and witnesses. Prerequisite: LST 300.

LST 430 Trusts and Estates (3). Course that explores the legal requirements of a valid will, living will, power of attorney, a variety of trusts and other estate documents, and the state laws that govern inheritance rights when a person dies without a will. Probate court documents required of a state administrator and probate court evidence methods will also be studied along with state and federal tax consequences. Prerequisite: LST 300.

LST 440 Commercial Transactions (3). A study of business organizations and their commercial transactions. Topics include business organizations and relationships, contracts, the Uniform Commercial Code, sales, credit, agency, and property. Prerequisite: LST 240.

LST 444 Judicial Process (3). A political science course that surveys the nature, functions and sources of law and the role of politics and the courts in the administration of justice. (Same as POL 444.)

LST 445 Constitutional Law I: Developments and Trends (3). A political science course that surveys the development of and historic trends in selected subjects of constitutional law. (Same as POL 445.)

LST 446 Criminal Law (3). Sources of criminal law. The Model Penal Code, Rules of Criminal Procedure. Constitutional mandates relevant to law enforcement investigative procedures.

LST 447 Constitutional Law II: Civil Liberties and Civil Rights (3). A political science course that studies the leading court decisions and their impact on the development of American Constitutional Law in the subject areas of civil liberties (Amendment I), civil rights (Amendments IV, V, VI, VIII, and IX) and the equal protection and due process clauses of the Amendment XIV. (Same as POL 447.)

LST 457 International Law and Organizations (3). The origin and development of international law and international organizations. (Same as POL 457.)

LST 476 Law in Public Administration (3). An examination of the role of law in the administrative process. Topics to be covered include administrative rulemaking and adjudication, enabling statutes, open records and open meetings laws, procedural due process, and civil liability and immunity for public employees and governments. (Same as POL 476.)

LST 480 Topical Seminar in Legal Studies (3). Inquiry into selected topics and problems in the field of legal studies. May be repeated for a maximum of six hours provided topics may vary.

LST 482 Land Use and Planning Law (3). An undergraduate level examination of the legal, political, and economic aspects of efforts to control the use of land. The course will cover constitutional, statutory, and common law issues regarding nuisance suits, private covenants, subdivision controls, zoning and zoning procedure, planning processes, and the exercise of eminent domain. (Same as POL 482.)

LST 485 Local Government Law (3). An undergraduate level study of basic standards of law pertaining to various forms of local government, including municipalities, counties, special districts, public authorities, and school districts. (Same as POL 485.)

LST 488 Cooperative Education/Internship (1-3). A meaningful, planned, and evaluated work experience related to the career and educational objectives of the student for which he/she may receive academic credit and possible financial remuneration. To be eligible, a student must be a LST minor with a junior or senior status and an overall GPA of 2.5. In addition, the student must have completed LST 240, 300, and 310 with a GPA of 2.8. Six hours of the LST courses must be completed at MSU. May be repeated for a maximum of six hours from any 488/489 courses. Graded pass/fail. Prerequisite: permission of chair.

LST 489 Cooperative Education/Internship (1-3). A meaningful, planned, and evaluated work experience related to the career and educational objectives of the student for which he/she may receive academic credit and possible financial remuneration. To be eligible, a student must be a LST minor with a junior or senior status and an overall GPA of 2.5. In addition, the student must have completed LST 240, 300, and 310 with a GPA of 2.8. Six hours of the LST courses must be completed at MSU. May be repeated for a maximum of six hours from any 488/489 courses. Prerequisite: permission of chair.

LST 495 Special Problems (1-3). Supervised readings or research in selected subjects designed to supplement regular course offerings. To be eligible, a student must be a LST minor with senior status and an overall GPA of 3.0. In addition, the student must have completed at least 12 hours in LST courses including LST 240, 300, and 310 with a GPA of 3.0. At least six hours of the LST courses must be completed at MSU. Prerequisites: permission of chair.

MATHEMATICS AND STATISTICS

(MAT)

MAT 095 Fundamental Mathematics (2). Basic operations as they pertain to integers, fractions, decimals, and percentages. Applied problems will include topics in geometry. A developmental and refresher course required for students with math ACT scores of 15 or below. Advanced placement into a higher-level math course is possible through assessment exams such as ALEKS or KYOTE. Credit earned in this course cannot be counted toward graduation requirements and cannot be used to fulfill University Studies requirements. Students with credit in a higher-level math course may not schedule this course without instructor permission. Letter-graded course.

MAT 096 Introductory Algebra (3). Introduction to roots, exponents, and polynomials; linear and quadratic equations; factoring; graphing; systems of equations and inequalities with applications using these concepts. A developmental and refresher course required for students with math ACT scores of 16-18. Advanced placement into a higher-level math course is possible through assessment exams such as ALEKS or KYOTE. Credit earned in this course cannot be counted toward graduation requirements and cannot be used to fulfill University Studies requirements. Students with credit in a higher-level math course may not schedule this course without instructor permission. Prerequisite: ACT math score of 16-18 or MAT 095.

MAT 097 Intermediate Algebra (4). Algebraic expressions, exponents, linear and quadratic equations, graphing, systems of equations, inequalities, and mathematical modeling. Students who have received a grade of C or better in any mathematics course numbered MAT 130 or above can not enroll in this course without written permission of the departmental chair. Credit earned in this course cannot be counted toward graduation requirements and cannot be used to fulfill University Studies requirements. Required for students with a 19 ACT and degree requirements which include MAT 130, 135, 140, 145, or 150. Prerequisite: ACT math standard score of at least 19 or MAT 096.

MAT 100T Transitions (1). Course is designed to assist students in their transition to Murray State University. Content includes orientation to the specific area or major(s) and minor(s) within the academic program; university procedures, policies, and resources; strategies for personal and academic success, and extracurricular opportunities. Only one transitions course will count toward graduation. Required for all entering freshmen. Graded pass/fail. (Fall)

MAT 115 Mathematics for Middle and Elementary Teachers I (3). Development of the real number system with arithmetic and basic ideas of algebra. A course specifically designed for the needs of future elementary and middle school teachers. Cannot be used for University Studies requirements. Prerequisite: Math ACT score of at least 20 or KYOTE score of at least 22 or MAT 097.

MAT 117 Mathematical Concepts (3). Provides students with problem-solving skills and literacy related to the mathematics which is commonly encountered in our society. Topics can include descriptive statistics, personal finance, voting methods, elementary probability, and graph theory. This course is especially appropriate for students whose degree programs do not otherwise require a course in mathematics. It is not an adequate preparation for any other mathematics course. Prerequisite: ACT math standard score of at least 19 or MAT 096.

MAT 130 Technical Math I (5). Topics from algebra and trigonometry for the technology student. Restriction: A student may not receive credit for MAT 130 and 140 or 145 or 150. Prerequisite: ACT math standard score of at least 21 or MAT 097.

MAT 140 College Algebra (4). Course develops and extends the student's basic algebra concepts and problem-solving skills in the context of functions, models, and applications. Topics include exponents and radicals, graphing, setting up and solving equations in linear, quadratic, and other forms, systems of equations, and operations on functions. Properties and applications of linear, quadratic, polynomial, rational, exponential, and logarithmic functions are studied. Prerequisite: ACT math standard score of at least 21 or MAT 097. A student may not receive credit for MAT 140 and 130 or 150. (MAT 140 in combination with MAT 145 will substitute for MAT 150.)

MAT 145 Trigonometry (3). Course is a study of plane trigonometry. Topics include angles, right triangle trigonometry, trigonometric functions and their graphs, identities, solving trigonometric equations, and applications of trigonometry. Prerequisite: ACT math standard score of at least 21 or MAT 097. A student may not receive credit for MAT 145 and MAT 130 or 150. (MAT 145 in combination with MAT 140 will substitute for MAT 150.)

MAT 150 Algebra and Trigonometry (5). Course is an intensive study of college algebra and trigonometry. A combination of MAT 140 and MAT 145, it is a faster-paced course for students with some familiarity with the subjects. MAT 150 may be used as a "refresher" course to help prepare students for MAT 250. Prerequisite: ACT math standard score of at least 23. Restriction: A student who receives credit for MAT 150 may not receive credit for MAT 130, 140 or 145. (Credit for the combination of MAT 140 and MAT 145 will substitute for MAT 150.)

MAT 215 Mathematics for Middle and Elementary Teachers II (3). Geometry, measurements, probability and statistics for elementary and middle school teachers. Cannot be used for University Studies requirements. Prerequisite: Math ACT score of at least 20 or KYOTE score of at least 22 or MAT 097.

MAT 220 Business Calculus (3). An introduction to calculus and its applications for students in various fields of business. Primary emphasis is on differential calculus. Prerequisite: MAT 120 or 140 or math ACT score of at least 23.

MAT 230 Technical Math II (5). Analytic geometry, differential and integral calculus with applications from technical fields. Prerequisite: MAT 130 or ACT math standard score of at least 24.

MAT 250 Calculus and Analytic Geometry I (5). First course in calculus develops main ideas of differentiation and integration of single-variable functions. Topics include limits, continuity, techniques of differentiation, graphing techniques, definite and indefinite integral, basic integration methods, and applications of the derivative and integral to natural and social sciences. Prerequisites: ACT math standard score of at least 26 or MAT 150 or MAT 140/145.

MAT 305 Intermediate Geometry (3). Selected elementary topics in Euclidean geometry. Includes studies in parallelism, similarity, congruence, areas, volumes, elementary transformation, and coordinate geometry. Intended for students seeking middle school certification. Prerequisite: MAT 115 or 215.

MAT 308 Calculus and Analytic Geometry II (5). A continuation of MAT 250, this course further develops techniques and applications of integration and is an introduction to sequences and series. Topics include integration strategies, computing areas and volumes, arc length, parametric curves, polar coordinates, sequences and series, tests for convergence of series, power series, and Taylor series. Prerequisite: MAT 250.

MAT 309 Calculus and Analytic Geometry III (4). Course develops main ideas of differentiation and integration of functions of several variables and introduces vector calculus. Topics include vectors, analytic geometry of 3-dimensional space, functions of several variables, partial derivatives, directional derivatives, integrals of functions of two and three variables, vector fields, line integrals, Green's theorem, and the divergence theorem. Prerequisite: MAT 308.

MAT 312 Mathematical Reasoning (3). Course designed to improve the students understanding of the nature and methods of mathematical proof by means of practice and participation. The content will include mathematical logic, set theory, relations and functions, cardinality, axiomatic structures, techniques of proof, and extensive practice in proof and problem solving. Credit cannot be received for both MAT 312 and 399. The department recommends a student take this course in his/her sophomore year in the program. Prerequisite: MAT 308 or permission of instructor.

MAT 330 Technical Math III (3). Continuation of MAT 230. Includes differentiation and integration of transcendental functions, series expansions of functions, and differential equations. Prerequisite: MAT 230.

MAT 335 Matrix Theory and Linear Algebra (3). The algebra of matrices and its application to problems in Euclidean spaces and elementary linear transformations. Prerequisite: MAT 308.

MAT 338 Ordinary Differential Equations (3). First-order differential equations, linear equations with constant coefficients, linear and nonlinear systems of equations. Prerequisite: MAT 308.

MAT 399 Sets, Logic and Functions (3). An investigation of mathematical reasoning including techniques of mathematical exploration, problem-solving and proof. Intended for students seeking Middle School Certification. Does not count toward a major or minor in mathematics and credit cannot be received for both MAT 312 and MAT 399. Prerequisite: MAT 250 or permission of instructor.

MAT 421 Introductions to Algebraic Structures (3). An elementary study of the major structures in modern algebra including groups, rings, fields and integral domains. Prerequisites: MAT 308 and 312.

MAT 430 Explorations in Mathematics (1-3). A guided investigation of selected topics in mathematics. May be repeated for a maximum of six hours of credit. Prerequisites: MAT 308 with a mathematics GPA of at least 3.0; permission of instructor.

MAT 440 Mathematics Transforms with Applications (3). Integral and discrete transforms, such as Laplace and Fourier transforms, and the z-transform. Power series solutions and special functions. Prerequisite: MAT 338 or permission of instructor.

MAT 442 Introduction to Numerical Analysis (3). Taylor polynomial approximation, numerical root finding methods and fixed-point iteration, polynomial and spline interpolation, numerical differentiation and integration, and direct methods for the solutions of linear systems. Prerequisite: MAT 308 or permission of instructor.

MAT 460 Principles of Biomathematics (3). The study of biological and mathematical models is united in this research-based course. A variety of quantitative biological models and their underlying mathematics are studied, with an emphasis on population dynamics and evolutionary biology. Students engage in research and communicate their results. Laboratory experiences and short-distance field trips are required. Only one of MAT 460 and 461 may count as a limited elective for the mathematics major. Prerequisites: BIO 216 and MAT 250 or consent of instructor. (Same as BIO 460.)

MAT 461 Biomathematics in the Biomedical Sciences (3). A variety of quantitative biological models and their underlying mathematics are studied, with an emphasis on epidemiology, genetics, and physiology. Students engage in research and communicate their results. Laboratory experiences and short-distance field trips are required. Only one of MAT 460 or MAT 461 may count as a limited elective for the mathematics major. Prerequisites: MAT 250 and BIO 216 or consent of instructor. (Same as BIO 461.)

MAT 488 Cooperative Education/Internship (1-3). A meaningful, planned, and evaluated work experience related to the career and educational objectives of the student for which he/she may receive academic credit and possible financial remuneration. May be repeated for a maximum of six hours from any 488/489 courses. Graded pass/fail. Prerequisite: permission of chair.

MAT 489 Cooperative Education/Internship (1-3). A meaningful, planned, and evaluated work experience related to the career and educational objectives of the student for which he/she may receive academic credit and possible financial remuneration. May be repeated for a maximum of six hours from any 488/489 courses. Prerequisite: permission of chair.

MAT 500 Internship (1). Graded pass/fail.

MAT 506 Mathematical Modeling I (3). A study of mathematical models used in the social, life and management sciences and their role in explaining and predicting real world phenomena. The emphasis is on developing skills of model building. Topics include difference equations, perturbation theory and non-dimensional analysis. Prerequisite: MAT 338.

MAT 507 Mathematical Modeling II (3). A continuation of topics discussed in MAT 501. A term project consisting of a model of a non-mathematical problem is required. Prerequisite: MAT 506.

MAT 508 Introduction to Combinatorics and Graph Theory (3). Selected topics and applications from combinatorics and discrete mathematics, which can include: enumeration, generating functions, recurrence relations, partially ordered sets, Boolean algebras, block designs, coding theory, and topics in graph theory, including trees, networks, optimization, and scheduling. Prerequisites: MAT 308 and either MAT 312 or MAT 335.

MAT 512 Partial Differential Equations (3). Partial differential equations of first and second order and applications. Prerequisites: MAT 309 and 338.

MAT 513 Modern Algebra I (3). An in-depth study of groups. Topics will include permutation groups, cyclic groups, cosets and factor groups, subgroups and normal groups, and the homomorphism theorems. Some introductory discussions of rings and fields will be included as well. Prerequisites: MAT 308 and 312.

MAT 514 Modern Algebra II (3). An in-depth study of rings and fields. Topics will include the Isomorphism Theorems, ideals, polynomial rings, integral domains, fields, field extensions. Prerequisite: MAT 513 or permission of instructor.

MAT 515 Theory of Numbers (3). Divisibility, the Euclidean algorithm, mathematical induction, prime and composite numbers, Diophantine equation, Pythagorean triplets, Fermat's Theorem, congruencies, quadratic residues, continued fractions. Prerequisite: MAT 312.

MAT 516 Introduction to Topology (3). Set theory, topology of the real line, topological spaces, metric spaces. Prerequisites: MAT 309 and 312.

MAT 517 Foundations of Geometry (3). Study of postulate systems for geometry, critical examination of Euclid's Elements, introduction to non-Euclidean geometry. Prerequisite: MAT 309 or permission of instructor.

MAT 522 Vector Calculus (3). Operations with vectors; differentiation and integration of functions of several variables; transformation of coordinates; line and surface integrals; Green's, Stokes's, and the divergence theorems. Prerequisite: MAT 309.

MAT 523 Introduction to Complex Variables (3). Complex numbers, analytic functions, elementary functions, integration, Cauchy theorem, Taylor and Laurent expansions, and applications. Prerequisite: MAT 309.

MAT 524 Boundary Value Problems (3). Analytic and computational techniques for linear first and second order partial differential equations, initial, and boundary value problems. Classification, Fourier series, separation of variables, finite difference and/or finite element methods. Prerequisites: MAT 309, 335 or permission of instructor, and 338.

MAT 525 Advanced Calculus I (3). A rigorous development of one variable calculus including limits, continuity, differentiation, integration and sequences of functions. Prerequisites: MAT 309 and 312.

MAT 526 Advanced Calculus II (3). A continuation of MAT 525 and functions of several variables. Prerequisite: MAT 525.

MAT 528 Introduction to Game Theory (3). In this introductory course, we investigate mathematical models of certain conflict and cooperation situations (games), paying attention to applications in biology, philosophy, political science, economics, and social psychology. We study two-person zero-sum games, two-person non-zero-sum games, and/or other multi-player games. We consider pure and mixed strategy solutions, Nash equilibria, and other aspects of such games. Prerequisite: MAT 250 or permission of instructor.

MAT 530 Special Topics in Mathematics I (1-3). Library investigations of various lengths concerning special topics in mathematics. Periodic conferences will be arranged with the supervising faculty member on an individual basis. May be repeated for credit as different topics are offered. Prerequisites: Six hours of mathematics courses numbered 400 and above with a mathematics GPA of at least 3.0; permission of instructor.

MAT 531 Special Topics in Mathematics II (1-3). Library investigations of various lengths concerning special topics in mathematics. Periodic conferences will be arranged with the supervising faculty member on an individual basis.

May be repeated for credit as different topics are offered. Prerequisites: Six hours of mathematics courses numbered 400 and above with a mathematics GPA of at least a 3.0; permission of instructor.

MAT 535 Linear Algebra (3). Linear transformations, matrices, quadratic and hermitian forms, eigenvalues and elementary spectral theory. Prerequisite: MAT 335.

MAT 538 Ordinary Differential Equations II (3). Systems of differential equations (including matrix based solutions), higher order differential equations, series solutions to differential equations, numerical applications, and stability analysis. Prerequisites: MAT 335 and MAT 338.

MAT 542 Numerical Analysis (3). Numerical solutions of differential equations, iterative techniques for solving linear systems, discrete least-squares methods, orthogonal polynomials, and approximating eigenvalues. Prerequisites: MAT 338 and either MAT 442 or permission of instructor. Requires knowledge of a scientific programming language.

MAT 543 Financial Mathematics (3). Course develops an understanding of the fundamental concepts of financial mathematics. Concepts will be applied in calculating present and accumulated values for various streams of cash flows for future use in reserving, valuation, pricing, asset/liability management, investment income, capital budgeting, and contingencies. An introduction to financial instruments, including derivatives, and concept of nonarbitrage as it relates to financial mathematics may also be provided. Prerequisites: MAT 308 or permission of instructor.

MAT 545 Boolean Algebra with Applications to Digital Computer Design (3). Boolean algebra is developed as a model to study various physical systems, including the algebra of subsets of a set, propositional logic, and switching circuits. Prerequisite: permission of instructor.

MAT 550 Teaching Mathematics (3). A study of the “whys” of mathematics with the aim of equipping future/current teachers with the ability to explain rather than merely do mathematics. Taught in the context of theories of learning and pedagogy. Involves mathematics content taught at the secondary and community college level. Credit granted toward an undergraduate major or minor in mathematics only for those students following a teacher certification program. Prerequisite: MAT 312 or permission of instructor.

MAT 551 Mathematics for Teachers (3). Explorations of mathematical topics from the viewpoint of future/current secondary and community college teachers of mathematics. Gives credit toward an undergraduate major or minor in mathematics only for those students following a teacher certification program. Can be taken without MAT 550. Prerequisite: MAT 312 or permission of instructor.

MAT 555 Probability in the Actuarial Sciences (3). Course develops knowledge of the fundamental probability tools for quantitatively assessing risk. The application of these tools to problems encountered in actuarial science is emphasized. Prerequisites: MAT 309 and STA 540 or consent of instructor.

MAT 570 Linear Programming (3). Theory and application of linear programming and the role it plays in operations research. Prerequisite: MAT 335.

MAT 606 Mathematical Modeling I (3). A study of mathematical models used in the social, life and management sciences and their role in explaining and predicting real world phenomena. The emphasis is on developing skills of model building. Topics include difference equations, perturbation theory and nondimensional analysis. Prerequisite: MAT 338.

MAT 607 Mathematical Modeling II (3). A continuation of topics discussed in MAT 606. A term project consisting of a model of a non-mathematical problem is required. Prerequisite: MAT 506 or 606.

MAT 608 Introduction to Combinatorics and Graph Theory (3). Selected topics and applications from combinatorics and discrete mathematics, which can include: enumeration, generating functions, recurrence relations, partially ordered sets, Boolean algebras, block designs, coding theory, and topics in graph theory, including trees, networks, optimization, and scheduling. Prerequisites: MAT 308 and either MAT 312 or MAT 335.

MAT 613 Modern Algebra I (3). An in-depth study of groups. Topics will include permutation groups, cyclic groups, cosets and factor groups, subgroups and normal groups, and the homomorphism theorems. Some introductory discussions of rings and fields will be included as well. Prerequisites: MAT 308 and 312.

MAT 614 Modern Algebra II (3). An in-depth study of rings and fields. Topics will include the Isomorphism Theorems, ideals, polynomial rings, integral domains, fields, and field extensions. Prerequisite: MAT 513, 613, or permission of instructor.

MAT 615 Theory of Numbers (3). Divisibility, the Euclidean algorithm, mathematical induction, prime and composite numbers, Diophantine equation, Pythagorean triplets, Fermat's Theorem, congruencies, quadratic residues, and continued fractions. Prerequisite: MAT 312 or permission of instructor.

MAT 616 Introduction to Topology (3). Set theory, topology of the real line, topological spaces, and metric spaces. Prerequisites: MAT 309 and 312.

MAT 617 Foundations of Geometry (3). Study of postulate systems for geometry, critical examination of Euclid's Elements, and introduction to non-Euclidean geometry. Prerequisite: MAT 309 or permission of instructor.

MAT 623 Introduction to Complex Variables (3). Complex numbers, analytic functions, elementary functions, integration, Cauchy theorem, Taylor and Laurent expansions, and applications. Prerequisite: MAT 309.

MAT 624 Boundary Value Problems (3). Analytic and computational techniques for linear first and second order partial differential equations, initial, and boundary value problems. Classification, Fourier series, separation of variables, finite difference and/or finite element methods. Prerequisites: MAT 309, MAT 335, and MAT 338 or permission of instructor.

MAT 625 Advanced Calculus I (3). A rigorous development of one variable calculus including limits, continuity, differentiation, integration and sequences of functions. Prerequisites: MAT 309 and 312.

MAT 626 Advanced Calculus II (3). A continuation of MAT 625 and functions of several variables. Prerequisite: MAT 525 or 625.

MAT 628 Introduction to Game Theory (3). In this introductory course, we investigate mathematical models of certain conflict and cooperation situations (games), paying attention to applications in biology, philosophy, political science, economics, and social psychology. We study two-person zero-sum games, two-person non-zero-sum games, and/or other multi-player games. We consider pure and mixed strategy solutions, Nash equilibria, and other aspects of such games. Prerequisite: MAT 250 or permission of instructor.

MAT 630 Real Number System I (3). Development of the natural numbers and the integers. (This course does not offer graduate credit for those people seeking a master of science degree in mathematics, chemistry or physics, or a master of arts degree in mathematics.) Prerequisite: permission of instructor.

MAT 631 Real Number System II (3). A detailed development of the rational and real numbers. (This course does not offer graduate credit for those people seeking a master of science degree in mathematics, chemistry, or physics, or a master of arts degree in mathematics.) Prerequisite: permission of instructor.

MAT 632 Foundations of Analysis (3). A study of concepts basic to the elementary calculus, such as limits continuity, the derivative, and the integral. (This course does not offer graduate credit to those people seeking a master of science degree in mathematics, chemistry, or physics, or a master of arts degree in mathematics.) Prerequisites: MAT 309 and permission of instructor.

MAT 635 Linear Algebra (3). Linear transformations, matrices, quadratic and hermitian forms, eigenvalues and elementary spectral theory. Prerequisite: MAT 335.

MAT 638 Ordinary Differential Equations II (3). Systems of differential equations (including matrix based solutions), higher order differential equations, series solutions to differential equations, numerical applications, and stability analysis. Prerequisites: MAT 335 and 338.

MAT 642 Numerical Analysis (3). Numerical solutions of differential equations, iterative techniques for solving linear systems, discrete least-squares methods, orthogonal polynomials, and approximating eigenvalues. Requires knowledge of a scientific programming language. Prerequisites: MAT 338 and either MAT 442 or permission of instructor.

MAT 643 Financial Mathematics (3). Course develops an understanding of the fundamental concepts of financial mathematics. Concepts will be applied in calculating present and accumulated values for various streams of cash flows for future use in reserving, valuation, pricing, asset/liability management, investment income, capital budgeting, and contingencies. An introduction to financial instruments, including derivatives, and concept of nonarbitrage as it relates to financial mathematics may also be provided. (**Note:** Does not apply towards an M.A. in Mathematics degree; may be applied as a mathematics course in the M.A.T. in Mathematics degree; may be applied as a 600-level course in an allied field for the M.S. in Mathematics degree. May not be taken as a component of a 700-level mathematics course.) Prerequisite: MAT 308 or permission of instructor.

MAT 644 Graduate Cooperative Education (3). May be repeated to maximum of six credits. Graded pass/fail.

MAT 645 Boolean Algebra with Applications to Digital Computer Design (3). Boolean algebra is developed as a model to study various physical systems, including the algebra of subsets of a set, propositional logic, and switching circuits. Prerequisite: permission of instructor.

MAT 650 Teaching Mathematics (3). A study of the “whys” of mathematics with the aim of equipping future/current teachers with the ability to explain rather than merely do mathematics. Taught in the context of theories of learning and pedagogy. Involves mathematics content taught at the secondary and community college level. Prerequisite: MAT 312 or permission of instructor.

MAT 651 Mathematics for Teachers (3). Explorations of mathematical topics from the viewpoint of future/current secondary and community college teachers of mathematics. Can be taken without MAT 650. Prerequisite: MAT 312 or permission of instructor.

MAT 655 Probability in the Actuarial Sciences (3). Course develops knowledge of the fundamental probability tools for quantitatively assessing risk. The application of these tools to problems encountered in actuarial science is emphasized. Does not count towards an M.A. in Mathematics degree. Prerequisite: STA 540 or 640 and MAT 309 or consent of instructor.

MAT 670 Linear Programming (3). Theory and application of linear programming and the role it plays in operations research. Prerequisite: MAT 335.

MAT 690 Selected Topics in Mathematics I (1-3). Independent work on selected topics. May be repeated for credit. Prerequisite: permission of instructor.

MAT 716 Selected Topics in Topology (3). An in-depth study of selected topics introduced in MAT 616. Prerequisite: MAT 516 or 616.

MAT 721 Algebra (3). An in-depth study of group theory. Topics will include Lagrange’s Theorem, Cauchy’s Theorem, the Sylow Theorems, and factor groups. Prerequisite: MAT 514 or 614.

MAT 722 Selected Topics in Algebra (3). An in-depth study of selected topics introduced in MAT 614 and 721. Prerequisite: MAT 721.

MAT 723 Selected Topics in Complex Analysis (3). An in-depth study of selected topics introduced in MAT 623. Prerequisite: MAT 523 or 623.

MAT 725 Integration Theory (3). Riemann integrals, continuous functions, functions of bounded variation, and Riemann-Stieltjes integrals. Prerequisite: MAT 526 or 626 or consent of instructor.

MAT 726 Real Function Theory I (3). Lebesgue measure and integration theory and related topics. Prerequisite: MAT 725 or consent of instructor.

MAT 727 Real Function Theory II (3). Functional analysis, including Classical Banach spaces and L_p spaces. Prerequisite: MAT 726.

MAT 738 Advanced Ordinary Differential Equations (3). Existence and uniqueness of first-order initial value problems. Linear systems of differential equations. Boundary value problems. Stability of dynamical systems. Lyapunov’s method. Periodicity of planar systems. Prerequisite: MAT 625 and MAT 638.

MAT 742 Numerical Linear Algebra (3). Consideration of topics in numerical linear algebra: the Singular Value Decomposition, QR Factorization, Conditioning and Stability, Advanced Iterative Methods. Prerequisite: MAT 642.

MAT 790 Selected Topics in Mathematics I (1-3). Independent work on selected topics. May be repeated for credit. Prerequisite: permission of instructor.

MAT 791 Selected Topics in Mathematics II (1-3). Independent work on selected topics. May be repeated for credit. Prerequisite: permission of instructor.

MAT 798 Research and Thesis (3).

MAT 799 Research and Thesis (3).

MANUFACTURING ENGINEERING TECHNOLOGY (MET)

MET 310 Manufacturing Analysis (3). Course will apply systematic computational analysis processes using manufacturing data to enhance process outcomes, quality, and manufacturing control systems. This course will teach students how to extract and interpret manufacturing data for critical business decisions and systems design. Prerequisites: CSC 199 and STA 135.

MET 320 Manufacturing Control Systems (4). This course will cover the techniques of utilizing programmable logic controllers (PLCs) in the industrial environment and the study of sensors, interfacing to final outputs, controller principles and control loop characteristics used in manufacturing processes. Hardware aspects, programming techniques, and interfacing situations will be covered. Prerequisite: EMT 351.

MET 400 Lean Manufacturing Systems (3). The planning, evaluation, deployment, and integration of lean manufacturing theory and methods. Emphasis will be placed on manufacturing processes/equipment and systems, such as: planning/control, product design, supply chain, and human resource management. Prerequisite: junior standing.

MET 410 Sustainability Management (3). The purpose of the course is to examine industrial management as it relates to sustainability in correlation with lean manufacturing processes. It includes an overview of energy technology, energy resources, industrial energy management, and emerging future energy technologies coupled with social and environmentally related legislation and its effect on corporations’ triple bottom line (people, profit, and planet). Prerequisite: junior standing.

MET 440 Quality Management Systems (3). Topics include verification, validation, quality assurance techniques and processes, methods, types of testing, creation of assurance systems, and international quality standards. Prerequisites: STA 135 and MET 310.

MET 450 Systems Project Management (3). Course provides students with a comprehensive understanding of how to plan, optimize, and efficiently manage projects (or tasks) to implement products, services or developments. This includes building the structure, processes, components, and linkages with a team for successful project delivery within schedule, budget and quality requirements. Prerequisite: junior standing.

MANAGEMENT (MGT)

MGT 100T Transitions (1). Course is designed to assist students in their transition to Murray State University. Content includes orientation to the specific area or major(s) and minor(s) within the academic program; university procedures, policies, and resources; strategies for personal and academic success, and extracurricular opportunities. Only one transitions course will count toward graduation. Graded pass/fail.

MGT 350 Fundamentals of Management (3). The fundamental concepts, relationships and principles of managing organized activities are studied. Special emphasis is given to human behavior in organized systems, with attention to

the diverse workforce, interpersonal relations, group processes, and the philosophy for managing human resources effectively. Prerequisite: conditional or full admission to upper-level business courses or junior standing.

MGT 354 Techniques of Oral Reporting and Management Briefings (3). Stresses basic principles of oral reporting with emphasis upon informational speeches and special techniques of management briefings. Provides practice in preparation and use of visual aids and the conduct of briefings. Prerequisites: junior standing; MGT 350.

MGT 358 Entrepreneurial Business Plan Development (3). This course is devoted to the study of the entrepreneurial process including identifying opportunities, creating value, developing concepts and plans, attracting resources, building an organization, and managing growth. Prerequisites: junior standing; ACC 200 and MGT 350.

MGT 370 Sports Business (3). Course will prepare students for managing sports-related businesses from a strategic perspective. The course provides the foundation for a variety of sports business careers by establishing the basic knowledge and skills needed and examining current trends and issues. It will focus on the unique qualities of the sports industry, which include service and product characteristics, individual and group behavior, and amateur and professional levels. Prerequisite: MGT 350.

MGT 420 Entrepreneurial Strategic Growth (3). An in-depth study of the managing a growing business in a professional manner, while maintaining the entrepreneurial spirit. Subject matter includes measuring economic performance, obtaining management information for decision making, management control systems, short and long-term planning, capital funding, and condition that prevail in similar business environments. Prerequisites: MGT 350 and MKT 360.

MGT 440 Entrepreneurial Innovation and Creativity (3). Focus is on the creative process and helps students develop creative solutions to a wide range of issues facing entrepreneurial firms. This course will encourage students to approach problems from a creative perspective and develop innovative solutions. Prerequisites: MGT 350 and MKT 360.

MGT 445 New Product Development (3). Course explores the process of bringing a new product or service to market. The course covers the entire process from the innovation front-end to market introduction. While the primary focus will be medium-sized and larger companies, consideration will be given to small and start-up companies. Prerequisite: MGT 350 or permission of instructor.

MGT 488 Cooperative Education/Internship (1-3). A meaningful, planned, and evaluated work experience related to the career and educational objectives of the student for which he/she may receive academic credit and possible financial remuneration. May be repeated for a maximum of six hours from any 488/489 courses. Graded pass/fail. Prerequisite: permission of chair.

MGT 489 Cooperative Education/Internship (1-3). A meaningful, planned, and evaluated work experience related to the career and educational objectives of the student for which he/she may receive academic credit and possible financial remuneration. May be repeated for a maximum of six hours from any 488/489 courses. Prerequisite: permission of chair.

MGT 490 Entrepreneurial Consulting (3). Students will develop the tools necessary to provide a meaningful consulting experience to an entrepreneurial business. Students in teams of three or four individuals will work with an assigned consulting client and provide value by creating a deliverable for the client. Prerequisites: MGT 350, MKT 360, and senior standing.

MGT 499 Senior Seminar (1). Seminar for students of the Management and Marketing Department's programs with a primary focus on employment preparation and professional development. Recommended for students enrolled in their next-to-last undergraduate semester.

MGT 550 Human Resource Management (3). Familiarizes the student with fundamental tools to effectively manage and motivate a diversified workforce. Included in this course is a study and analysis of the programs in human resource management including job analysis, job evaluation, selection and

placement, testing and training, personnel services, and labor relations, as well as the current issues of globalization and the changing composition of the workforce. Prerequisite: MGT 350.

MGT 551 Organizational Behavior (3). A field of study that investigates the impact that individuals, groups, and structure have on behavior within organizations, for the purpose of applying such knowledge toward improving an organization's effectiveness. May not be taken by M.B.A. students. Prerequisite: MGT 350.

MGT 553 Human Resource Selection (3). A concentrated investigation of the methods appropriate to the development, implementation and administration of the staffing process (attracting, selecting and placing candidates in positions) in contemporary organizations will be conducted. This will involve analyzing organizational environments and identifying the appropriate staffing strategies and policies, including an examination of the regulatory environment, cost analysis of human resources, and the statistics of personnel validation of screening devices, i.e. personnel testing, interviewing and biographical information. Prerequisite: MGT 350.

MGT 554 Managing a Diverse Workforce (3). This course involves a study of the cultural perspective and processes reflecting individual, work group, and organizational diversity in the work place. Specific issues this course will include are: prejudice and stereotypes; group and organizational factors affecting diversity; legal issues related to diversity; and global, cross-cultural and gender issues. Prerequisite: MGT 350.

MGT 555 Training and Development (3). This course examines the needs and characteristics of adult learners and the role of training and development as part of human resources in the business setting. The role of the trainer, the learner, needs assessment, methodologies, learning objectives, and measurement and evaluation techniques will be explored and practiced. Prerequisite: senior standing.

MGT 557 International Management (3). Course covers the process of applying management concepts and techniques in a multinational environment and adapting management practices to different economic, political, and cultural environments. Prerequisite: MGT 350.

MGT 558 Advanced Topics in Human Resources (3). This course addresses the application of effective human resource management practices to the current business realities of the organization. Topics include: strategy and human resource management, mergers and acquisitions, human resource analytics, human resource information systems, and the use of social media and employee communications as human resource management tools. Prerequisite: MGT 550.

MGT 559 Compensation Management (3). A study of basic considerations for successful wage and salary administration. Areas studied include job evaluation, employee evaluation and systems and plans of compensating employees. Prerequisite: MGT 350.

MGT 570 Organization Theories (3). A study of the major contemporary theories of organization with emphasis on such modern concepts as Management by Objectives and organization design. Prerequisite: MGT 350.

MGT 572 Organizational Development (3). Studies approaches to organizational development, growth and renewal, with special emphasis on the organization's ability to adapt to its environment. Particular attention is paid to the process of planned change, the techniques used in organizational development, and the role of ethics in organizational change. May not be taken by M.B.A. students. Prerequisite: MGT 350.

MGT 575 Labor-Management Relations (3). A study of labor-management relations in the United States with emphasis on the structure and role of labor organizations, the collective bargaining functions and processes, and the philosophy and approaches essential to a successful relationship between labor and management institutions. Prerequisite: MGT 350.

MGT 577 Labor Law and Public Policy (3). Traces the development of the principles of labor law and labor legislation as well as their administration at the national, state and local levels in the United States. Uses administra-

tive and court decisions and policy analysis to examine issues of current significance concerning labor relations. Prerequisite: MGT 350 or permission of instructor.

MGT 580 Seminar in Leadership (3). Describes the nature and meaning of leadership in organizations, including the importance of effective leadership, knowledge of various leadership theories, and personal attributes associated with effective leaders. The course integrates leadership research findings with leadership application and skill development. Prerequisite: MGT 350.

MGT 590 Strategic Management (3). Course involves a study of the process of strategy formulation and implementation and the integration of the functional areas of the business into a concerted organizational effort. Case problems are used. Should be taken in the student's last semester. May not be taken by M.B.A. students. Prerequisites: FIN 330, MGT 350, MKT 360, and senior standing.

MGT 595 Special Problems (3). This course consists of independent study of some managerial problem area. Periodic conferences will be arranged with the supervising faculty member on an individual basis. Prerequisite: permission of instructor.

MGT 644 Graduate Cooperative Education (3). May be repeated for a maximum of six credits. Cannot be used to meet M.B.A., M.P.A., or M.S. degree requirements. Graded pass/fail. Prerequisite: permission of chair.

MGT 651 Seminar in Organizational Behavior (3). Studies management as a profession, with special emphasis upon behavioral and organizational issues. Examines individual, group and organizational processes in light of the environment within which the organization functions. Special attention is given to managing in non-U.S. settings and the ethical problems faced in the managerial job. Prerequisite: MGT 350 or equivalent, or MKT 490.

MGT 652 Evolution of Management Thought (3). The evolution of management theory in the United States with emphasis on modern concepts of organization. Selected readings and study reports on each of the major stages of development are required. Prerequisite: MGT 350 or equivalent, or MKT 490.

MGT 653 Seminar in Human Resource Staffing (3). This course takes an in depth look at the process of acquiring, deploying, and retaining an effective workforce in the pursuit of such organizational outcomes as profitability, market share, customer satisfaction, and environmental sustainability. The course examines staffing as the organizational function used to manage the organization's workforce through such systems as staffing strategy, HR planning, recruitment, selection, employment, and retention. Prerequisite: MGT 350 or equivalent, or MKT 490.

MGT 654 Seminar in Human Resource Management (3). Course focuses on the strategic role of the human resource management system, processes, and practices to achieve organizational success. It emphasizes how organizations can use human resource management to develop the necessary levels of human capital to provide sustainable value to stakeholders. Consideration is given to both internal and external issues that influence the human resource management process. Prerequisite: MGT 350 or equivalent, or MKT 490.

MGT 655 Seminar in Organization Development (3). A study of the concepts, literature, and implementation strategies of organization development. Emphasis is placed on the effective management of planned change, approaches to organization change, the evaluation of change efforts, and the role that organization development can play in international business. Prerequisite: MGT 350 or equivalent, or MKT 490.

MGT 656 Seminar in Strategic Management (3). This is the capstone course in which the students must integrate all of the functional areas of business administration and analyze their impact on management policy and strategy decisions by use of the case study method. Individual, small group, and class approaches will be used to analyze the various cases selected for study. Even though each student will bring knowledge of his or her area of specialization into the classroom, it is expected that the student will perform as a generalist rather than a specialist and as a practicing manager rather than an impartial researcher in analyzing case situations. Prerequisite: 18 hours of graduate work in business.

MGT 657 Seminar in International Management (3). An interdisciplinary course examining issues in international business and management with a major focus on characteristics and challenges of international management involving business theory and practice, strategy, and operations, human resource management and motivation, ethics and corporate social responsibility, workforce diversity, and cross-cultural perspectives on all these. Prerequisite: MGT 350 or equivalent, or MKT 490.

MGT 658 Advanced Topics in Human Resources (3). This course addresses the application of effective human resource management practices to the current business realities of the organization. Topics include: strategy and human resource management, mergers and acquisitions, downsizing and rightsizing, HR measurement, human resource information systems, and the use of social media and employee communications as human resource management tools. A student may not enroll if they have taken MGT 558. Prerequisite: MGT 550 or MGT 654 or equivalent.

MGT 695 Special Problems (3). This course consists of independent study of some managerial problem areas. A weekly conference will be scheduled with the supervising faculty member on an individual basis. Prerequisites: 18 hours of graduate work in business and permission of instructor.

MGT 801 Educational Entrepreneurship (3). Course will prepare P-20 educational and community leaders to leverage problem-solving models with emerging technologies to energize, change, and improve their unit's capabilities and performance. Taught in collaboration with the College of Education, this course will develop leadership skills by drawing on business practices.

MIDDLE SCHOOL EDUCATION (MID)

MID 270 Teaching and Learning in the Middle Grades (3). A course designed to provide students in the middle school education with knowledge and experience critical for instruction of middle school students and management of middle school classrooms. Field experiences required. Prerequisites: EDP 260 and EDU 103.

MID 307 Middle School Language Arts (3). This course focuses on teaching communication skills — listening, speaking, reading and writing within the subject matter fields — to middle school children. Field experiences required. Prerequisites: MID 342 and admission to Teacher Education.

MID 342 Middle Level Teaching Strategies (3). This course is an investigation of the skills of teaching that are applicable in the middle grades. The course will focus on understanding middle school concepts as specified by the American Middle Level Association; application of middle level teaching strategies through demonstrations and microteaching presentations; and coverage of classroom management strategies, discipline techniques, Charlotte Danielson Framework for Teachers, and formative/summative assessments appropriate for the middle level. Field experiences required. Prerequisite: EDP 260.

MID 395 Advanced Strategies of Teaching in the Middle Grades (4). This course is advanced application of the skills of teaching that are applicable in the middle grades. Emphasis placed on unit, lesson, and assessment design; and the application of teaching strategies in classroom settings. The course will also include in-depth coverage of classroom management strategies, discipline techniques, and curriculum development as a function of instruction. Field experiences required. Prerequisites: MID 342 and admission to Teacher Education.

MID 421 Middle School Student Teaching (7-14). Student teaching in the middle school should allow the individual to participate in the work and duties of the school that are generally expected of the classroom teacher. Student teachers will be supervised by a public school teacher as well as a university coordinator. This will be a 2-7 week assignment with students having experiences in both teaching specialization fields. Graded pass/fail. (Professional Semester.) Prerequisites: admission to Teacher Education and student teaching.

MID 422 Extended Practicum (4). Course will provide opportunities for supervised direct involvement with classrooms in the public school setting. Students will implement strategies and procedures used in the education of middle grades learners. 130 hours of field experience required. Prerequisites: MID 395 and admission to Teacher Education.

MILITARY SCIENCE**(MIL)**

MIL 100 Physical Conditioning Lab (1). This course provides the student an opportunity to participate and lead a military style physical fitness program. Training is based on the Army Physical Fitness Test (APFT) and assists the student in developing a fit life-style. May be repeated for a maximum of ten credit hours. Graded pass/fail. Open to all students.

MIL 101 Introduction to the Army and Critical Thinking (2). Course introduces personal challenges and competencies that are critical for effective leadership and communication. Students will learn how the personal development of life skills such as cultural understanding, goal setting, time management, stress management, and comprehensive fitness relate to leadership, officership, and the Army profession. As they become further acquainted with MIL 101, they will learn the structure of the ROTC Basic Course Program consisting of MIL 101, 102, 201, 202, Fall and Spring Leadership Labs, and CIET. The focus is on developing basic knowledge and comprehension of Army leadership dimensions, attributes and core leader competencies, while gaining an understanding of the ROTC program, its purpose in the Army, and its advantages for the student.

MIL 102 Introduction to the Profession of Arms (2). Course introduces professional challenges and competencies that are needed for effective execution of the profession of arms and Army communication. Through this course, students will learn how Army ethics and values shape the Army and the specific ways that these ethics are inculcated into Army culture. Additionally, students will explore the Seven Army Values, Warrior Ethos, and investigate the Profession of Arms and Army leadership as well as provide an overview of the Army, and gain practical experience using critical communication skills. Prerequisite: MIL 101 or permission of instructor.

MIL 201 Leadership and Decision Making (3). This is a course where the students will study, practice, and apply the fundamentals of Army leadership, officership, Army values and ethics, personal development, and small unit tactics at platoon level. They will be required to demonstrate writing skills and present information briefings as preparation for development in becoming successful future officers. Prerequisite: MIL 102 or permission of instructor.

MIL 202 Army Doctrine and Team Development (3). This course is primarily drawn from the Army Profession and Team Work ALA's. This is a course where the students will study, practice, and apply the fundamentals of leadership, officer skills, Army values and ethics, personal development, and tactics at the small unit level. They will be required to demonstrate writing skills and present information briefings as preparation for development in becoming successful future officers. Prerequisite: MIL 201 or permission of instructor.

MIL 210 Leader's Training-Basic Cadet Summer Training (6). This is one of the army's two-year ROTC program entry points. Through this course, students without ROTC Basic course experience can examine the Army without incurring an obligation. This course is a substitute for MIL 101, 102, 201, and 202 and will qualify students for advanced course entry. The Army observes these students and determines their officer potential in a leadership oriented, challenging, and motivating training program at Fort Knox, Kentucky. Graded pass/fail. Prerequisites: the student must meet academic and physical standards established by the Army and permission of instructor.

MIL 301 Training Management and the Warfighting Functions (4). This is a course where the students will study, practice, and apply the fundamentals of Army leadership, officership, Army values and ethics, personal development, and small unit tactics at platoon level. At the conclusion of this course, they will plan, coordinate, navigate, motivate, and lead a squad and/or platoon in the execution of a mission during a classroom PE, a Leadership Lab, or a Leader Training Exercise (LTX). Prerequisite: MIL 100, 202, or permission of instruction.

MIL 302 Applied Leadership in Small Unit Operations (4). This is a course where the students will continue to study, practice, and apply the fundamentals of Army leadership, officership, Army values and ethics, personal development, and small unit tactics at platoon level, building on the lessons from MIL 301. As in MIL 301, again at the conclusion of this course, they will plan, coordinate, navigate, motivate, and lead a squad and/or platoon

in the execution of a mission during a classroom PE, a Leadership Lab, or a Leader Training Exercise (LTX). Prerequisite: MIL 100, 301, or permission of instructor.

MIL 333 Military History of the United States (3). This course is designed to give the student a multifaceted approach to the study of American military history from colonial times to the present day. Topics covered include the causes of war, methods of recruitment, military policies, and the effect of the industrial revolution and technology of war. Required for all military science students working toward a commission as an army officer. (Same as HIS 333.)

MIL 401 The Army Officer (4). This is an academically challenging course where the students will study, practice, develop, and apply critical thinking skills pertaining to Army leadership, officer skills, Army values and ethics, personal development, and small unit tactics at platoon level. They will be assessed on the execution of a mission during a classroom PE, Leadership Lab, or during a Leader Training exercise (LTX). They will receive systematic and specific feedback on their leader attributes, values, and core leader competencies from their instructor, Professor of Military Science, and other MSL IV Cadets using the Cadet Officer Evaluation Report (COER). At the conclusion of this course, they will be able to plan, coordinate, navigate, motivate, and lead a platoon in future operational environments. Successful completion of this course will assist in preparing for the BOLC B course and is a mandatory requirement for commissioning. Prerequisites: MIL 100, 302, or permission of instructor.

MIL 402 Company Grade Leadership (4). This is an academically challenging course where the students will study, practice, develop, and apply critical thinking skills pertaining to Army leadership, officer skills, Army values and ethics, personal development, and small unit tactics at platoon level. This course includes a mid-term exam and a Capstone Exercise in place of the final exam. For the Capstone Exercise, they will be required to complete an Oral Practicum which will be evaluated on the student's knowledge of the 20 Army Warfighting Challenges (AWFC) covered throughout MIL 401 and 402 coursework. In addition, they will be assessed on leadership abilities during classroom PE, Leadership Labs, or Leader Training Exercises (LTX). Students will receive systematic and specific feedback on leader attributes, values, and core leader competencies from the instructor, Professor of Military Science, and other MSL IV cadets who will use the Cadet Officer Evaluation Report (COER). At the conclusion of this course, students will be able to plan, coordinate, navigate, motivate, and lead a platoon in future operational environments. Successful completion of this course will assist in preparing for the BOLC B course and is a mandatory requirement for commissioning. Prerequisites: MIL 100, 401, or permission of instructor.

MIL 410 Leader Development-Advanced Cadet Summer Training (6). Course is designed to develop leadership through an intensive summer field course of rotating leader/command roles, practical experience in problem analysis, decision making and troop leading while providing in-depth coverage of technical subjects at a military installation. Successful completion of this course is required for a U.S. Army commission. Prior to enrollment, the student must meet the physical and academic standards established by the army. Graded pass/fail. Prerequisites: MIL 301, 302, or permission of instructor.

MIL 490 Military Leadership Seminar (1-3). Course is designed to enable the student to pursue independent study in selected areas of military science. Requires attendance at a three-day off-campus field training exercise. Course is repeatable for up to four hours credit. Prerequisite: MIL 100 or permission of instructor.

MARKETING**(MKT)**

MKT 100T Transitions (1). Course is designed to assist students in their transition to Murray State University. Content includes orientation to the specific area or major(s) and minor(s) within the academic program; university procedures, policies, and resources; strategies for personal and academic success, and extracurricular opportunities. Only one transitions course will count toward graduation. Graded pass/fail.

MKT 285 Emerging Technologies in Marketing (3). Course focuses on the new technologies that are currently shaping the world's economy and markets. It includes practical, hands on instruction in these technologies, readings

on their potential impact, discussion of appropriate strategies for exploiting them and a project which integrates multiple technologies in a business setting. Prerequisite: freshman or sophomore status; instructor permission for juniors or seniors.

MKT 360 Principles of Marketing (3). An integrated study of the interrelationship of marketing to the other primary functions of business through an analytical survey of problems related to product planning, pricing, promotion, channels of distribution, and legislation affecting marketing activity encountered in distributing goods and services to markets. Emphasis is on the role of the consumer. Prerequisites: Conditional of full admission to upper-level business courses or junior standing.

MKT 361 Selling and Sales Management (3). A thorough study of the elements that contribute to success in the field of selling and sales management. In selling, attention will be given to researching and understanding the needs of business and retail customers, developing long-term relationships with customers, learning and applying the basic steps in the sales presentation, and negotiating with customers. Related to sales management, attention will be given to structuring and determining the appropriate size of the sales force, recruiting, selecting, motivating, compensating, training, evaluating salespeople, and supervising day-to-day sales operations. Prerequisites: MKT 360 and junior standing.

MKT 369 Retailing Management (3). A study of the fundamentals of successful retail store management and merchandising. Some of the topics discussed are store organization, location, layout, fixtures and equipment. Aspects of merchandise planning and control, buying, sales promotion and customer services are emphasized. Prerequisites: junior standing; MKT 360.

MKT 390 Entrepreneurial Marketing (3). This course examines the tools and activities entrepreneurial businesses can utilize to develop an effective marketing strategy, considering severe time, budget, and marketing information constraints. The course emphasizes understanding the important role that marketing plays in the entrepreneurial process. Prerequisites: junior standing; MKT 360.

MKT 396 International Marketing Seminar (3). Designed to give participants a high exposure to the international environment and business practices outside the U.S. The seminar includes an intensive travel-study program in various European countries. Prerequisite: junior standing.

MKT 460 Integrated Marketing Communications (3). Course emphasizes the role of promotional tools, individually and collectively, in the marketing communications of an organization. Marketers practice integrated marketing communication, which is the coordination and integration of all marketing communication tools with the goal of creating a uniform brand image and reinforcing the impact of each tool. Students will learn about advertising, digital marketing, alternative marketing, sales promotion, database and direct marketing, and public relations. In class, students will engage in activities that allow them to put textbook knowledge into practice. Prerequisite: MKT 360.

MKT 462 Sales Management (3). A study of the managerial aspects of marketing, with special emphasis upon problems involved in determining markets; planning sales campaigns; selection, training and management of sales and service personnel; and control of sales operations. Prerequisite: MKT 361.

MKT 463 Consumer Behavior (3). An overall view of some of the basic perspectives of consumer behavior. An interdisciplinary approach will be stressed including the fields of economics, psychology, sociology and anthropology as they relate to marketing. Emphasis will be placed on the fundamental processes of motivation, perception and learning, as well as analysis of individual predispositions and group influences in marketing. May not be taken by M.B.A. students. Prerequisite: MKT 360 or permission of instructor.

MKT 469 Retail Merchandising (3). A problem-solving course of tools used in buying, pricing, stock control, sales promotion, and expense control. Prerequisite: MKT 369.

MKT 475 Marketing Strategies for E-Commerce (3). Addresses Internet and other technology applications in marketing. Concepts and techniques important for understanding electronic marketing and virtual marketplaces

are emphasized. As part of the course requirements, students will apply the concepts and skills learned by researching, designing, and building a virtual storefront. Prerequisites: MKT 360.

MKT 488 Cooperative Education/Internship (1-3). A meaningful, planned, and evaluated work experience related to the career and educational objectives of the student for which he/she may receive academic credit and possible financial remuneration. May be repeated for a maximum of six hours from any 488/489 courses. Graded pass/fail. Prerequisite: permission of chair.

MKT 489 Cooperative Education/Internship (1-3). A meaningful, planned, and evaluated work experience related to the career and educational objectives of the student for which he/she may receive academic credit and possible financial remuneration. May be repeated for a maximum of six hours from any 488/489 courses. Prerequisite: permission of chair.

MKT 490 Survey of Management and Marketing (3). Designed for students who have an inadequate background in marketing and management. Covers the same material covered in MKT 360 and MGT 350 or the equivalent. Not open to students who have credit for MKT 360 and MGT 350 or the equivalent.

MKT 499 Senior Seminar (1). Seminar for students of the Managing and Marketing Department's programs with a primary focus on employment preparation and professional development. Recommended for students enrolled in their next-to-last undergraduate semester.

MKT 564 Marketing Channels (3). The methods and processes used in the distribution of consumer and industrial products and services. Emphasis is on the way certain basic distribution functions are carried out in an integrated channel system. The role of a variety of manufacturers, wholesalers and retailers as parts of this system is analyzed. Prerequisite: MKT 360.

MKT 565 Marketing Research (3). An introduction to research methods and procedures used in the marketing process. Areas given emphasis include sources of market data, sampling, surveys, interpretation of data and the relationship of market research to the policies and functions of the business enterprise. Prerequisites: MKT 360 and senior standing.

MKT 566 Marketing Management (3). A problems course dealing with specialized marketing strategies for consumers as well as industrial markets, new product development, sales promotion, sales organization, and prices and pricing. Attention is given to marketing research as a determinant of policy. Cases are used extensively to emphasize analysis and decision-making. Prerequisites: MKT 360 and senior standing.

MKT 567 Marketing Planning and Strategy (3). This course is designed to develop a comprehensive integrated knowledge of the broad field of marketing. The course will synthesize material presented in basic marketing; however, the major emphasis will be on systematic analytical problem-solving, and the dynamics of decision-making as faced by marketing management. Prerequisite: MKT 360.

MKT 568 Global Marketing Management (3). This is the undergraduate capstone marketing course. It covers the practice of marketing in a global economy. Major topics include (1) multi-national environmental scanning, (2) marketing planning and strategy in a global context, (3) tactical international marketing decisions, (4) assessment of international market opportunities, and (5) ethical considerations in global marketing. Prerequisite: MKT 360.

MKT 569 Promotion Management (3). A study of various promotional tools including social media, advertising, personal selling, sales promotion, public relations, and direct marketing. Emphasis is placed on the integrated use of these tools in the context of emerging technologies. The degree of emphasis placed on each tool is determined by the technological environment and the needs of the class. Prerequisite: MKT 360.

MKT 578 Social Media and Marketing (3). Course addresses the role of social media in the marketing mix. Students will gain a working knowledge of various social media tools (e.g., Facebook, blogs, wikis, videos and video-sharing sites, podcasts and podcast sharing sites, online communities, online forums, etc.) and develop an understanding of how those tools can be integrated into the organization's marketing and promotion mixes. Prerequisite: MKT 360.

MKT 579 Social Media Consulting (3). A hands-on learning experience in which advanced students assist organizations with integrating social media into their marketing efforts. Students should expect approximately one hour of lecture/discussion each week and five hours of project-based work which will be accomplished under the supervision of the course instructor. Much of the project-based consulting work will be conducted at the client organizations' facilities outside of the regularly scheduled class times. Prerequisite: MKT 578.

MKT 585 Location Analytics in Marketing (3). Location Analytics combines traditional analysis of business data with Geographic Information Systems (GIS) technologies which enable the geospatial analysis of that data. This course focuses on the use of these technologies to core marketing analysis applications such as environmental scanning, market area analysis, international market assessment, site screening, customer profiling, segmenting, and targeting. In this course, students expand their knowledge of these technologies, enhance their skills in applying them to marketing applications and learn how to share these tools and resources across enterprises. Prerequisite: MKT 360 or MKT 485 or consent of instructor.

MKT 595 Special Problems (1-3). This course consists of independent study in some area of marketing. Periodic conferences will be arranged with the supervising faculty member on an individual basis. Prerequisite: permission of instructor.

MKT 644 Graduate Cooperative Education (3). May be repeated to a maximum of six credits. Cannot be used to meet M.B.A., M.P.A., or M.S. degree requirements. Graded pass/fail. Prerequisite: permission of chair.

MKT 663 Advanced Consumer Behavior (3). This course provides an overall view of some of the basic perspectives of consumer behavior, and the consumer decision process. Emphasis is placed on the contributions made to the understanding of consumer behavior from the behavior sciences of economics, sociology, psychology, and anthropology. Prerequisite: MKT 360. Not open to students who have completed MKT 463.

MKT 667 Marketing Planning and Application (3). This course is a study of marketing as the firm's strategic link with its customers in a global competitive environment. Major topics include (1) the development of marketing strategy, (2) the formulation of marketing plans, (3) the selection and implementation of marketing tactics, and (4) ethical considerations in marketing. Prerequisite: MKT 360 or equivalent, or MKT 490.

MKT 669 Seminar in Global Marketing (3). This course covers the practice of marketing in the global economy. It develops students' abilities to engage in global marketing strategic planning, select appropriate entry strategies and develop responsive marketing tactics. It also enhances students' skills in using information technology resources, assessing world markets, analyzing ethical issues and communicating orally and in writing. May not be taken for credit by students who have completed MKT 568. Prerequisite: MKT 360 or equivalent, or MKT 490.

MKT 675 Marketing Applications in E-Business (3). Electronic commerce is an essential component of corporate strategies for firms in business-to-business and business-to-consumer markets. This course focuses on marketing applications in e-Business, with an emphasis on developing operational e-Commerce sites in entrepreneurial enterprises with widely available applications software. Prerequisite: MKT 360 or equivalent, or MKT 490.

MKT 685 Seminar in Marketing Location Analytics (3). Location Analytics combines traditional analysis of business data with Geographic Information System (GIS) technologies which enable the geospatial analysis of that data. This course focuses on the use of these technologies to core marketing analysis applications such as environmental scanning, market area analysis, international market assessment, site screening, customer profiling, segmenting, and targeting. In this course, students expand their knowledge of these technologies, enhance their skills in applying them to marketing applications and learn how to share these tools and resources across enterprises. Students will also complete a customized Location Analytics research project for an external organization. Prerequisite: MKT 360 or MKT 684 or consent of instructor.

MKT 695 Special Problems (3). This course consists of independent study in some area of marketing. Periodic conferences will be arranged with the supervising faculty member on an individual basis. Prerequisite: Permission of instructor.

MODERN LANGUAGES (MLA)

MLA 100T Transitions (1). Course is designed to assist students in their transition to Murray State University. Content includes orientation to the specific area or major(s) and minor(s) within the academic program; university procedures, policies, and resources; strategies for personal and academic success, and extracurricular opportunities. Only one transitions course will count toward graduation. Graded pass/fail.

MLA 101 Elementary Modern Language I (3). A thorough study of the basic structure and sounds of a particular language which is not regularly offered at Murray State University. Equal emphasis will be placed on the four skills of speaking, writing, listening and reading. The languages taught under this title will vary.

MLA 102 Elementary Modern Language II (3). A continuation of MLA 101. Prerequisite: MLA 101 or equivalent.

MLA 104 A Cultural Introduction to Languages (3). A general introduction to the origin, development, nature, and importance of English, French, German, and Spanish. A broad study of the culture of the people and the lands where these languages are spoken.

MLA 105 Introduction to Contemporary Culture (3). A survey of the contemporary culture of a selected country or geographic region with emphasis on values, behavioral characteristics, social and political systems and achievements of that culture. Conducted in English. No prerequisite.

MLA 110 Basic Conversational Language (3). A conversation-oriented introduction to the sound system and basic structural patterns of a modern language. Pronunciation, listening comprehension, speaking, reading and writing of material related to conversational situations are included. Not applicable toward a major or minor in foreign language. No prerequisite. Only taught abroad.

MLA 201 Intermediate Modern Language I (3). A continuation of MLA 102. Prerequisite: MLA 102 or permission of instructor.

MLA 202 Intermediate Modern Language II (3). A continuation of MLA 201. Prerequisite: MLA 201 or permission of instructor.

MLA 205 Western European Culture (3). This course, taught in English, focuses on the contemporary cultural character of Europe. It will combine traditional class work with carefully planned excursions to cultural centers. To be taught only in the Kentucky Institute for International Studies.

MLA 210 Intermediate Modern Language Conversation (3). A course to develop the vocabulary and oral communication skills of the student with a background of one year's study of the same foreign language in college or its equivalent. Prerequisites: 101 and 102 of the same language.

MLA 314 Cultural Heritage Abroad (3). This course taught in English and taught abroad, focuses on culture in a particular country or region. Entails carefully planned excursions to a number of specific cultural sites in conjunction with readings about the sites and the intellectual history and milieu behind their conception. The student will explore the history, art, architecture, literature, politics, and music of the host country. This will only be taught abroad. The course may be repeated for up to six hours credit if the courses are taken in two different cultures. Prerequisite: permission of instructor.

MLA 392 Professional Engagement (1). A practical course for Modern Language majors. Each student will work 25 hours on an approved project utilizing skills related to language studies. Graded pass/fail. May be repeated once with a different project. Prerequisites: junior standing or above, 301 or 331, (in any of the languages offered by the Department of Modern Languages) and permission by the chair.

MLA 400 Senior Seminar (3). In this course, students complete a comprehensive departmental portfolio, present for evaluation the senior research project, and

explore professional matters relating to the language major including career opportunities. Students will also evaluate their academic and extracurricular experiences in the Department of Modern Languages and at MSU. Prerequisites: Modern Language major with completion of one of the following FRE 301, 302, 331; GER 301, 331; JPN 301; or SPA 301, 302; junior or senior standing; pass the 300-level Proficiency Exam, one 400-level course or higher with a research element in-residence; or instructor's consent.

MLA 510 Applied Linguistics for Second Language Teaching (3). An overview of the basic concepts, scope, and methodology of the science of language in its historical and descriptive aspects, including topics and issues in current linguistic studies. The primary systems of language, psycholinguistics and comparative phonology are treated in depth. Prerequisites: ENG 310 and junior standing or above.

MLA 514 Methods of Teaching Foreign Languages (3). Designed to prepare students for the teaching of foreign languages in the public school. Current teaching philosophies, techniques and materials, curriculum innovation and extracurricular activities discussed. Limited observation and performance in a language classroom. Prerequisites: EDU 303 and junior standing or above.

MLA 520 Computer Assisted Language Learning (3). An introduction to computer assisted language learning (CALL), an overview of its specialized vocabulary and a review of research regarding its effectiveness. Prerequisite: junior standing or above.

MLA 523 Testing and Evaluation in Second Language Teaching (3). A review of a number of current methods for classroom/standardized language testing and evaluation. Prerequisite: junior standing or above.

MLA 533 Language and Culture (3). A study of the relationship among language, society and the individual's concept of reality. The course examines a variety of anthropological and ethnographic concepts and findings as they relate to language and language learning in its broadest context. The course will also examine socio- and comparative linguistics, the relationship between culture and language, and the implications for second language teaching. Prerequisite: junior standing or above.

MLA 551 Directed Study in Modern Language I (1-3). Independent work in areas of language, culture or literature designed to meet the needs and interests of individual students. May be repeated up to a maximum of six credit hours. Prerequisite: two years in college of the same foreign language or the equivalent. junior standing or above.

MLA 614 Methods of Teaching Foreign Languages (3). Designed to prepare students for the teaching of foreign languages in the public school. Current teaching philosophies, techniques and materials, curriculum innovation, and extracurricular activities discussed. Limited observation and performance in a language classroom. Prerequisite: EDU 303.

MLA 651 Directed Study in Modern Language I (1-3). Independent work in areas of language, culture, or literature designed to meet the needs and interests of individual students. Prerequisite: two years in college of the same foreign language or the equivalent.

MUSIC (MUS)

Note: Variation in all applied music courses is related to the degree program of the student. Admission of non-music majors is by permission of the chair only.

MUS 097 Developmental Music Theory (1). A five-week course, for those planning to major or minor in music, providing instruction in reading pitches, simple meters, intervals and key signatures. All music majors or minors must take this course concurrently with MUS 170 unless they pass a music theory diagnostic examination. Credit earned in this course may not be counted toward graduation requirements. Graded pass/fail.

MUS 100T Transitions (1). Course is designed to assist students in their transition to Murray State University. Content includes orientation to the specific area or major(s) and minor(s) within the academic program; university procedures, policies, and resources; strategies for personal and academic

success, and extracurricular opportunities. Only one transitions course will count toward graduation. The course is designed to provide information for the freshman music student about the academic and musical life of the music major. Emphasis will be placed upon university resources and services found on campus. Graded pass/fail.

MUS 101 Recital Attendance and Assembly (0). All music majors are required to complete successfully six semesters of enrollment unless excused by department chair. Successful completion of the course is achieved by certified attendance at 13 approved recitals per semester and no more than one absence from scheduled assemblies. Graded pass/fail.

MUS 104 Introduction to Jazz History (3). A survey of the many facets of jazz music. Designed to follow stylistic trends as jazz developed from nineteenth-century African and European influences to the modern forms of today. The study of significant composers, compositions, performers and terminology associated with this uniquely American musical form through listening assignments, reading and discussion activities.

MUS 105 Introduction to Music History (3). Understanding and appreciation of music for the beginner. Designed to acquaint the student with the place music holds in heritage through studying and listening to great musical works; to acquaint the student with composers and the influence of history on their compositions; and to create the ability to understand and enjoy music in the world around us. A student cannot have credit for both this course and HON 162. Students who have passed MUS 381 may not take this course for credit.

MUS 106 Music in Film (3). Course will present a survey of the history of film music from the silent era to the present. Students will develop critical listening, viewing, and analytical skill in relation to music's function in film. For the viewing of complete films, extra meetings may be held on campus. Students will be expected to view current release films in a local theater.

MUS 107 Introduction to the American Musical Theatre (3). Student will explore in-depth the development of the American musical theatre through stylistic elements found in the standard repertoire. Representative works by individual and collaborative composer and librettist will be studied with special emphasis on innovative trends, perspectives and genres.

MUS 108 Introduction to World Music (3). The students will explore the development of World Music (both art and folk music) through stylistic elements found in the repertoire of many differing nations and cultures. Representative works by individual composers as well as traditional folk tunes by unnamed composers will be studied with special emphasis on innovative trends, perspectives, and genres.

MUS 109 Musicianship I: Music Fundamentals (3). Fundamentals of music will be taught as they affect music performance, music listening, and music understanding. Content will include pitch and rhythmic notation, scales, intervals, triads and their inversions, seventh chords, lead sheet symbols, roman numerals, basic aural training, and analytical procedures from common practice and popular repertoires. Students may not have credit for both this course and MUS 170.

MUS 110 Musicianship II (3). A continuation of MUS 109. Content will include phrases and cadences, non-chord tones, voice leading, basic chromatic harmony including secondary chords and borrowed chords, and analytical procedures from common practice and popular repertoires. Aural training will build upon MUS 109 continuing with harmonic progressions and analysis of popular song form. Prerequisite: MUS 109 with a grade of C or better.

MUS 114 Percussion Instruments Level I (1-4). One 25-minute or one 50-minute individual instruction period per week. Credit will be given for as many semesters as taken.

MUS 115 Wind Instruments Level I (1-4). One 25-minute or one 50-minute individual instruction period per week. Credit will be given for as many semesters as taken.

MUS 116 Organ Level I (1-4). One 25-minute or one 50-minute individual instruction period per week. Credit will be given for as many semesters as taken.

MUS 117 Piano Level I (1-4). One 25-minute or one 50-minute individual instruction period per week. Credit will be given for as many semesters as taken.

MUS 118 Strings Level I (1-4). One 25-minute or one 50-minute individual instruction period per week. Credit will be given for as many semesters as taken.

MUS 119 Voice Level I (1-4). One 25-minute or one 50-minute individual instruction period per week. Participation in weekly vocal studio classes may be required. Credit will be given for as many semesters as taken.

MUS 120 Beginning Guitar (1). Instruction for those with limited or no musical background. Note reading, strumming, and theory fundamentals are stressed. Credit will be given for as many semesters as taken.

MUS 121 Intermediate Guitar (1). Student must be able to read music and have had previous class or private instruction. Credit will be given for as many semesters as taken. Prerequisite: MUS 120.

MUS 122 Band: Community (1). Credit will be given for as many semesters as taken.

MUS 123 Introduction to Music Education (3). This course is the initial course for all students seeking a degree in music education. It is designed to provide students with an introduction to the field of music education. Included are topics related to learning theories, curriculum, historical and philosophical foundations of music education, resources for teaching, and twentieth century developments in music education.

MUS 124 Beginning Class Piano I (1). Class instruction in piano for students with no, or very limited, musical experience. Prerequisite: B.S. in music business major or instructor permission.

MUS 125 Beginning Class Piano II (1). A continuation of MUS 124. Prerequisite: B.S. in music business major or instructor permission.

MUS 127 Class Voice I (1). Course is designed to guide music business majors and non-music majors without prior vocal training, to develop effective and healthy vocal techniques through classical, musical theater, and other appropriate repertoire. Concert attendance will be required.

MUS 128 Class Voice II (1). A continuation of MUS 127, this course is designed to guide music business majors and non-music majors to develop effective and healthy vocal techniques through classical, musical theater, and other appropriate repertoire. Concert attendance will be required.

MUS 131 Percussion Methods (1). This class is designed to acquaint the music education major with percussion instruments and pedagogical techniques through participation.

MUS 132 Woodwind Methods (1). This class is designed to acquaint the music education major with woodwind instruments and pedagogical techniques through participation.

MUS 133 String Methods (1). This class is designed to acquaint the music education major with string instruments and pedagogical techniques through participation.

MUS 134 Voice Methods (1). Class designed to acquaint the music education major with the singing voice and pedagogical techniques through participation.

MUS 135 Brass Methods (1). This class is designed to acquaint the music education major with brass instruments and pedagogical techniques through participation.

MUS 136 Fundamentals of Keyboard Accompanying (1). Study of the basic principles of keyboard accompanying. Normally offered during the spring semester. Credit will be given for as many semesters as taken. Letter graded course.

MUS 137 Guitar Methods (1). This class is designed to acquaint music education students with the guitar and pedagogical techniques through participation. Prerequisite: participating students must be either music education majors or have permission of the instructor.

MUS 148 Commercial Guitar Seminar I (1). The first course of a two-semester sequence of courses. The student will be introduced to the guitar fretboard through the study and performance of intervals, scales and chords. Prerequisite: permission of instructor.

MUS 149 Commercial Guitar Seminar II (1). The second course of a two-semester sequence of courses. The student will learn performance skills and techniques required for ensemble and develop familiarity of the jazz and blues repertoire. Prerequisite: MUS 148 or permission of instructor.

MUS 150 Instrumental Ensemble (1). Small ensembles concentrating on chamber music literature. Emphasis will be placed upon developing chamber ensemble skills. Credit will be given for as many semesters as taken.

MUS 151 University Orchestra (1). The ensemble will study and perform symphonic literature from a variety of style periods. Credit will be given for as many semesters as taken. Membership by audition.

MUS 152 Marching Band (1). The marching band prepares field performances for all home football games as well as selected away games and exhibitions. Credit will be given for as many semesters as taken. Membership open.

MUS 153 Brass and Percussion Ensemble (1). Designed to give brass and percussion players experience in the study and performance of large brass ensemble literature. Credit will be given for as many semesters as taken. Membership by audition.

MUS 154 Wind Ensemble (1). The wind ensemble develops an understanding of representative wind band literature through study and performance. Credit will be given for as many semesters as taken. Membership by audition.

MUS 155 Jazz Ensemble (1). The jazz ensemble develops an understanding of representative jazz styles and skills through study and performance. Credit will be given for as many semesters as taken. Membership by audition.

MUS 156 Jazz Combo (1). Concentration on development of improvisatory techniques through performance and listening skills. Credit will be given for as many semesters as taken.

MUS 157 Symphonic Band (1). The symphonic band develops an understanding of representative concert band literature through study and performance. Credit will be given for as many semesters as taken. Membership open.

MUS 158 Concert Band (1). The Concert Band develops an understanding of musical styles and skills through study and performance. Credit will be given for as many semesters as taken. Prerequisite: Concert band skills on a wind or percussion instrument.

MUS 160 University Chorale (1). University Chorale is dedicated to the study and performance of a wide variety of choral literature from all the major stylistic periods and genres. The development of basic musical skills and proper vocal function is emphasized. Credit will be given for as many semesters as taken. Membership is open.

MUS 161 Concert Choir (1). Concert Choir is dedicated to the study and performance of the masterworks of choral literature from all periods, genres and styles. Credit will be given for as many semesters as taken. Membership is by audition.

MUS 162 Chamber Singers (1). The Chamber Singers study and perform a wide variety of choral literature from all periods, genres and styles with special attention to that body of work composed specifically for small vocal ensembles. Credit will be given for as many semesters as taken. Prerequisites: audition and concurrent enrollment in MUS 160/360 or 161/361.

MUS 163 MSU Town and Gown Chorale (1). Murray Choral Society is an ensemble comprised of students and community members and is dedicated to the study and performance of choral literature from all periods, genres, and styles. Credit will be given for as many semesters as taken. Membership is open.

MUS 164 Opera Workshop (1). Practical experience in a workshop situation of scenes from opera and/or musical theatre. Credit will be given for as many semesters as taken. Membership by audition.

MUS 166 Women's Chorus (1). This chorus is a non-auditioned ensemble and performs a wide variety of challenging repertoire from all of the major historical periods and styles.

MUS 167 Racer Men's Chorus (1). This chorus is a non-auditioned ensemble and performs a wide variety of challenging repertoire from all of the major historical periods and styles.

MUS 168 A Cappella Vocal Ensemble (1). This ensemble is auditioned at the start of each semester and performs a wide variety of challenging a cappella vocal repertoire.

MUS 170 Theory I (3). The fundamentals of music through part-writing and analysis. Course content includes key signatures, scales, intervals, triads, and an introduction to figured bass. Taken concurrently with MUS 171 and 172.

MUS 171 Aural Skills I (1). This course is to be taken concurrently with MUS 170 and 172. It offers a practical application of the materials studied in MUS 170 and provides the necessary drill in the skills of sight-singing and aural perception.

MUS 172 Functional Keyboard I (1). Class instruction in elementary level piano technique, functional keyboard skills and keyboard literature for music majors and minors. This course should be taken concurrently with MUS 170 and 171.

MUS 173 Theory II (3). A continuation of MUS 170 emphasizing inversions of triads, the dominant-seventh chord, non-harmonic tones, and elementary modulations through part-writing, composition and analysis with and without figured bass. This course should be taken concurrently with MUS 174 and 175. Prerequisite: MUS 170.

MUS 174 Aural Skills II (1). This course offers a practical application of the materials studied in MUS 173 and provides necessary drill in the skills of sight-singing and aural perception. This course should be taken concurrently with MUS 173 and 175. Prerequisite: MUS 171.

MUS 175 Functional Keyboard II (1). A continuation of MUS 172. This course should be taken concurrently with MUS 173 and 174. Prerequisite: MUS 172.

MUS 209 Musicianship III (3). A continuation of MUS 110. Content will include advanced functional harmony, chromaticism, and modulation. Aural training includes all material from MUS 110 plus advanced functional harmonic progressions. Prerequisite: MUS 110 with a grade of C or better.

MUS 210 Musicianship IV (3). A continuation of MUS 209. Content will include expanded tonality, extended chords (9th, 11th, and 13th chords), jazz harmony, tonality in popular idioms, and arranging techniques. Aural training includes those topics, plus material from MUS 209. Prerequisite: MUS 209 with a grade of C or better.

MUS 214 Percussion Instruments Level II (1-4). One 25-minute or one 50-minute individual instruction period per week. Credit will be given for as many semesters as taken.

MUS 215 Wind Instruments Level II (1-4). One 25-minute or one 50-minute individual instruction period per week. Credit will be given for as many semesters as taken.

MUS 216 Organ Level II (1-4). One 25-minute or one 50-minute individual instruction period per week. Credit will be given for as many semesters as taken.

MUS 217 Piano Level II (1-4). One 25-minute or one 50-minute individual instruction period per week. Credit will be given for as many semesters as taken.

MUS 218 Strings Level II (1-4). One 25-minute or one 50-minute individual instruction period per week. Credit will be given for as many semesters as taken.

MUS 219 Voice Level II (1-4). One 25-minute or one 50-minute individual instruction period per week. Participation in weekly vocal studio classes may be required. Credit will be given for as many semesters as taken.

MUS 225 English and German Diction for Singers (1). A course designed to give voice majors rules for pronouncing sung English and sung German.

MUS 226 French and Italian Diction for Singers (1). A course designed to give voice majors rules for pronouncing sung French and sung Italian. Prerequisite: MUS 225.

MUS 230 Introduction to the Music Industry (3). A survey of the various aspects of the music industry with emphasis on professional careers in the field.

MUS 240 Introduction to Composition (3). The student will compose exercises and small-scale pieces that each focus on a particular style, instrumentation, or compositional technique. The course deals primarily with contemporary art music and the wide variety of musical languages and techniques exhibited therein. In most cases the student's creative work will be performed by other members of the class and discussed as a group. The course is repeatable for as many semesters as taken. Prerequisites: status as a music major and successful completion (C or better) of MUS 170 and 171.

MUS 241 Composition Level I (2-3). One 50-minute individual session per week. The student will compose one or more original compositions during the semester with the eventual goal of public performance. Credit will be given for as many semesters as taken. Prerequisites: MUS 240 and permission of instructor.

MUS 243 Making Music with Your Laptop (3). In this course students will compose and improvise music on their laptop, creating ideas as an individual and in small groups.

MUS 246 Music for Elementary Classroom Teachers (3). Course will prepare elementary classroom teachers to integrate music into daily classroom instruction. Students will increase their skills in reading and performing music so that they will be able to make music with children, prepare to use music as a teaching tool with children, increase their knowledge of state and national standards in music education, and develop their understanding of the importance of music in the educational development of children. Prerequisite: EDU 103.

MUS 270 Theory III (3). A continuation of MUS 173, emphasizing diatonic seventh chords, modulation types, secondary functions and chromaticism through composition and analysis. This course should be taken concurrently with MUS 271 and 272. Prerequisite: MUS 173.

MUS 271 Aural Skills III (1). This course offers a practical application of the materials studied in MUS 270 and provides necessary drill in the skills of sight-singing and aural perception. This course should be taken concurrently with MUS 270 and 272. Prerequisite: MUS 174.

MUS 272 Functional Keyboard III (1). Class instruction in intermediate level piano technique, functional keyboard skills and keyboard literature for music majors. This course should be taken concurrently with MUS 270 and 271. Prerequisite: MUS 175.

MUS 273 Theory IV (3). A continuation of MUS 270, emphasizing the Neapolitan and augmented-sixth chords, complex modulations and key schemes, extreme chromaticism, and an introduction to 20th century compositional practices through composition and analysis. This course should be taken concurrently with MUS 274 and 275. Prerequisite: MUS 270.

MUS 274 Aural Skills IV (1). This course offers a practical application of the materials studied in MUS 273 and provides necessary drill in the skills of sight-singing and aural perception. This course should be taken concurrently with MUS 273 and 275. Prerequisite: MUS 271.

MUS 275 Functional Keyboard IV (1). A continuation of MUS 272. This course should be taken concurrently with MUS 273 and 274. Prerequisite: MUS 272.

MUS 301 General Music Methods (3). Fundamentals of music teaching are continued along with procedures for selecting materials, teaching musical concepts, and assessing progress in the musical growth and development of the student. Prerequisites: junior standing, all Theory courses completed; Vocal Proficiency must be successfully completed. Prerequisite: MUS 123.

MUS 302 Choral Methods (2). Methods, materials and pedagogy related to the teaching of choral music in the elementary, junior high/middle school and senior high school choirs. Students must be of junior standing. Required for all music education majors. Prerequisites: MUS 123 and 134.

MUS 303 Instrumental Methods: Elementary and Middle School (2). Methods, materials and pedagogy related to the teaching of instrumental music in the elementary and middle schools will be studied. Students must be of junior standing and completion of instrument techniques courses is recommended. Vocal proficiency must be successfully completed. Prerequisite: MUS 123.

MUS 304 Advanced Instrumental Methods (2). Methods, materials, organization, administration and pedagogy related to the teaching of instrumental music in the secondary schools. Students must be of junior standing and completion of instrument techniques courses is recommended. Vocal Proficiency must be successfully completed. Prerequisites: MUS 123 and MUS 303.

MUS 313 Introduction to Music Synthesis (1). This course emphasizes a study of the concepts and selected applications of computer music in a digital music studio. Course content includes computer techniques, music sequencing, sound design, sound sampling, and the use of MIDI. Credit will be given for as many semesters as taken. Prerequisites: MUS 170 and 171.

MUS 314 Percussion Instruments Level III (1-4). One 25-minute or one 50-minute individual instruction period per week. Credit will be given for as many semesters as taken.

MUS 315 Wind Instruments Level III (1-4). One 25-minute or one 50-minute individual instruction period per week. Credit will be given for as many semesters as taken.

MUS 316 Organ Level III (1-4). One 25-minute or one 50-minute individual instruction period per week. Credit will be given for as many semesters as taken.

MUS 317 Piano Level III (1-4). One 25-minute or one 50-minute individual instruction period per week. Credit will be given for as many semesters as taken.

MUS 318 Strings Level III (1-4). One 25-minute or one 50-minute individual instruction period per week. Credit will be given for as many semesters as taken.

MUS 319 Voice Level III (1-4). One 25-minute or one 50-minute individual instruction period per week. Participation in weekly vocal studio classes may be required. Credit will be given for as many semesters as taken.

MUS 320 Vocal Pedagogy for the Music Educator (2). This course is designed to acquaint the vocal music education major with the structure, function, and development of the vocal mechanism. Students will learn how to protect and develop the vocal instrument in group instructional settings. Topics include the physiology of the singing voice, basics of singing, characteristics of voices at various ages, teaching singing in the music classroom and in the choral rehearsal, choosing appropriate repertoire, assessing results, and developing musical artistry.

MUS 321 Choral Repertoire (2). Students will explore the evolution of choral forms through the major stylistic periods. Special emphasis will be placed on repertory appropriate for elementary, middle and high school choirs. Prerequisite: MUS 302.

MUS 323 Basic Conducting (2). Fundamentals of instrumental and choral conducting. The course will emphasize basic skills and techniques related to conducting instrumental and choral ensembles.

MUS 326 Marching Band Administration (2). Fundamentals of organization, arranging, charting of shows and aspects of public relations and program development.

MUS 327 Arranging Techniques (2). An exploration of the principles of instrumental and choral arranging through study of the instruments and voices involved, with practical application to the varied ensembles found in public schools. Prerequisites: MUS 270 and 271.

MUS 328 Choral Arranging (1). A study of the common arranging practices/principles observed in choral music. Special attention is placed on arranging for specific voice configurations commonly observed in public schools. An examination of the copyright law is included. Required for all music education majors on the comprehensive or vocal tracks. Prerequisites: MUS 273 and 274.

MUS 330 Music Business I (3). An overview of the diverse processes and resources of the Music Industry. Students will comprehend the complexity and synergy of the artistic and business aspects of the industry. Prerequisite: MUS 230

MUS 331 Music Business II (3). A continuation of MUS 330, exploring the diverse processes and resources of the Music Industry. Students will comprehend the complexity and synergy of the artistic and business aspects of the industry. Prerequisite: MUS 330.

MUS 332 Marketing in the Music Business (3). Course will build on the core industry knowledge gained in MUS 230 with an in depth view of the various models of marketing recordings and artists. Students will create a marketing plan as a final project. Prerequisite: MUS 230.

MUS 333 Live Performance and Concert Promotion (3). Course will build on the core industry knowledge gained in MUS 230 with a focus on the various dynamics involved in producing a live performance event. Students will learn the operational, marketing, media buying, hospitality, production, and financial aspects of live performances and concerts from both the venue and performer perspectives. The primary focus will be on the operation and booking of a live music event and/or festival and the components required to book and produce events. Seminars and field experience outside of class required. Prerequisite: MUS 230.

MUS 334 Artist Management and Development (3). Course will build on the core industry knowledge gained in MUS 230 with an in depth view of artist management and artist development. Students will apply principles by creating an artist career plan as a final project. Prerequisite: MUS 230.

MUS 335 Copyright Law and Legal Issues in the Music Business (3). This course will build on the core industry knowledge gained in MUS 230 with an in-depth view of the legal aspects of copyright protection, typical music industry contracts, business entities, and music industry practices. Prerequisite: MUS 230.

MUS 336 Piano as an Ensemble Instrument (1). Ensemble playing, piano duo literature, accompanying and chamber music performance. Credit will be given for as many semesters as taken. Prerequisite: MUS 136.

MUS 337 Recording Techniques I (3). Students will learn to operate multi-track recording equipment, associated hardware and software, and become familiar with audio production strategies. They will perform a variety of individual and group lab exercises and complete a series of assignments that provide an overview of the professional studio process, culminating in the mixing and mastering of a project recorded during the semester. Students will attend multiple live recording sessions.

MUS 338 Recording Techniques II (3). In this course students will learn advanced techniques in audio production. They will perform a variety of individual and group lab exercises and complete a series of assignments that simulate the standard functions performed in a modern commercial audio facility. Students will attend multiple live recording sessions. Prerequisite: MUS 337.

MUS 341 Composition Level II (3). One 50-minute session per week. The student will compose one or more original compositions during the semester with the eventual goal of public performance. Credit will be given for as many semesters as taken. Prerequisites: MUS 241 and status as a music composition major.

MUS 350 Instrumental Ensemble (1). Small ensembles concentrating on chamber music literature. Emphasis will be placed upon developing chamber ensemble skills. Credit will be given for as many semesters as taken.

MUS 351 University Orchestra (1). The ensemble will study and perform symphonic literature from a variety of style periods. Credit will be given for as many semesters as taken. Membership by audition.

MUS 352 Marching Band (1). The marching band prepares field performances for all home football games as well as selected away games and exhibitions. Credit will be given for as many semesters as taken. Membership is open.

MUS 353 Brass and Percussion Ensemble (1). Designed to give brass and percussion players experience in the study and performance of large brass ensemble literature. Credit will be given for as many semesters as taken. Membership by audition.

MUS 354 Wind Ensemble (1). The wind ensemble develops an understanding of representative wind band literature through study and performance. Credit will be given for as many semesters as taken. Membership by audition.

MUS 355 Jazz Ensemble (1). The jazz ensemble develops an understanding of representative jazz styles and skills through study and performance. Credit will be given for as many semesters as taken. Membership by audition.

MUS 356 Jazz Combo (1). Concentration on development of improvisatory techniques through performance and listening skills. Credit will be given for as many semesters as taken.

MUS 357 Symphonic Band (1). The symphonic band develops an understanding of representative concert band literature through study and performance. Credit will be given for as many semesters as taken. Membership is open.

MUS 358 Concert Band (1). The Concert Band develops an understanding of musical styles and skills through study and performance. Credit will be given for as many semesters as taken. Prerequisite: Concert band skills on a wind or percussion instrument.

MUS 360 University Chorale (1). University Chorale is dedicated to the study and performance of a wide variety of choral literature from all the major stylistic periods and genres. The development of basic musical skills and proper vocal function is emphasized. Credit will be given for as many semesters as taken. Membership is open.

MUS 361 Concert Choir (1). Concert Choir is dedicated to the study and performance of the masterworks of choral literature from all periods, genres and styles. Credit will be given for as many semesters as taken. Membership is by audition.

MUS 362 Chamber Singers (1). The Chamber Singers study and perform a wide variety of choral literature from all periods, genres and styles with special attention to that body of work composed specifically for small vocal ensembles. Credit will be given for as many semesters as taken. Prerequisite: audition and concurrent enrollment in MUS 160/360 or 161/361.

MUS 363 MSU Town and Gown Chorale (1). Murray Choral Society is an ensemble comprised of students and community members and is dedicated to the study and performance of choral literature from all periods, genres, and styles. Credit will be given for as many semesters as taken. Membership is open.

MUS 364 Opera Workshop (1-2). Practical experience in a workshop situation of scenes from opera and/or musical theatre. Only major operatic leads may take MUS 364 for two credits with permission of the instructor. Credit will be given for as many semesters as taken. Membership by audition.

MUS 365 Opera Production (2). Practical experience in costuming, stage management, construction of scenery, and stage lighting for the lyric stage. Credit will be given for as many semesters as taken.

MUS 366 Women's Chorus (1). This chorus is a non-auditioned ensemble and performs a wide variety of challenging repertoire from all of the major historical periods and styles.

MUS 367 Racer Men's Chorus (1). This chorus is a non-auditioned ensemble and performs a wide variety of challenging repertoire from all of the major historical periods and styles.

MUS 368 A Cappella Voice Ensemble (1). This ensemble is auditioned at the start of each semester and performs a wide variety of challenging a cappella vocal repertoire.

MUS 381 Music History and Literature I (3). The study of musical styles and literature from the fifth century B.C. through 1750. A survey of the musical heritage of western music and cultures including such topics as early Christian church music, Middle Ages secular song, Renaissance vocal and instrumental music and Baroque opera, keyboard and instrumental music. Prerequisites: For music majors: MUS 270, 271 and ENG 105 or equivalent. For music minors and liberal arts majors: successful completion of MUS 105 and ENG 105 or equivalent.

MUS 382 Music History and Literature II (3). The study of musical styles and literature from 1730 through 1900. A survey of the musical heritage of western music and cultures including such topics as the Pre-Classic composers, Classic-Era symphonies, chamber music, keyboard and wind concerti, and opera and oratorio through Romantic-Era lieder, symphonies, symphonic poems, opera, oratorio, chamber music and concerti. Prerequisite: MUS 381 with a minimum grade of C.

MUS 383 Music History and Literature III (3). The study of musical styles and literature since 1900. A survey of the musical heritage of western music and cultures including modern artistic ideas and styles, music between the two world wars, and new concepts and directions in live and pre-recorded musical media. Special focus will be included on world music from a variety of non-western cultures. Prerequisite: MUS 381 with a minimum grade of C.

MUS 392 Professional Engagement (1). A capstone experience, preparing students for work in the field of music. The course covers some aspects of job preparation, such as creating a resume, but focuses primarily on an individual, leadership project designed by the student. The project requires use of music skills outside of the classroom, must be approved by music faculty, and entail a minimum of 25 hours of hands-on experience. The class will meet in person a minimum number of hours so that students may use class time to work on projects. The class is repeatable for a maximum number of two hours. Prerequisite: junior or senior status.

MUS 396 Repertoire/Pedagogy (2). A study of methods and materials available for teaching purposes as well as appropriate repertoire and pedagogical techniques available for various levels of learning.

MUS 398 Junior Recital (0). Bachelor of Music in Performance degree candidates of junior standing enroll in this course the semester of their junior recital.

MUS 414 Percussion Instruments Level IV (1-4). One 25-minute or one 50-minute individual instruction period per week. Credit will be given for as many semesters as taken.

MUS 415 Wind Instruments Level IV (1-4). One 25-minute or one 50-minute individual instruction period per week. Credit will be given for as many semesters as taken.

MUS 416 Organ Level IV (1-4). One 25-minute or one 50-minute individual instruction period per week. Credit will be given for as many semesters as taken.

MUS 417 Piano Level IV (1-4). One 25-minute or one 50-minute individual instruction period per week. Credit will be given for as many semesters as taken.

MUS 418 Strings Level IV (1-4). One 25-minute or one 50-minute individual instruction period per week. Credit will be given for as many semesters as taken.

MUS 419 Voice Level IV (1-4). One 25-minute or one 50-minute individual instruction period per week. Participation in weekly vocal studio classes may be required. Credit will be given for as many semesters as taken.

MUS 423 Instrumental Conducting (2). An in-depth study of instrumental conducting techniques, with emphasis on practical conducting experiences using instrumental ensembles. Attention will be given to the selection, preparation and conducting of literature appropriate to various public school ensemble levels. Prerequisites: MUS 273, 274, 323.

MUS 424 Choral Conducting (2). An in-depth study of choral conducting techniques, with emphasis on practical conducting experiences using choral ensembles. Attention will be given to the selection, preparation and conducting of literature appropriate to various public school ensemble levels. Prerequisites: MUS 273, 274, 323.

MUS 427 Advanced Arranging and Orchestration (2). An in-depth exploration of all the instruments of the orchestra and band as well as the study of how to effectively write for each, alone and in combination. This course focuses on detailed score study, intense listening and evaluation, composing effective arrangements, and professional-level score preparation. The course will meet for two hours of lecture per week as well as one orchestra or band reading session (to be arranged). Prerequisites: Status as a music major and a grade of C or better in MUS 273 and MUS 327.

MUS 431 Special Topics I (3). A study of selected musical topics: composers, genres, etc. The course will allow students to study topics in a concentrated, in-depth manner. Specific topics will vary. Credit will be given for as many semesters as taken.

MUS 432 Special Topics II (3). A study of selected musical topics: composers, genres, etc. The course will allow students to study topics in a concentrated, in-depth manner. Specific topics will vary. Credit will be given for as many semesters as taken.

MUS 433 History of the Music Industry (3). Course will build on the core industry knowledge gained in MUS 230 with an in depth view of the history of the music business, including inventions and technology, key businesses in recording, distribution and touring, and biographies of influential artists and executives. Prerequisite: MUS 230.

MUS 434 The Digital Revolution and the Music Industry (3). The course addresses how music is delivered and consumed through examining current case studies in digital media and content management. The course is aimed at students with no technical background and serves as an overview of the digital aspects of the music business, including monetization of digital content (music and video). Prerequisites: MUS 230, 332, and 335.

MUS 439 Harpsichord (1). One 25-minute individual instruction period per week. Credit will be given for as many semesters as taken. For keyboard studies majors only. Prerequisites: MUS 116-316 or 117-317.

MUS 440 Entrepreneurship in Music Business (3). A practical, step-by-step approach with theoretical foundation to form a basic framework for understanding the process of entrepreneurship in music business. The aim of the course is to present the most current thinking in entrepreneurship and to provide learners the opportunity to apply ideas and develop useful analytical skills. This is a writing-intensive course in the music business degree. Prerequisites: MUS 230, 330, 331, and admission to the music business degree.

MUS 441 Composition Level III (3). One 50-minute individual instruction period per week. The student will compose one or more original compositions during the semester with the eventual goal of public performance. Credit will be given for as many semesters as taken. Prerequisites: MUS 341 and status as a music composition major.

MUS 459 Advanced Music History and Literature (3). The student will explore in further depth the development of music in history through stylistic elements as found in the standard repertoire. Each of these musical elements will be traced from plainchant through music of the 20th century, with special emphasis on innovative trends, perspectives, and genres. Prerequisites: MUS 381 and 382 with a minimum grade of C, or permission of instructor.

MUS 488 Cooperative Education/Internship (1-3). A meaningful, planned, and evaluated work experience related to the career and educational objectives of the student for which he/she may receive academic credit and possible financial remuneration. May be repeated for a maximum of six hours from any 488/489 courses. Graded pass/fail. Prerequisite: permission of chair.

MUS 489 Cooperative Education/Internship (1-3). A meaningful, planned, and evaluated work experience related to the career and educational objectives of the student for which he/she may receive academic credit and possible financial remuneration. May be repeated for a maximum of six hours from any 488/489 courses. Prerequisite: permission of chair.

MUS 490 Senior Seminar (1). A course designed to provide an opportunity for students in all three degree programs to meet with the music faculty to explore topics of mutual concern; a culminating experience in which students examine uniquenesses and differences of their programs in consideration of trends and concepts in music, the arts and places of these in human experience; a forum for verbal and non-verbal program assessment.

MUS 496 Repertoire/Pedagogy (2). A continuation of MUS 396. Required of B.M. degree students. Prerequisite: MUS 396.

MUS 497 Final Project (0). The final project may be a research paper, a musical composition or other work acceptable to both student and advisory committee. Bachelor of Arts in Music candidates in the research track enroll in this course during the seventh or eighth semester of study.

MUS 498 Senior Recital (0). Undergraduate degree candidates enroll in this course during the semester of their senior recital.

MUS 499 Concerto Performance (0). Undergraduate degree candidates in the Bachelor of Music in Performance program enroll in this course the semester of their concerto performance.

MUS 510 Pedagogy of Theory (2). An examination of current materials and practices in the teaching of theory; discussion and research of the problems of theory teaching with particular emphasis on application to and place in the secondary school and the junior college. (On demand)

MUS 511 Analysis of Contemporary Music (3). Study of the techniques and styles employed by composers since 1900. This course provides theoretical insight into the compositional procedures and stylistic tendencies exhibited in recent music, and, in many cases, how they connect logically with the music of the past. It emphasizes learning how to listen to, appreciate, and interpret contemporary music. Prerequisites: A grade of C or better in MUS 273 and 274.

MUS 512 Counterpoint (3). Contrapuntal practices from the 16th century to the modern era. There will be particular emphasis on contrapuntal writing of the 18th century as exemplified in the works of J.S. Bach. Study of species counterpoint, analysis of representative composition, and writing of contrapuntal works. Prerequisites: A grade of C or better in MUS 273 and 274.

MUS 513 Form and Analysis (3). A study in harmonic analysis and the forms of composition throughout the history of music. Prerequisites: MUS 273 and 274 with a grade of C or better.

MUS 514 Applied Music Study—Percussion Instruments (1-3). One 25-minute or one 50-minute individual instruction period per week. Credit will be given for as many semesters as taken. Open to junior and senior students. Prerequisites: completion of 400-level of applied study or the equivalent, and permission of instructor.

MUS 515 Applied Music Study—Wind Instruments (1-3). One 25-minute or one 50-minute individual instruction period per week. Credit will be given for as many semesters as taken. Open to junior and senior students. Prerequisites: completion of 400-level of applied study or the equivalent, and permission of instructor.

MUS 516 Applied Music Study—Organ (1-3). One 25-minute or one 50-minute individual instruction period per week. Credit will be given for as many semesters as taken. Open to junior and senior students. Prerequisites: completion of 400-level of applied study or the equivalent, and permission of instructor.

MUS 517 Applied Music Study—Piano (1-3) One 25-minute or one 50-minute individual instruction period per week. Credit will be given for as many semesters as taken. Open to junior and senior students. Prerequisites: completion of 400-level of applied study or the equivalent, and permission of instructor.

MUS 518 Applied Music Study—String Instruments (1-3) One 25-minute or one 50-minute individual instruction period per week. Credit will be given for as many semesters as taken. Open to junior and senior students. Prerequisites: completion of 400-level of applied study or the equivalent, and permission of instructor.

MUS 519 Applied Music Study—Voice (1-3) One 25-minute or one 50-minute individual instruction period per week. Participation in weekly vocal studio classes may be required. Credit will be given for as many semesters as taken.

MUS 530 Special Topics (3). A study of selected musical topics: composers, genres, etc. The course will allow students to study topics in a concentrated, in-depth manner. Specific topics will vary by semester according to student and faculty advisor interests. Credit will be given for as many semesters as taken.

MUS 550 Independent Study in Music (1-3). Independent study for selected students. Topics, methodology and evaluation procedures to be approved in advance by the instructor. Credit will be given for as many semesters as taken. Prerequisite: consent of department chair.

MUS 600 Historical and Philosophical Foundations of Music Education (3). Historical and philosophical foundations of music education; lecture and discussion with attention to aesthetics, aesthetic education, and the relationship of music and art to these in forming a philosophy of music education.

MUS 601 Psychological Foundations of Music Education (3). Psychological foundations of music education through readings, lecture, and discussion of educational learning theories. A survey of current trends in learning theories and their implications for teaching, supervision, administration, and evaluation in music education.

MUS 602 Curriculum and Assessment in Music (3). Students will develop an understanding of the major trends in curriculum development in music education and the assessment process as it relates to individual, classroom, and standardized evaluation.

MUS 610 Advanced Music Theory and Analysis (3). Selected composers from the Common Practice period to the present will be studied in depth. Complete movements of works will be studied, and proper analytical procedures and systems will be determined and implemented. A comprehensive look at a variety of styles and genres will be of particular importance, and emphasis will be placed on understanding 20th century music.

MUS 614 Percussion (1-3). Credit will be given for as many semesters as taken.

MUS 615 Wind Instruments (1-3). Credit will be given for as many semesters as taken.

MUS 616 Organ (1-3). Credit will be given for as many semesters as taken.

MUS 617 Piano (1-3). Credit will be given for as many semesters as taken.

MUS 618 Strings (1-3). Credit will be given for as many semesters as taken.

MUS 619 Voice (1-3). Credit will be given for as many semesters as taken.

MUS 620 Keyboard Literature and Performance Practice (2). Keyboard literature from the pre-Baroque era through the 20th century. Stylistic considerations, performance practices, ornamentation, etc., for each period researched and discussed. Prerequisite: consent of the instructor. (On demand.)

MUS 627 The Elementary Music Program (3). Administration of the elementary school music program, including curriculum, assessment, KERA standards, mainstreaming, gifted/talented students, 20th-century approaches to music education, and professional development.

MUS 628 The Secondary Music Program (3). This course is directed towards music planning in the secondary school, including curriculum development and evaluation, evaluation tools, scheduling strategies, budget and inventory control, summer program development, community relations, faculty development and in-service planning, and working relationships with school administrators.

MUS 629 Contemporary Instructional Practices in Music Education (3). Contemporary music education practices, with the implications of current research upon those practices.

MUS 630 Special Topics (3). A study of selected musical topics: composers, genres, etc. The course will allow students to study topics in a concentrated, in-depth manner. Specific topics will vary by semester according to student and faculty advisor interests. Credit will be given for as many semesters as taken. Prerequisite: instructor approval.

MUS 639 Methods of Research in Music Education (3). A study of procedures used to locate sources of information, organize and interpret collected data, and apply results of published research in music. A variety of research methods is studied and utilized.

MUS 640 Piano Pedagogy (2). Piano teaching, including the examination and evaluation of beginning and intermediate teaching methods, analysis of technical approaches, and research into the history of piano pedagogy. Observations and supervised practice teaching required. Prerequisite: consent of the instructor. (On demand.)

MUS 641 Vocal Pedagogy (2). Techniques, practices and materials used in the teaching of singing. Discussion of psychological and physical developmental growth principles applied to individual and group performance. (On demand.)

MUS 642 Seminar in Music Teaching (3). Pedagogical approaches and materials for the teaching of musical skills and concepts. Prerequisite: Students must be admitted to the M.M.E. degree program.

MUS 650 Problems and Projects in Music (1-4). Course designed to accommodate individual projects for selected students. Project reports will be presented orally and/or in writing. Credit will be given for as many semesters as taken. Prerequisites: consent of departmental chair and instructor.

MUS 651 University Orchestra (1). The ensemble will study and perform symphonic literature from a variety of style periods. Credit will be given for as many semesters as taken. Audition required.

MUS 652 Marching Band (1). The marching band develops an understanding of musical styles and skills through study and performance. Credit will be given for as many semesters as taken. Audition required.

MUS 654 Symphonic Wind Ensemble (1). The ensemble develops an understanding of representative wind band literature through study and performance. Credit will be given for as many semesters as taken. Audition required.

MUS 655 Jazz Ensemble (1). The ensemble develops an understanding of representative jazz styles and skills through study and performance. Credit will be given for as many semesters as taken. Audition required.

MUS 656 Jazz Combo (1). Concentration on the development of improvisatory techniques through performance and listening skills. Special attention given to creation of arrangements (jazz theory) and pedagogic techniques. Credit will be given for as many semesters as taken. This course will only count as elective credit. Prerequisite: permission of instructor.

MUS 657 Symphonic Band (1). The symphonic band develops an understanding of musical styles and skills through study and performance. Credit will be given for as many semesters as taken. Audition required.

MUS 658 Concert Band (1). Develops an understanding of musical styles and skills through study and performance. Repeatable. Prerequisite: concert band skills on a wind or percussion instrument.

MUS 659 Advanced Music History and Literature (3). The student will explore in further depth the development of music in history through stylistic elements as found in the standard repertoire. Each of these musical elements will be traced from plainchant through music of the 20th century, with special emphasis on innovative trends, perspectives, and genres.

MUS 660 University Chorale (1). Course dedicated to the study and performance of a wide variety of choral literature from all major style periods and genres. The development of basic musical skills and vocal function is emphasized.

MUS 661 Concert Choir (1). Course dedicated to the study and performance of a wide variety of choral literature from all major style periods and genres. The continued development of musical skills and vocal function is emphasized. Audition required.

MUS 662 Chamber Singers (1). The group will study and perform a wide variety of choral literature from all major style periods and genres, with special attention to that body of work composed specifically for small vocal ensembles. Audition required. Requires concurrent enrollment in MUS 660 or 661.

MUS 664 Opera Workshop (1-2). Provides experiences for singers to gain experience in opera/music theatre repertoire through participation in full performances or staged scenes. Only students with major roles may take MUS 664 for two credits with permission of the instructor. Credit will be given for as many semesters as taken. Audition required.

MUS 670 Chamber Ensembles (1). Small ensembles concentrating on chamber music literature. Emphasis will be placed on developing chamber ensemble skills. Credit will be given for as many semesters as taken.

MUS 693 Workshop in Music for Teachers (1-3). A variable credit workshop with selected topics appropriate to music educators. Credit will be given for as many semesters as taken.

MUS 698 Music Thesis I (3). The initial preparation of a significant study of a topic deemed appropriate by the student's research director and research committee. This topic could be an outgrowth of an idea from previous coursework or may emanate from discussion with faculty and peers. Prerequisites: MUS 600, 601, 610, 639 and 659.

MUS 699 Music Thesis II (3). The continuation of a significant study of a topic deemed appropriate by the student's research director and research committee. Prerequisite: MUS 698.

NONPROFIT LEADERSHIP STUDIES

(NLS)

NLS 100T Transitions (1). Course designed to assist students in their transition to Murray State University. Content includes orientation to the specific areas, majors, and minors within academic programs. Other topics may include university procedures, policies, resources, strategies for success and extra-curricular activities. Only one transition course will count toward graduation. Graded pass/fail.

NLS (REC) 101 Introduction to Recreation and Leisure Services (3). An overview of the history, philosophy, aims, and objectives of the recreation and leisure profession.

NLS (REC) 102 Camp Leadership and Campcraft (2). Introduction to the history and objectives of organized camping with emphasis on the role of the modern camp counselor.

NLS (REC) 104 Rural Tourism (3). Course is designed to provide students with an overview of rural tourism including factors such as supply and demand, as well as cultural, economic and environmental impacts. Additional topics may include sustainable and global tourism. Students will be required to participate in field experiences.

NLS (REC) 129 Basic Canoeing (1).

NLS (REC) 150 Recreation Activity Leadership (1). Course provides a study of challenge education programming and direct experience in facilitating challenge education activities.

NLS (REC) 161 Outdoor Cooking and Menu Planning (1). An introduction to basic outdoor cooking. The course will cover basic equipment, food preparation techniques, nutrition and menu planning for backcountry.

NLS (REC) 162 Backpacking and Outdoor Living (1).

NLS (REC) 163 Caving (1).

NLS (REC) 164 Rock Climbing (1).

NLS 207 Diversity and Inclusion in a Global Society (3). The purpose of this course is to explore the meaning and impact of diversity for individuals and organizations in society. An overview of issues relating to diversity such as identity, difference, prejudice, privilege, and bias will be studied as they relate to patterns of discrimination based on certain criteria, such as race, color, religion or creed, national origin or ancestry, gender, age, physical or mental disability, genetic information, citizenship, sexual orientation, etc. Students will explore successful strategies and methods for achieving inclusive workplaces and interactions in society.

NLS (REC) 264 Intermediate Rock Climbing (2). The course will review outdoor rock climbing basics including techniques, equipment, knots and belaying. Students will then be given instruction and practice on setting up proper anchor systems for top-rope climbing. A weekend field experience is required for this course. Prerequisite: REC 164 or permission of instructor.

NLS 290 Community Engagement and the Nonprofit Sector (3). Introduces students to the broad roles of nonprofit and recreation organizations in society. Includes an emphasis on the values embodied in philanthropy and the nonprofit sector, such as service, volunteering, human and cultural diversity, trust, stewardship, and social justice. Requires service in a community organization as part of the Service Learning Scholars Program.

NLS (REC) 295 Wilderness and Remote First Aid (3). The course will cover wilderness first aid basics and help-delayed care in environments where advanced medical services may be unavailable or delayed. Students will be trained in other areas of patient care, including the performance of cardiopulmonary resuscitation for the professional rescuer (CPR-PR). Students will be required to participate in a Wilderness Care Weekend Experience.

NLS 300 Introduction to Philanthropy and the Nonprofit Sector (3). Course introduces students to the field of Nonprofit Leadership Studies. It surveys the roles and functions of nonprofit organizations, as well as of individual philanthropy in society. The course provides students with a broad understanding of key trends and issues in the nonprofit sector, and introduces them to key questions in the research, theory, and practice of leading and managing nonprofit organizations and philanthropic institutions.

NLS (REC) 301 Outdoor Adventure Skills (3). An introduction to basic skills and concepts in a variety of outdoor adventure activities. Proficiency will be developed in hard skills (knots, belaying, paddle strokes, etc.) for various outdoor adventure activities including, but not limited to, rock climbing,

backpacking, canoeing, kayaking, and caving. The course covers group dynamics, effective leadership, communication, and decision making in the backcountry. Weekend experiences required.

NLS (REC) 302 Special Event Management (3). An overview of special event management with a focus on best practices for effective planning, implementation, and evaluation. Includes organizing and delivering a special event.

NLS (REC) 304 Community Recreation Service Learning (1). Students obtain hands on professional experience by completing 40 service learning hours in community recreation programs. Recreation majors only. Prerequisite: REC 101.

NLS 305 Grant-making and Philanthropic Foundations (3). Course analyzes the role, structure, and working of philanthropic foundations. This course thus aims to teach grant-making best practices and to prepare students for work in the field. It exposes students to key aspects of grant-making institutions, such as mission development, needs assessment, grant proposal analysis, and site visits. This experience will familiarize students with local nonprofit organizations, expose them to local needs, and help them to develop their own grant-making strategy. The course may include a student philanthropy component. Prerequisite: permission of instructor.

NLS (REC) 306 Aging in American Society (3). An overview of physical, mental, social, and emotional aspects of aging. Focuses on the issues affecting older adults, as well as the individuals and organizations/institutions supporting them. Addresses the broader implications of these issues for society.

NLS (REC) 311 Leadership in Adventure Education (3). Course will provide a thorough study of leadership in adventure education programs. Topics will include leadership styles, trip planning, risk management, and group dynamics. Weekend experiences required. Prerequisite: REC 161 and either NLS 301 or two of the following: REC 129, 162, 163, or 164.

NLS (REC) 340 (350) Extended Backcountry Travel (3). Designed to develop an understanding of leadership, knowledge, and skills specific to extended back country travel situations. Week-long experience required. Field experiences may include, but are not limited to: backpacking, canoeing, and kayaking.

NLS 350 Program Development (3). Develops knowledge and understanding of techniques in organizing, planning, and evaluation of various types of nonprofit and recreation programs. Examines program development tools such as the logic model, and emphasizes program outputs/outcomes, structure, and policies/procedures. Provides opportunities to apply management and program development tools to a real-world context through service learning projects. Part of the Service Learning Scholars Program.

NLS 351 Leadership, Governance, and Board Development (3). Introduces students to the leadership and governance component of the nonprofit sector. Exposes students to leadership theories, leadership styles, and decision-making processes as they apply to the nonprofit sector. Provides an analysis of the role of governance structures in nonprofit organizations, including board development and relationship between executive director and board. An emphasis is placed on ethical issues in governance and leadership. Requires service in a community organization as part of the Service Learning Scholars Program.

NLS 352 Human Resource and Volunteer Development (3). Introduces students to the processes and practices of managing paid and unpaid staff with a focus on recruitment, development, supervision, recognition, and retention. Explores the roles, values, and dynamics of volunteerism in fulfilling organizational missions, including governance structures, committee systems, and advocacy activities. Requires service in a community organization as part of the Service Learning Scholars Program.

NLS 370 Philanthropy, NGOs and International Development (3). Course analyzes the role of international philanthropy and transitional nongovernmental organizations (NGOs) in addressing world poverty. It provides students with an overview of the size and scope of U.S. international philanthropy, as well as the actors and challenges of international development assistance. The course introduces students to major debates on international development, and focuses in particular on the effectiveness and efficiency of international philanthropy and NGOs.

NLS 380 The Nonprofit Sector in Comparative Perspective: Study Abroad Experience (3). The course will explore civil society and nonprofit organizations in different cultural context. Students will be exposed to the multiple ways nonprofit organizations respond to the global issues confronting the world today. Particular attention will be given to the roles and functions of nonprofit organizations outside the United States, with an emphasis on the differences and similarities with the U.S. context. The course includes both pre-departure classroom meetings and international travel, and may also include student involvement in a local and/or international community service organization. In total, students will complete a minimum of 45 hours of classroom activities- combining pre-departure meetings and abroad experience.

NLS (REC) 395 Wilderness and Remote First Aid Instructor (2). Course covers the skills and competencies necessary to become certified as a Wilderness and Remote First Aid and CPR for the Professional Rescuer Instructor. Certification may be obtained through the American Red Cross. Weekend experiences required.

NLS 400 Professional Internship (1-3). A professional development experience with a community organization under the direct supervision of an experienced social sector professional. Course is repeatable for up to six hours of credit. Prerequisites: NLS 350, 351 and 402; and instructor approval.

NLS 402 (502) Financial Resource Management and Fund Development (3). A review of the impacts of basic economics and market dynamics on the nonprofit sector, frame an overview of financial management, and resource development processes and practices. The course presents students with quality practices and tools used in budgeting, accounting, reporting, and fund raising. Part of the Service Learning Scholars program.

NLS (REC) 403 Managing Recreation Areas and Facilities (3). Emphasis on planning, design, principles, and construction of buildings, playgrounds, parks, pools, camps, and athletic facilities for schools and communities. Prerequisite: NLS 101.

NLS (REC) 405 Organization and Administration of Recreation (3). A study of the organizational and administrative practices of commercial, public and voluntary recreation agencies. Prerequisite: NLS 101.

NLS (REC 410) Technology Skills for Community Organizations (3). Studies current and emerging technology, including social media and "big data," as a tool to increase effectiveness and excellence in the management of nonprofit and recreation organizations. Practices basic skills required for individual and organizational success in the digital world.

NLS 430 NPOs and Community Development: Comprehensive Strategies for Impact (3). The course prepares students for action in the complex and ever-changing context in which mission-driven nonprofit organizations operate. This course provides students with current and emerging action strategies and practices to strengthen or improve less-advantaged communities, empower their residents, and interact with a broad spectrum of public, for profit, and nonprofit agencies. Students examine and apply quality practices in comprehensive community development, coalition and movement building, integrated strategies, collective and collaborative action, and strategic planning and assessment approaches. Students are required to complete service with an approved organization outside of class time.

NLS 445 (REC 401) Research and Evaluation in Recreation (3). A study of methods and techniques of research and evaluation as applied to recreation and park services. Prerequisite: REC 202.

NLS 450 Senior Seminar (1). Addresses the full range of professional development strategies, skills, and resources needed for a successful career in the nonprofit sector. Develops an understanding of and competencies in representing themselves in writing and in-person, in professional attire and etiquette. Emphasis on current networking tools, as well as the job search and interview process. Includes preparation of a career development portfolio.

NLS 460 (REC 450) Recreational Use of Natural Resources (3). This course will provide a thorough investigation of the recreational use of natural resources in the United States, as well as an overview of conditions around the world. The information presented will focus on the primary issue of "preservation versus use" of natural resources.

NLS 465 Policy, Legal Issues, and Advocacy for Social Change in Nonprofit Organizations (3). An exploration of the legal issues impacting the nonprofit sector, the roles of policy in insuring compliance and effective practice, and the application of advocacy strategies. Student will build understanding through the examination of the basic legal needs nonprofits have in common, requirements of the tax exemption, the legal aspects of fund development, human resources law for nonprofits, and political activities, among others.

NLS 470 (REC 465) Interpretation of Cultural and Natural Resources (3). A study and application of techniques and best practices appropriate to historical, cultural, and natural resource interpretation in park and recreation settings. Includes analysis and development of a appreciation of interpretive programs and visitors information services. Prerequisite: REC 202.

NLS 475 Social Entrepreneurship (3). This course is about utilizing entrepreneurial skills to craft innovative responses to social problems. Entrepreneurs are particularly good at recognizing opportunities, exploring innovative approaches, mobilizing resources, managing risks, and building viable enterprises. Social entrepreneurship applies to both profit and nonprofit organizations that have programs designed to create social value. Part of the Service Learning Scholars Program. Prerequisite: junior standing or permission of instructor.

NLS 480 Special Problems in Nonprofit Organizations (1-3). Involves developing a project or independent study to address issues and needs within local nonprofits. Students will be responsible for planning, implementing, and their outcome evaluations for the project or independent study. Part of the Service Learning Scholars program.

NLS 485 Seminar on Leadership Development (3). Course is a high-level exploration of leadership principles and practices, in support of the development of personal confidence and capacity to be more effective leaders and managers. Students will develop competencies for quality applications in the context of family, community, and career, including personal principles and values, ethical standards and practices, interpersonal and group dynamics, cultural competence, and vision and strategy development, among others.

NLS (REC) 490 National Recreation Sites and Rural Tourism Traveling Workshop (3). Study of national outdoor recreation sites and rural tourism where they occur. Includes educational interaction with professionals at national recreation sites and facilities and gateway communities. Course addresses primary management issues related to specific sites.

NLS 501 Seminar on Nonprofit Organizations (3). An advanced exploration of nonprofit organizations. Program development, leadership, personnel/volunteer management, communication, decision making, and problem solving are explored and includes a service learning project approach. Part of the Service Learning Scholars program.

NLS 600 The Nonprofit Sector and Civil Society (3). Course provides students with historical and philosophical foundations of the nonprofit sector in American society and around the globe, the roles and relationships among structural sectors of society (nonprofit, government, and business), and the competencies and functions of nonprofit sector leadership and management. Students identify and study current and emerging issues and trends impacting society and the response for the nonprofit sector, while exploring the range of career and volunteer opportunities.

NLS 601 Seminar on Nonprofit Organizations (3). An advanced exploration of nonprofit organizations. Program development, leadership, personnel/volunteer management, communication, decision making, and problem solving are explored and includes a service learning project approach. Part of the Service Learning Scholars program.

NLS 602 Financial Resource Management and Development (3). A review of the impacts of basic economics and market dynamics on the nonprofit sector, frame an overview of financial management, and resource development processes and practices. The course presents students with quality practices and tools used in budgeting, accounting, reporting, and fund raising. Part of the Service Learning Scholars program.

NLS 625 Nonprofit Organization Development, Management, and Leadership (3). An examination of the roles and responsibilities of positional leaders in the ongoing development, management, and leadership of nonprofit organizations. Students develop understanding of strategies, practices, and tools for developing vision and mission, establishing and implementing strategic plans and operation policies, developing and guiding human resources (paid and volunteer), and building and sustaining effective governance structures.

NLS 630 Nonprofit Organizations and Community Development: Comprehensive Strategies for Impact (3). Course prepares students for action in the complex and ever-changing context in which mission-driven nonprofit organizations operate. This course provides students with current and emerging action strategies and practices to strengthen or improve less-advantaged communities, empower their residents, and interact with a broad spectrum of public, for profit, and nonprofit agencies. Students examine and apply quality practices in comprehensive community development, coalition and movement building, integrated strategies, collective and collaborative action, and strategic planning and assessment approaches.

NLS 665 Policy, Legal Issues, and Advocacy for Social Change in Nonprofit Organizations (3). An exploration of the legal issues impacting the nonprofit sector, the roles of policy in insuring compliance and effective practice, and the application of advocacy strategies. Student will build understanding through the examination of the basic legal needs nonprofits have in common, requirements of the tax exemption, the legal aspect of fund development, human resources law for nonprofits, and political activities, among others.

NLS 675 Social Entrepreneurship (3). Course is about utilizing entrepreneurial skills to craft innovative responses to social problems. Entrepreneurs are particularly good at recognizing opportunities, exploring innovative approaches, mobilizing resources, managing risks, and building viable enterprises. Social entrepreneurship applies to both profit and non-profit organizations that have programs designed to create social value.

NLS 680 Special Problems in Nonprofit Organizations (1-3). Involves developing a project or independent study to address issues and needs within local nonprofits. Students will be responsible for planning, implementing, and outcome evaluations for the project or independent study.

NLS 685 Seminar on Leadership Development (3). Course is a high-level exploration of leadership principles and practices, in support of the development of personal confidence and capacity to be more effective leaders and managers. Students will develop competencies for quality applications in the context of family, community, and career, including personal principles and values, ethical standards and practices, interpersonal and group dynamics, cultural competence, and vision and strategy development, among others.

NATIONAL STUDENT EXCHANGE (NSE)

NSE 300 National Student Exchange (6-15).

NUTRITION (NTN)

NTN 100T Transitions (1). Course is designed to assist students in their transition to Murray State University. Content includes orientation to the specific area or major(s) and minor(s) within the academic program; university procedures, policies, and resources; strategies for personal and academic success, and extracurricular opportunities. Only one transitions course will count toward graduation. Graded pass/fail.

NTN 200 Introduction to the Profession (1). Introduction to nutrition, dietetics and food management including academic and professional preparation. Job shadowing outside the regular class periods may be required.

NTN 220 Food Safety and Sanitation (2). This course focuses on foodservice sanitation and safety principles in foodservice and lodging operations. Topics include issues impacting consumers and operators, application of Hazard Analysis Critical Control Point (HACCP) and preparation for the national foodservice sanitation certification examination. Characteristics of food, supplies, and equipment as related to quality, sanitation, and safety will also be addressed.

NTN 230 Nutrition (3). Principles of nutrition related to normal health include ethnic, cultural, and socioeconomic factors that determine eating patterns; nutrient components of foods and their functions; physical and chemical processes of using food nutrients.

NTN 231 Principles of Food Science and Preparation (3). Emphasis on understanding and applying the basic physical and chemical properties of foods. Development of skills in recipe interpretation, cooking methods, food safety, and sanitation. Lecture, two hours; laboratory, three hours.

NTN 303 Research Concepts in Food and Nutrition (3). Introduction to quantitative and qualitative research in foods and nutrition focusing on methods for collecting and analyzing data as well as critiques of research reports and the development of research proposals. Prerequisites: NTN 230.

NTN 330 Advanced Nutrition (3). Advanced study of nutrition and human metabolism with emphasis on recent research. Diet pattern inter-relationship in physical health; research procedures and interpretation used in an individual project. The field of dietetics, its professional roles and responsibilities. Prerequisites: NTN 230 and eight hours of biology and/or chemistry.

NTN 333 Nutrition Throughout the Life Cycle (3). Identification of the nutritional needs and problems of individuals as they relate to physiological functions of the body at various stages of the life cycle. Specific health problems that require dietary intervention will be examined. Prerequisite: NTN 230.

NTN 350 Nutrition Counseling and Education (3). Course is intended for students preparing to work in a health-related field. Students will gain competency to effectively translate nutrition science into plain language for patients and clients interested in improving their health. Emphasis will be placed on application of counseling and learning theories that pertain to individuals and groups in clinical and community settings. Students will engage in simulated interviewing and counseling sessions. Prerequisite: NTN 230.

NTN 371 Quantity Food Production Practicum (1-2). Field experience to help students apply basic food preparation techniques, safety and sanitation procedures, work organization, and styles of service in quantity food establishments. Three clock hours per week for one credit hour, six clock hours per week for two credit hours. Corequisite: NTN 372.

NTN 372 Quantity Food Production and Purchasing (3). Principles of quantity food production: production flow, distribution and control. Use of the menu as a purchasing and production tool in accordance with budgetary, personnel and equipment constraints. Understanding principles of inventory and cost control. Prerequisites: NTN 220, 230, and 231. Corequisite: NTN 371.

NTN 373 Management of Food Service, Personnel and Facilities (3). Functions of management applied to food service systems; cost analysis and control systems; design of physical facilities and selection of equipment; and training and development of personnel. Prerequisite: NTN 372.

NTN 374 Food Service Management Practicum (3). Supervised work experience to help students apply concepts of food service management. Prerequisites: NTN 371 and 372.

NTN 412 Community Nutrition and Health (3). Study of problems in community nutrition and health including family and personal health issues, governmental health agencies and the development of community nutrition programs. Prerequisites: NTN 230 and 333.

NTN 422 Meal Management (3). Production and service of nutritious meals for groups in a restaurant type environment. Students manage the meal service incorporating nutrition guidelines as well as resource management principles. Four hours of laboratory and one hour of lecture per week. Prerequisites: NTN 230, 231, 372.

NTN 432 Experimental Foods (3). Objective and sensory methods of evaluating chemical and physical qualities of food; the interpretation of related research and writing of simple technical papers. Lecture, two hours; laboratory, two hours. Prerequisites: NTN 231 and 303.

NTN 434 Clinical Dietetics Practicum (1). Field experience in clinical dietetics to help students apply classroom instruction in a community facility under the supervision of a Registered Dietitian. Prerequisites: permission of instructor and NTN 440.

NTN 440 Medical Nutrition Therapy I (3). Study of the role of nutrition in the pathophysiology and care of chronic diseases. Emphasis is placed on the nutrition care process, nutrition assessment and the design of therapeutic diets for the management of chronic diseases and conditions. Prerequisites: NTN 333 and admission to the Dietetics Program.

NTN 445 Pathophysiology for Nutrition-Related Diseases (4). Course provides an in depth study of the pathophysiology associated with nutrition-related diseases. An emphasis is placed on the interrelationships among organ systems in deviations from homeostasis. Course topics include the etiology, signs and symptoms, diagnosis, complications, and treatment of commonly occurring diseases with nutrition-related implications. Prerequisites: BIO 229, BIO 230, NTN 333.

NTN 450 Medical Nutrition Therapy II (3). Study of the role of nutrition in the pathophysiology and management of disease. Emphasis is placed on the design of therapeutic diets for the management of chronic diseases and conditions. Prerequisite: NTN 440.

NTN 460 Advanced Clinical Cases in Dietetics (1). Continued study of the role of nutrition in the pathophysiology and management of disease. Emphasis is placed on the design of therapeutic diets and nutrition support regimens for the management of chronically ill patients with multiple comorbidities and critically ill patients. Prerequisite: NTN 450.

NTN 480 Special Problems in Nutrition and Foods (1-3). Course designed to enable the student to pursue independent study in selected areas of nutrition, dietetics, or food management. May be repeated for a maximum of six credits. Prerequisites: consent of the department chair and instructor supervising the project.

NTN 488 Cooperative Education/Internship (1-3). A meaningful, planned, and evaluated work experience related to the career and educational objectives of the student for which he/she may receive academic credit and possible financial remuneration. May be repeated for a maximum of six hours from any 488/489 courses. Graded pass/fail. Prerequisite: permission of chair.

NTN 497 Trends and Issues in Nutrition and Foods (1-3). Topics may differ from semester to semester depending on program needs. Investigation of current problems, issues and topics in food, nutrition and dietetics. May be repeated for a maximum of six credit hours when topic differs.

NTN 499 Senior Seminar (1). Seminar for students in dietetics, nutrition, or food management focusing on professional issues, the internship application process, employment opportunities, interview skills, resume and portfolio development, and related problems. Recommended for students in the senior year.

NTN 610 Scholarly Research and Writing for Nutrition Professionals (3). Development and refinement of writing skills appropriate for the nutrition professions. Focus on APA formatting; interpretation of quantitative, qualitative, and mixed methods research; synthesis of literature into scholarly reports. Prerequisite: Admission to post-baccalaureate clinical training program in dietetics.

NTN 615 Supervised Professional Practice Primer (1). Development of writing skills and nutrition knowledge with a focus on medical terminology, nutrition-related medications, and anthropometric assessment and evaluation within the practice of medical nutrition therapy. Emphasis on application of concepts learned. Prerequisite: Admission to post-baccalaureate clinical training program in dietetics.

NTN 640 Dietetics Clinical Training Primer (1). An intensive assessment and review course preparing student clinicians for the hospital dietetics clinical training program. Includes assessment of student competency, rules of general conduct, and review of principles of clinical nutrition and food service management. Prerequisite: admission to the Clinical Training Program in Dietetics.

NTN 641 Medical Nutrition Therapy I (4). A combined didactic and clinical practice course on nutrition therapy encompassing classroom instruction and planned work experiences in a pre-approved hospital training site. Students have the opportunity to apply principles of nutrition therapy in a functional setting. Prerequisite: admission to clinical training program in dietetics.

NTN 642 Management Practice in Dietetics (2). A combined didactic and clinical practice course on management in the field of dietetics encompassing classroom instruction and planned work experiences in a pre-approved hospital training site. Students have the opportunity to apply principles of foodservice management in a functional clinical setting. Prerequisite: admission to clinical training program in dietetics.

NTN 643 Community Nutrition (2). A combined didactic and clinical practice course on community nutrition encompassing classroom instruction and planned work experiences in a pre-approved hospital training site. Students have the opportunity to apply principles of nutrition therapy in a functional setting. Prerequisite: NTN 640.

NTN 651 Medical Nutrition Therapy II (4). A combined didactic and clinical practice course on advanced medical nutrition therapies encompassing classroom instruction and planned work experiences in a pre-approved hospital training sites. Students have the opportunity to apply principles of advanced nutrition therapies in a functional setting. Prerequisite: admission to clinical training program in dietetics.

NTN 652 Dietetics Clinical Practice in Long-Term Care (2). A combined didactic and clinical practice course on medical nutrition therapy in the long-term care setting. Students have the opportunity to apply principles of advanced nutrition therapies appropriate for specific populations in long-term care. Prerequisite: admission to clinical training program in dietetics.

NTN 653 Advanced Clinical Practice (3). A combined didactic and clinical practice experience and daily participation in clinical dietetic patient care in a hospital setting. Designed to comprehensively foster professional growth and competence in the skills required for entry-level dietitians. Assist students in preparing for the registration examination and credentialing process for dietitians. Prerequisite: admission to clinical training program in dietetics.

NTN 656 Nutrition Research Literature Review (1-2). Course enables the student to complete an in-depth literature review on a nutrition research focus area in preparation for NTN 660. The research focus area must be approved by the student's graduate program advisor.

NTN 660 Research Project in Nutrition I (3). An advanced nutrition research focusing upon the student's area of research interest, enabling the student to survey and review the research literature, collect and analyze research data, and prepare the research paper. Prerequisite: consent of graduate program advisor.

NTN 661 Research Project in Nutrition II (3). A continuation of the research project developed in NTN 660. Prerequisites: NTN 660, approved graduate statistics course, and permission of graduate program advisor.

NURSING (NUR)

NUR 100T Transitions (1). Course is designed to assist students in their transition to Murray State University. Content includes orientation to the specific area or major(s) and minor(s) within the academic program; university procedures, policies, and resources; strategies for personal and academic success, and extracurricular opportunities. Only one transitions course will count toward graduation. Graded pass/fail.

NUR 200 Introduction to Nursing Concepts (3). This course introduces the student to professional nursing. Focus of the course is on the concepts of nursing, person, health and environment with an emphasis on human development and health promotion. Prerequisite: admission to the BSN program.

NUR 202 Nursing Assessment and Basic Interventions (4). Course providing the didactic and experiential content needed to acquire knowledge and skills to complete a health assessment. Differentiation of nursing responsibilities associated with a variety of health and developmental levels is addressed.

Prerequisites: NUR 200 and 203 (pre or co-requisites), and admission to the nursing program.

NUR 203 Mental Health Nursing (3). This course is designed to be an introduction and practice of psychosocial nursing and mental health concepts. The course will introduce skills for assessment and delivery of psycho-social support and team building. Theories of stress, anxiety, crisis, coping, and human behavior will be explored. The course will include skills for therapeutic and assertive communication with individuals, groups, and health team members, as well as self-awareness and confidence building exercises. Three hours lecture per week. Prerequisites: Admission to the Nursing Program and COM 161.

NUR 205 Pharmacology in Nursing (3). This course is designed to present basic facts and principles upon which therapeutic pharmacology is founded. Areas discussed are major drug classifications, desired drug actions, and undesirable side and/or toxic effects of drugs. Emphasis will be placed on the nurse's legal responsibilities in administering these drugs and specific implications which are inherent in drug therapy. Prerequisites: admission to nursing, NUR 200, 202, and 203.

NUR 206 Nursing Practice Fundamentals (5). A course designed to offer opportunities for the student to gain knowledge and fundamental skills essential to client care and health promotion. Focus of the course is to provide opportunities for building clinical reasoning, practice, and nursing and evaluation skills. Prerequisites: NUR 200, 202, and 203.

NUR 301 Pathophysiology for Nursing Practice (3). Course serves as an introduction to pathophysiology with applications for BSN practice. Prerequisites: admission to the nursing program and courses in physiology. Corequisite: NUR 307 or permission of instructor.

NUR 305 Nursing Care of the Childrearing Family (4). A study of the nursing of children from infancy through adolescence. Emphasis is placed on health promotion through primary prevention, assessment for actual or potential health problems, teaching and counseling children and their families, and helping children to adapt to physical and psychological stress. Theoretical principles are applied in various clinical settings. Prerequisites: NUR 301, 302, 307.

NUR 306 Introduction to Research and Evidence Based Practice (3). Course focuses on developing skill in analyzing and critiquing research for clinical application. Evidence based practice is considered in light of improving patient outcomes.

NUR 307 Nursing Care of Adults I (3). A combined theory/clinical course, (2 hour lecture plus 1 hour skills lab (45 hours) which presents physiological and psychological concepts relevant to nursing practice. Theory focuses on the nursing process, concepts and skills of medical surgical nursing. The clinical focus is on the implementation of the nursing process and developing skills in the care of stable adults and their families. Prerequisites: BIO 229 and 230; NTN 230; NUR 205, 206, and 306.

NUR 308 Nursing Care of Adults II (5). A combined theory/clinical course, (2 hour lecture plus 2 hours clinical lab-90 hours) which presents physiological and psychological concepts relevant to nursing practice. Theory focuses on the nursing process during phases of common and less common major dysfunction. The clinical focus is on the implementation of the nursing process in the care of stable acute and chronically ill adults and their families. Prerequisites: NUR 301, 302, and 307.

NUR 314 Professional Nursing Practice (3). Designed to provide the student with concepts and theories basic to baccalaureate nursing education. Professional nursing practice is emphasized. Analysis and synthesis of knowledge from other disciplines are incorporated into the practice of nursing. Prerequisites: admission to the RN-BSN program and required semester of admission.

NUR 320 Holistic Approach to Women's Health Issues (3). A course designed to provide the student with the opportunity to gain knowledge necessary to give nursing care to women across the life-span. Issues specific to women are studied in depth. Prerequisites: NUR 305, 308; RN to BSN students-NUR 314.

NUR 341 (201) Nursing Assessment (3). A course providing learning experiences needed to acquire assessment knowledge and skills for eliciting a sound data base. Activities involve interviewing, recognizing psychosocial-developmental

status, performing physical examination, interpreting test findings, documenting findings and stating nursing diagnoses. Differentiation of nursing responsibilities associated with a variety of health states and developmental levels is addressed. Two hours theory and three hours laboratory weekly. Prerequisite: admission to RN-BSN program and NUR 314 with a minimum grade of C.

NUR 400 Applied Pharmacology (1). This course is designed to help nursing students apply principles and concepts related to drug therapy in practice. Prerequisite: NUR 305 and 308.

NUR 402 Psychiatric Nursing (4). The focus of this course is care of individuals, families, and groups with actual or potential psychiatric illness. Students are provided the opportunity to utilize knowledge and promote mental health across the life span. Also included is an exploration of the mental health care delivery system and community resources available. The course offers opportunities for students to enhance personal and interpersonal awareness. Knowledge synthesized from classroom and laboratory experiences provide the base for psychiatric nursing practice. (Credit hours reflect three weekly hours didactic and one hour clinical rotation which equates to 45 clock hours of lab.) Prerequisites: NUR 305 and 308.

NUR 403 Community Health Nursing (5). An overview of the philosophy of community health care and trends in community health services delivery. The emphasis is on prevention of illness and promotion of health of individuals, families, communities, and related socio-cultural and environmental factors. A brief description of the political and financial structure at the local, state and national level is presented along with community health nursing's relationship to it. Practice projects include but are not limited to a community assessment and community implementation project. Pre- or corequisite: NUR 314 with a minimum grade of C.

NUR 404 Leadership and Management in Nursing (5). A study and/or review of leadership and management concepts relevant to working with groups of people in providing care for groups of clients with an emphasis on the application and integration of nursing knowledge. Through the completion of practice projects the student will work collaboratively as a leader with other health care personnel. Pre- or Corequisite: NUR 314.

NUR 405 The Nursing Profession and Health Care Delivery (3). An identification and analysis of the current and emerging issues in nursing and those forces impinging upon the nursing profession and health care delivery. Nursing as an independent profession, and the interdependent and collaborative relationships with other health related professions will be explored. Pre- or corequisite: NUR 314 with a minimum grade of C.

NUR 407 Integration Practicum (4). A combined seminar/clinical course to allow clinical integration of all study in previous nursing courses. The focus of the course is on clinical application of physiological and psychological concepts in caring for clients with complex health problems and their families in acute care settings. The seminar component is to provide direction in using the nursing process in the care of ill adults and families with complex health problems. One hour lecture and nine hours clinical laboratory weekly. Prerequisites: all courses in the nursing curriculum and NCLEX Readiness Test.

NUR 408 Nursing Care of Adults III (5). A combined theory/clinical course, (two hour lecture plus two hour clinical lab-90 hours) which presents physiological and psychological concepts relevant to nursing practice. Theory focuses on the nursing process during phases of common and less common major dysfunction. The clinical focus is on the implementation of the nursing process in the care of acute and critically ill adults and their families. Prerequisites: NUR 305 and 308.

NUR 409 Issues in Healthcare Delivery (2). An identification and analysis of the current and emerging issues in nursing and the social, political and economic forces impinging upon the nursing profession and health care delivery are the focus of this course. Nursing as an independent profession and the inter-dependent and collaborative relationships with other health related professions will be explored. Prerequisites: NUR 305 and 308.

NUR 410 Community Health Nursing (5). An overview of the philosophy of community health care and trends in the community health services delivery. The emphasis is on prevention of illness and promotion of health of individual,

families, communities, and related sociocultural and environmental factors. A brief description of the political and financial structure at the local, state, national, and international levels is presented along with community health nursing's relationship to it. Prerequisites: NUR 400, 402, 408, and 409.

NUR 411 Problems in Nursing (1-3). Designed to permit special study in selected problems of nursing. Prerequisites: permission of instructor and approval of written proposal.

NUR 412 Leadership and Management in Nursing (5). A study and overview of leadership and management concepts relevant to working with groups of people in providing care for groups of clients. Opportunity for application of these concepts and integration of nursing knowledge and skills is provided through classroom activities and experiences in a clinical setting. The student is expected to work collaboratively and to increase his/her competence and confidence in providing nursing care. Prerequisites: NUR 400, 402, 408, and 409.

NUR 416 Critical Care Skills (2). Course is designed to provide the content and skills in Advanced Cardiopulmonary Life Support (ACLS) and Pediatric Advanced Life Support (PALS) required to become ACLS and PALS certified. Corequisite: current Basic Life Support Certification-Healthcare Provider (BLS) from the American Heart Association and NUR 408 or permission of instructor.

NUR 440 Directed Study (1-3). Faculty directed study is available for students, individually or in groups, who want to investigate special problems extending study begun in course work in clinical nursing. Prerequisites: approval of written proposal and consent of the instructor directing the study. May be repeated for a maximum of six hours.

NUR 445 The Professional Nurse as Client Educator (3). Patient education is an elective course in nursing designed to assist the nurse to develop those skills and intellectual competencies necessary for providing comprehensive health education across the lifespan. The role of the professional nurse as client educator will be explored. Two hours lecture/seminar and three hours clinical laboratory weekly. Prerequisites: NUR 205 and 206 or R.N. status.

NUR 447 Stress Management (3). This course is designed to acquaint the student with methods of personal stress and lifestyle management. It provides a foundation in wellness and stress management concepts and practices that the student can use in both professional and personal realms throughout the lifespan.

NUR 450 Independent Study (3). Faculty supervised individual study and/or investigation of selected areas of nursing related to student's academic and/or career goals. Prerequisites: senior standing and consent of department chair.

NUR 460 Special Topics (3). Course designed to assist students in expanding their knowledge base and developing additional skills in the field of nursing. Topics may vary depending on current issues and practices. Course may be repeated once with instructor's approval. Prerequisite: permission of instructor.

NUR 470 Complementary Healing Modalities (3). A combined theory/clinical course which explores complementary healing modalities as therapeutic nursing interventions that can be used with traditional medical practices or when traditional medical practices offer no cure or relief. A specific complementary healing modality (therapeutic touch) will be fully examined and practiced in the field setting. Prerequisites: NUR 206 or R.N. status; both must meet clinical requirements.

NUR 488 Cooperative Education/Internship (1-3). A meaningful, planned, and evaluated work experience related to the career and educational objectives of the student for which he/she may receive academic credit and possible financial remuneration. May be repeated for a maximum of six hours from any 488/489 courses. Graded pass/fail. Prerequisite: permission of chair.

NUR 603 Theory and Concept Analysis in Nursing (3). Introduction to the nature and uses of theory; the process of theory construction and concept analysis. Major theories of nursing and concepts and theories from the sciences basic to nursing analyzed with emphasis on implications for nursing practice. Prerequisite: admission to DNP program or permission of instructor.

NUR 605 Issues in Rural Health Care (3). Examines similarities and differences between rural and urban residents as they relate to health and the health care system. Compares ethical theories and implications for decision-making. Explores the evolution of our present health care system, initiatives for change and issues related to rural health care agencies. Examines the existing and future roles for nursing in rural America and impact on health. Prerequisite: Admission to MSN program or permission of instructor.

NUR 606 Scientific Foundations in Anesthesia I (3). This course is designed to provide an in-depth understanding of physiological principles as they apply to normal, pathological, and clinical alterations in the respiratory system. In addition, the principles of chemistry and physics as applied to clinical nurse anesthesia will be presented. Prerequisites: Admission to nurse anesthesia program and NUR 673.

NUR 607 Scientific Foundations in Anesthesia II (2). Course is designed to provide an in-depth understanding of physiological principles as they apply to normal, pathological, and clinical alterations in cellular and neurophysiology. Emphasis will be placed on anesthetic implications throughout the course. Prerequisites: NUR 606 and 632.

NUR 608 Scientific Foundations in Anesthesia III (2). Course presents an in-depth understanding of physiological principles as they apply to normal, pathologic, and clinical alterations in endocrine, renal, and hepatic physiology. Emphasis is placed upon anesthetic implications throughout the course. Prerequisites: NUR 606, 607, 632, 633, and 636.

NUR 609 Scientific Foundations in Anesthesia IV (2). Course is designed to provide an in-depth understanding of physiological principles as they apply to normal, pathologic, and clinical alterations in cardiovascular physiology. Emphasis will be placed on anesthetic implications throughout the course. Prerequisites: NUR 606, 607, 608, 632, 633, 636, and 637.

NUR 610 Theoretical Foundations of Nurse Education (3). An identification and analysis of the theoretical foundations of nursing education in order to facilitate application of curriculum and instructional design, teaching and learning principles, assessment and evaluation, advisement, and other activities undertaken by nurse educators.

NUR 612 Nurse Educator Practicum I (2). This course is designed to provide experiences in developing competencies in nursing education. The focus is on didactic/classroom instruction and measurement of learning outcomes. Students are to assess and define their learning needs, select appropriate experiences for teaching experience, and participate in selected learning activities directed by a mentor/preceptor, and a graduate faculty member. Prerequisites: admission to graduate program in the academic nurse educator option.

NUR 613 Nurse Educator Practicum II (2). This course is designed to provide students with an opportunity to work closely with a nurse educator in the clinical setting. The focus is on clinical instruction and evaluation of student performance. Prerequisites: admission to graduate program in the academic nurse educator option. Corequisite: NUR 612.

NUR 614 Theory and Practice of Nursing Education (3). Course introduces theoretical foundations of nursing education and teaching and learning theory. The focus is on theories and principles that support a variety of evidence based teaching strategies and learning styles. Fundamentals of the design of learning experiences and lesson planning are explored along with personal and professional teacher attributes that demonstrate positive role modeling and support a positive learning environment. Prerequisite: admission to graduate program or permission of instructor.

NUR 615 Evaluation in Nursing Education (3). This course introduces evaluation methods used in didactic and clinical nursing education. Students will explore evaluation models, instrument selection, rubric and test development, and data collection procedures as well as interpretation, reporting and application or finding. Prerequisite: NUR 617

NUR 616 Curriculum Development in Nursing (3). This course is designed to explore the process by which nursing faculty evaluate student learning and performance, curriculum and course outcomes, and their own teaching skills.

The evaluation process includes the use of models; selection of instruments; data collection procedures; and the means to interpret, report, and use findings. Prerequisite: NUR 603.

NUR 620 Critical Care Concepts and Applications (3). A didactic course with a clinical component (2:1=45 hours clinical) which presents concepts and their application relevant to critical care and acute nursing practice. Theory incorporates the Synergy Model as a framework to provide advanced nursing care to clients across the lifespan with various physiological and psychological conditions.

NUR 622 Diagnosis and Management of Acute Health Problems (3). Course designed to provide the CNS student the foundation necessary for the diagnosis and management of episodic illness and/or acute exacerbation of chronic illness in acutely or critically ill patients across the lifespan. Emphasis is placed on patient care problems organized by systems in the context of the nursing process, the CNS spheres of influence and advanced standards of practice and professional performance. Three credit hours distributed as two credit hours theory; one credit hour clinical practicum. This is to meet clinical hour requirement for certification for advanced practice. Prerequisites: NUR 520, 603, 605, 641, 642, and 673.

NUR 623 Advanced Nursing in Acute Care Settings (5). Course focuses on the essential characteristics and role development of the Clinical Nurse Specialist (CNS) in acute care, theory-based practice and interrelationships among concepts, phenomena, human responses, and nursing therapeutics across the lifespan. Values, beliefs, and attitudes about advanced nursing, health, and holism are explored. Prerequisites: NUR 603, 605, 641, 642, and 673.

NUR 624 Exacerbation of Chronic Health Problems (4). Course focuses on the essential characteristics and role development of the Clinical Nurse Specialist (CNS) in acute care, theory-based practice and interrelationships among concepts, phenomena, human responses, and nursing therapeutics across the lifespan. Values, beliefs, and attitudes about advanced nursing, health, and holism are explored. Prerequisites: NUR 603, 605, 641, 642, and 673.

NUR 630 Research in Nursing (3). Examination and analysis of quantitative and qualitative methods in the investigations of nursing phenomena. Critical analysis of nursing research studies is emphasized. Formulation of a researchable nursing problem and the strategies for its investigation is expected. Corequisite or prerequisite: NUR 603.

NUR 631 Evidence-Based Clinical Practice (3). Builds on NUR 630 to provide the foundation and methods for evidence-based clinical practice. This course focuses on the critical appraisal of external evidence, evaluation of indicators/outcomes of health care, application and dissemination of relevant findings to improve practice, and practice environments. Prerequisite: NUR 630.

NUR 632 Principles of Anesthesia Practice I (4). This course introduces the student to those concepts necessary to plan and execute an anesthetic individualized for the patient which ensures a margin of patient safety while meeting the surgical requirements. Prerequisite: Admission to nurse anesthesia program.

NUR 633 Principles of Anesthesia Practice II (2). Focuses on the role of the nurse anesthetist during the perioperative period. This course describes agents, techniques, indications, contra-indications and complications relevant to regional anesthesia practice. Case management strategies are developed for the care of the obstetric patient undergoing anesthetic intervention. Prerequisites: NUR 606 and 632.

NUR 634 Principles of Anesthesia Practice III (2). Case management strategies are developed for the care of the pediatric patient; the patient requiring general, genitourinary or orthopedic surgical procedures; and patients undergoing anesthetic intervention due to traumatic injuries. Prerequisites: NUR 606, 607, 632, and 633.

NUR 635 Principles of Anesthesia Practice IV (3). Case management strategies are developed for the care of patients as they relate to specialty procedures such as open heart surgery, neurological anesthesia, thoracic surgery and endocrine surgery. This course will conclude with the specific anesthetic implications of outpatient anesthesia. Prerequisites: NUR 606, 607, 608, 609, 632, 633, and 634.

NUR 636 Pharmacology Anesthesia I (2). Course is designed to provide an in-depth understanding of the general principles of pharmacodynamics and pharmacokinetics as related to physiological alterations across the life span. Prerequisites: NUR 606 and 632.

NUR 637 Pharmacology Anesthesia II (3). Course is a continuation of NUR 636 that will provide an in-depth understanding of the general principles of pharmacodynamics and pharmacokinetics as related to renal function, anticoagulation, analgesia, and adjunctive drugs utilized by patients undergoing anesthesia. Prerequisites: NUR 606, 607, 632, 633, and 636.

NUR 638 Pharmacology Anesthesia III (2). This course is designed to provide an in-depth understanding of the general principles of pharmacodynamics and pharmacokinetics as related to adjunct drugs utilized during anesthesia. Prerequisites: NUR 606, 607, 608, 632, 633, 636, and 637.

NUR 641 Advance Nursing Assessment (4). A combined theory/practicum course which introduces advanced assessment of patients in a variety of settings across the lifespan. Emphasis will be placed on advanced health assessment, growth and development across the lifespan, and health promotion and maintenance. Content will include techniques for comprehensive, holistic health assessment as well as focused assessment for common health problems. Prerequisite: admission to the DNP program.

NUR 642 Advanced Pharmacology (3). This course is designed to provide the advanced practice nurse with the theoretical and scientific basis for utilizing pharmacotherapeutics in advanced nursing practice. Throughout the course the role of clinical protocols and the privileges and responsibilities of prescription are emphasized. Prerequisite: admission to DNP program. Prerequisite: admission to the DNP program.

NUR 644 Primary Care of the Family I (6). This is the first of a two-course sequence designed to provide advanced knowledge of acute and chronic health problems of individuals and families of various age groups in rural settings. Emphasis is placed on pathology, assessments, diagnoses, therapeutic modalities, and evaluations related to specific health problems of various age groups, including high-risk pregnancy, perinatal health care, and geriatric health care. Additional role parameters of the family nurse practitioner will be included. A practicum is included in this course. Prerequisites: NUR 603, 605, 641, and 673. Corequisites: NUR 630, 642.

NUR 645 Primary Care of the Family II (7). This is the second of a two-course sequence designed to provide advanced knowledge of acute and chronic health care problems of individuals and families of various age groups in rural settings. Emphasis is placed on pathology, assessments, diagnoses, therapeutic modalities and evaluations related to management of acute and chronic problems within the context of the family including special problems related to the aged. Additional role parameters of the family nurse practitioner will be included. A practicum is included in this course. Prerequisite: NUR 644.

NUR 650 Advanced Clinical Nurse Specialist Integration Practicum II (5). This integration practicum is the capstone experience designed to provide the opportunity to integrate and synthesize the CNS role across the lifespan. Prerequisites: NUR 623 and 624. Corequisite: NUR 622.

NUR 651 Clinical Practicum I (3). Provides the student opportunity to apply the theories of nurse anesthesiology practice in the functional setting. Involves supervised experience in the role of the nurse anesthetist. Prerequisites: NUR 606, 607, 608, 609, 632, 633, and 634.

NUR 652 Clinical Practicum II (3). Offers practical experience and daily participation in anesthetic administration and related patient care. Designed to comprehensively promote growth, awareness and competence in the skills and experiences required prior to readiness for independent practice and certification process. Prerequisites: NUR 606, 607, 608, 609, 632, 633, 634, 635, and 651.

NUR 653 Clinical Practicum III (3). Offers practical experience and daily participation in anesthetic administration and related patient care. Designed to comprehensively promote growth, awareness and competence in the skills and experiences required prior to readiness for independent practice and certification process. Prerequisites: NUR 606, 607, 608, 609, 632, 633, 634, 635, 651, and 652.

NUR 654 Advanced Family Nurse Practitioner Integration Practicum (9). This practicum offers experience in integrating and synthesizing components of theory, practice and research. Focus is on role development of the family nurse practitioner in the rural setting. Through comprehensive, holistic health assessment the focus is on the development of therapeutic plans and health promotion and maintenance activities for the family as a whole as well as individual members. Emphasis will be on integrating all previous course work and assimilating the nurse practitioner role. Prerequisite: NUR 645. Corequisite: NUR 631.

NUR 655 Seminar in Nurse Anesthesia I (3). Focuses on pertinent didactic information necessary for integration into clinical practice. Students participate in the development of strategies to manage critical and/or infrequent clinical anesthesia related problems. Prerequisites: NUR 605 and 651. Corequisites: NUR 635 and 652.

NUR 656 Seminar in Nurse Anesthesia II (3). This course builds/expands on NUR 655. Students participate in the development of strategies to manage critical and/or infrequent clinical anesthesia related problems. Prerequisites: NUR 635, 652, and 655. Corequisite: NUR 653.

NUR 657 Advanced FNP Integration Practicum for the APN (4). This practicum offers experience in integrating and synthesizing components of theory, practice, and research. Focus is on role development of the family nurse practitioner in the rural setting. Through comprehensive, holistic health assessment the focus is on the development of therapeutic plans and health promotion and maintenance activities for the family as a whole as well as individual members. Emphasis will be on integrating all previous course work and assimilating the nurse practitioner role. Prerequisite: NUR 645.

NUR 660 Special Topics (3). This course is designed to assist students in expanding their knowledge base and developing additional skills in the field of nursing. May be repeated twice for credit. Courses taught as special topics may have a field or clinical component (two hours lecture plus three hours lab). These will be further defined within the particular course. Prerequisite: permission of instructor.

NUR 661 Nursing Staff Development (2). An identification and analysis of the roles and responsibilities of nursing staff development in healthcare settings. The student will develop a mentor relationship with an experienced staff development nurse to work on a designated and/or self-designed project during practicum.

NUR 662 Instruction Design for Active Learning (2). An identification and analysis of the tools and techniques used to design meaningful learning experiences for nursing education. The student will develop an understanding of educational paradigms consistent with active learning in order to assist in the design of teaching strategies that produce desired student outcomes.

NUR 663 Instructional Technology Nurse Education (2). An identification and analysis of the tools and techniques used for teaching with technology. The student will develop an understanding of the educational paradigms consistent with distance education and interactive technology in order to assist in the design and/or evaluation of a variety of learning media.

NUR 664 Legal/Ethical Issues (2). An identification and analysis of the legal and ethical issues facing nurse educators. It provides students with the tools necessary to apply legal and ethical theories to decision-making within the scope of practice as nurse educators in institutional, clinical, community, and cross-cultural settings.

NUR 665 Multicultural Issues (2). An identification and analysis of the multicultural issues relevant to nursing education. The student will develop a mentor relationship with an individual who is culturally different than the student in order to understand the values of differentiation and inclusiveness in nursing education.

NUR 673 Pathophysiology in Advanced Nursing Practice (3). Course designed to provide an introduction to pathophysiology with applications for advanced registered nursing (ARNP) practice. Prerequisite: admission to graduate nursing program.

NUR 680 Independent Study (1-3). Prerequisite: permission of instructor.

NUR 698 Thesis (3).

NUR 699 Thesis (3).

NUR 900 Philosophy of Science (3). History and philosophy of science studied within context of Western philosophical systems and epistemology. Emphasis is on ways of knowing and way of thinking as they relate to the advancement of science and with relevance toward further development of the discipline of nursing.

NUR 901 Foundations of Advanced Nursing Practice (3). Explores the evolution of advanced practice nursing, initiatives for change and issues related to advanced practice on the health of society. Examines the different roles in-depth, the need for referral/collaboration between and among APN's. Compares ethical theories and implication for decision-making. Examines the existing and future roles for advanced practice in the United States and worldwide and their impact on health.

NUR 902 Ethics in Nursing (2). This course traces the development of select moral concepts and values relevant for health care professionals: informed consent, conflict of interest, existential advocacy, confidentiality, accountability, care, competence, power, relationships, marginalization and vulnerability. Theories, concepts, methods, and research central to ethical professional role formation are examined. Ethical reasoning skills necessary for maintaining moral accountability in practice are developed. Models of independent, collaborative, and multidisciplinary practice for professional role acquisition are explored.

NUR 903 Principles of Epidemiology (3). Introduction to the basic principles and method of epidemiology. Topics covered include the historical perspective of epidemiology, measures of disease occurrence and of association, clinical epidemiology, disease screening, causal inference, and study design. Prerequisite: STA 660.

NUR 904 Informatics and Patient Care Technology (2). This course explores the use of information systems and patient care technology to support and improve patient care and provide leadership within healthcare systems and/or academic settings. The focus of this course is on the integration of informatics knowledge, skills, and attitudes to support culturally sensitive, evidence-based practice at a leadership level. Knowledge and skills related to information systems/technology and patient care technology, management of individual and aggregate level information, and assessment of the efficacy of patient care technology are emphasized. Prerequisites: NUR 682, NUR 683, STA 660.

NUR 905 Health Care Policy (3). Course focuses on health care policy, economics and finance and how they impact the health care of individuals and populations. Health policy proposals, health policies, and related issues from the perspective of consumers, nursing, other health care professions and other stakeholders will be critically analyzed. The conceptual basis and methods of financial analysis and decision making as they pertain to the healthcare delivery systems are analyzed. Health care economics, marketing principles, human resource management, and the influence of Healthy People 2010 and 2020 objectives that impact current healthcare environments are explored. Prerequisite: admission to the DNP program.

NUR 906 Leadership and Quality Improvement/Patient Safety (3). The focus of this course is organizational and systems leadership that emphasizes practice, improvement of health outcomes, and patient safety initiatives. Prerequisite: NUR 905.

NUR 907 Quality Improvement and Patient Safety (3). The focus of the course is to enhance the student's ability to critically analyze current healthcare delivery models and conceptualize new care delivery models to impact patient safety and outcomes. Building on political skills and systems thinking, students will design practice initiatives to minimize risks, reduce health disparities and improve healthcare outcomes. Prerequisite: NUR 905; Corequisite: NUR 906.

NUR 908 DNP Seminar (2). In this course, students will explore leadership in quality improvement, health policy and clinical practice. Using discussion, the seminar format will promote the synthesis of all factors that influence health

care and the role of Advanced Practice Nursing. Prerequisite: all required 900-level courses in the curriculum.

NUR 909 Capstone (3). This capstone course provides an experience for the student to demonstrate mastery of an advanced specialty, document the synthesis of prior course work and lays the groundwork for future scholarship via varied types of scholarly endeavors. Capstone projects primarily focus on the appraisal and translation of theory and evidence to practice. The actual appraisal and translational process itself is complex and involves many layers of consideration. The entire process entails a dynamic and interactive progression of phases. The connecting theme in the scholarly endeavor is the use of best practice evidence to improve either practice or patient outcomes.

NUR 910 Advanced Practice Clinical Residency (6). This practicum offers experience in integrating and synthesizing components of theory, practice and research in providing APRN care. Focus is on role development of the APRN in their specified population and foci of practice. Emphasis will be on integrating all previous course work and assimilating the APRN role and DNP core competencies in practice.

NUR 911 Clinical Residency I, II, III (3). Individualized practicum offers experience that will expand expertise and specialized knowledge in the selected systems-focused advanced nursing practice specialty role. This course may be repeated up to nine credit hours. Emphasis will be on integrating all previous coursework and assimilating the APRN role and DNP core competencies in practice. Prerequisite: admission into the post-master's to Doctor of Nursing Practice (DNP) program.

NUR 912 Capstone Residency (1). This capstone course guides the BSN-DNP student through capstone project from developing a clinical project to implementation and evaluation of the project. Clinical hours selected to move the project forward and integrate the DNP program outcomes will be included. The course will be repeated twice. Prerequisite: NUR 630.

NUR 920 Exacerbation of Chronic Health Problems (3). Course focuses on the essential characteristics and role development of the clinical nurse specialist (CNS) in theory-based practice and interrelationships among concepts, phenomena, human responses and nursing therapeutics for clients with acute exacerbations of chronic health problems across the lifespan. Values, beliefs, and attitudes about advanced nursing, health, and holism are explored. Prerequisites: NUR 603, NUR 673, NUR 641, NUR 901, and NUR 902; Corequisite: NUR 642.

NUR 921 Advanced Practice in Acute Care Setting (3). Course focuses on the essential characteristics and role development of the clinical nurse specialist (CNS) in adult health, theory-based practice and interrelationships among concepts, phenomena, human responses and nursing therapeutics. Values, beliefs, and attitudes about advanced nursing, health, and holism are explored. Prerequisite: NUR 920; Corequisite: NUR 922.

NUR 922 Advanced Practice in Critical Care (3). Course focuses on the essential characteristics and role development of the clinical nurse specialist (CNS) in theory-based practice and interrelationships among concepts, phenomena, human responses, and nursing therapeutics for clients across the lifespan with critical health problems. Values, beliefs, and attitudes about advanced nursing, health, and holism are explored. Prerequisite: NUR 920; Corequisite: NUR 921.

NUR 923 Advanced Acute Care for Pediatrics (3). Course focuses on the essential characteristics and role development of the clinical nurse specialist (CNS) in theory-based practice and interrelationships among concepts, phenomena, human responses and nursing therapeutics for pediatric clients needing acute care in various settings. Prerequisite: NUR 922; Corequisite NUR 924.

NUR 924 CNS Clinical Procedure and Diagnostics (3). Course is designed to provide the CNS students the foundation necessary for performing necessary procedures and the diagnosis and management of patients across the lifespan with acute illness and/or acute exacerbation of chronic illness. Emphasis is placed on patient care problems organized by systems in the context of the nursing process, the CNS spheres of influence and advanced standards of practice and professional performance. Prerequisite: NUR 922; Corequisite: NUR 923.

NUR 925 Advanced Practice in Emergency Care (3). Course focuses on the essential characteristics and role development of the clinical nurse specialist (CNS) in theory-based practice and interrelationships among concepts, phenomena, human responses, and nursing therapeutics for clients needing emergency care in various settings. Prerequisites: NUR 923 and 924.

NUR 926 Acute Care Intensivist Practicum (5). Course provides the experience necessary to help the student apply the knowledge required to develop sound clinical judgment and identify appropriate diagnostic and therapeutic interventions to manage acute illness across the lifespan in an acute care setting. The focus ranges from health and disease prevention to diagnosis and management of selected common acute and exacerbation of chronic problems that require hospitalization. Prerequisite: NUR 925.

NUR 929 Introduction to Primary Care (4). Introduction to the practice of primary care to families and individuals across the lifespan. Emphasis is on the beginning development of a knowledge base necessary for clinical decision-making and the beginning refinements of a model of practice with the individual or family as the unit of service. Prerequisites: NUR 603 and 641.

NUR 930 Foundations of Family Nursing (3). Course will provide an in-depth study of concepts, theories, research, issues, trends, and public policy relevant to family health. It is designed to help the student develop the knowledge necessary to become a specialist in family nursing in the primary and specialty care setting and the community. Emphasis will be placed on developing a theoretical basis for intervention with families through direct care and facilitation family decision-making and self care. Prerequisites: NUR 603, NUR 605, and NUR 641.

NUR 931 Primary Care of the Family I (3). This is the first of a two course sequence designed to provide advanced knowledge of acute and chronic health problems of individuals and families of various age groups in rural settings. Emphasis is on the beginning development of a knowledge base necessary for clinical decision-making and the beginning refinements of a model of practice with the family as the unit of service. Prerequisite: NUR 930; Corequisite: NUR 932.

NUR 932 Primary Care of the Family Clinical I (3). This is the first in a series of clinical courses preparing the student to provide health care to families with an emphasis on rural settings. This clinical course is designed to integrate the nursing process learned in the basic baccalaureate program with the theory and practice necessary for the family nurse practitioner to provide primary health care for individuals across the lifespan. Course provides the experience necessary to help the student apply the knowledge required to develop sound clinical judgment and identify appropriate diagnostic and therapeutic interventions to manage illness and promote the health of individuals and families. The focus ranged from health and disease prevention to diagnosis and management of selected common acute and chronic problems. Corequisite: NUR 931.

NUR 933 Primary Care of the Family II (3). This is the second of a two course sequence designed to provide advanced knowledge of acute and chronic health problems of individuals and families of various age groups in rural settings. Emphasis is on the beginning development of a knowledge base necessary for clinical decision-making and the beginning refinements of a model of practice with the family as the unit of service. Prerequisites: NUR 931 and 932; Corequisite: NUR 934.

NUR 934 Primary Care of the Family Clinical II (3). This is the second in a series of advanced practice nursing clinical courses focusing on the development of the advanced practice knowledge and skills required to provide primary care services to families, particularly those in rural settings. Emphasis is on the continuing development and use of a knowledge base necessary for clinical decision making with the family as the unit of service. Corequisite: NUR 933.

NUR 935 FNP Clinical Procedures and Diagnostics (3). A theory and clinical procedures course designed to provide family practice advance practice nurses the skills and procedures necessary for the clinical management of selected clients. Prerequisites: NUR 933 and 934.

NUR 936 Advanced Primary Care Nursing Practicum (5). This practicum course focuses on the use of clinical and analytical skills in evaluating the links among practice, organizational, population, fiscal and policy issues in primary care

nursing. From within this broad framework, the student will choose a focus of study that will involve the advanced practice nurse role, common clinical issues and implementation of care standards in the practice of primary care nursing. This course builds on the student's preparation as family nurse practitioner. Prerequisite: NUR 935.

NUR 937 Primary Care III (4). This is the third of three course sequence designed to provide advanced knowledge of acute and chronic health problems of individuals and families of various age groups in rural settings. Emphasis is on the continued development of the knowledge base necessary for clinical decision-making and refining a model of practice with the individual or the family as a unit of service.

NUR 940 Introduction to Principles and Practice Nurse Anesthesia (3). A combined theory/practicum course which introduces the students to principles and practice of nurse anesthesia. This course will include concepts necessary to plan, implement, and evaluate an individualized anesthetic. Prerequisite: admission to the nursing graduate program.

NUR 941 Basic Principles and Practice of Nurse Anesthesia (3). This is the first of three combined theory/practicum courses designed to develop an in-depth understanding of anesthesia principles as they apply to normal and pathologic conditions. Corequisite: NUR 942. Prerequisite: NUR 940.

NUR 942 Physiology and Anesthetic Implications I (3). This is the first of two courses designed to develop an in-depth understanding of normal and pathologic physiology as it applies to anesthesia. Corequisite: NUR 941. Prerequisite: NUR 940.

NUR 943 Principles and Practice of Nurse Anesthesia for Special Populations (3). This is the second of three combined theory/practicum courses designed to develop, examine, and apply principles and practice of nurse anesthesia for special populations. Prerequisites: NUR 941 and 942.

NUR 944 Advanced Pharmacology Nurse Anesthesia (3). This course is designed to provide and in-depth understanding of the general principles of pharmacodynamics and the administration of drugs used in the practice of anesthesia. Prerequisite: NUR 642.

NUR 945 Physiology and Anesthetic Implications II (3). This is the second of two courses designed develop an in-depth understanding of normal and pathologic physiology as it applies to anesthesia. Corequisite: NUR 947. Prerequisite: NUR 942.

NUR 946 Advanced Physiology and Anesthetic Application (5). This is a combined theory/practicum course designed to develop mastery in the application of physiological principles as they apply to normal, pathologic and clinical applications. Prerequisites: NUR 945 and 947.

NUR 947 Advanced Principles and Practice of Nurse Anesthesia (3). This is the third of three combined theory/practicum courses designed to develop, examine, and apply advanced principles and practice of nurse anesthesia in complex procedures. Corequisite: NUR 945. Prerequisite: NUR 943.

NUR 948 Senior Seminar I and II (2). Course is designed to provide a comprehensive review to prepare the student for certification completed over two consecutive semesters. Course will be taken twice. Prerequisite: NUR 947.

NUR 949 Clinical Residency for Nurse Anesthesia (6). This is a practicum course designed to develop mastery in application of physiological, pathophysiologic, and pharmacologic principals as they apply to complex anesthesia care. Prerequisites: NUR 945, 946, 947.

OCCUPATIONAL SAFETY AND HEALTH (OSH)

OSH 100T Transitions (1). Course is designed to assist students in their transition to Murray State University. Content includes orientation to the specific area or major(s) and minor(s) within the academic program; university procedures, policies, and resources; strategies for personal and academic success, and extracurricular opportunities. Only one transitions course will count toward graduation. Meetings with advisors, department personnel, service areas, and campus field trips comprise the main involvement. Availability of university resources is stressed with emphasis on personal needs. Graded pass/fail.

OSH 101 Emergency Medical Training (6). Designed to cover the overall role and responsibilities of the emergency medical technician -basic in performing both the emergency care and operational aspects of his/her job. Also covers diagnosis and all emergency treatment procedures short of those rendered by physicians. Successful completion of all required coursework and examinations will qualify the student to apply for state and national registry certification.

OSH 192 Introduction to Occupational Safety and Health (3). Development of accident-prevention and loss-control methods, procedures, and programs in industrial establishments; application of codes and safety-engineering and management principles.

OSH 201 Advanced Emergency Medical Technician Training (9). Course is required to apply for certification as an Advanced Emergency Medical Technician (AEMT). This course introduces the theory and application of concepts related to the profession of the AEMT. Prepares students to provide basic and limited advanced emergency medical care and transportation for critical and emergent patients who access the emergency medical system. Advanced Emergency Medical Technicians function as part of a comprehensive EMS response, under medical oversight. Advanced Emergency Medical Technicians perform interventions with the basic and advanced equipment typically found on an ambulance. The Advanced Emergency Medical Technician is a link from the scene to the emergency health care system. Successful completion of the program allows the successful AEMT course participant to take the National Registry of Emergency Medical Technicians AEMT certification examination and apply for state licensure as an AEMT.

OSH 299 Professional Development Seminar I (1). Seminar for students in occupational safety and health, focusing on the job search process, employment opportunities, interviewing techniques and related problems. Introductory-level course recommended for students preparing for their first internship, generally in the sophomore or junior year. Graded pass/fail.

OSH 301 Product Liability (3). An examination of the problems and current practices in both industry and government pertaining to the design, production, testing and economic consideration of product hazards. Attention will be given to the impact of design deficiencies on the public and the liability involved. Prerequisite: ITD 120.

OSH 310 Fire and Emergency Preparedness Preplanning (3). Analysis of the historical perspective of fire science and examination of the various fields of study that make up the fire science curriculum. Fire control through building construction, occupancy, occupancy hazard control, life-saving tactics and knowledge. Control of flammable gases, solids, liquids, dusts, chemicals and explosives. In addition, the course is designed to develop an awareness and comprehension of the disasters known to modern man, including a detailed description of their characteristics and physical destructive potential, and to develop student awareness of all agency, public and individual responsibilities prior to, during and after the occurrence of any type of disaster. Prerequisites: OSH 192.

OSH 311 Hazardous Materials and Emergency Planning (3). This course is designed to develop an awareness and comprehension of disaster response programs, operations and responsibilities emphasizing the transportation, storage and handling of hazardous materials. Prerequisites: OSH 192 and CHE 105 pre- or corequisite.

OSH 320 Environmental and Occupational Health Engineering Technology (3). An environmental overview course that examines scientific causes and engineering solutions to water and air pollution problems. Focus is on adverse effects, generation sources, scientific principles, and EPA engineering control strategies. Solid and hazardous waste disposal methods are also covered.

OSH 330 Global Issues in Occupational Safety and Health (3). Course is designed to introduce the student to international issues in Occupational Safety and Health. The primary focus is for students to understand how culture can affect perceived risk and ultimately risk assessment. Course will be conducted in destination country.

OSH 353 Prevention of Musculoskeletal Disorders in the Workplace (3). A course examining the occurrence and prevention of musculoskeletal disorders (MSDs) in the workplace. Emphasis is on recognizing and identifying MSD signs

and symptoms, contributing risk factors, control methods, training and prevention program development and implementation, and management issues.

OSH 370 Professional Internship I (3). Work experience or training in industry. Evaluation of work experience made by department. Graded pass/fail. Prerequisite: junior standing or permission of instructor.

OSH 371 Professional Internship II (3). Work experience or training in industry. Evaluation of experience made by department. Graded pass/fail. Prerequisite: junior standing or permission of instructor.

OSH 384 Construction Safety (3). Course will include management techniques necessary to address the unique needs of the construction workplace as contrasted to general industry, as well as a study of applicable standards and methods of recognition, avoidance and prevention of potential hazards.

OSH 387 OSHA Standards for General Industry and Construction (3). A study of OSHA regulations for general industry and construction, comparing parallel standards in 29 CFR 1910 and 29 CFR 1926. The course will cover topics addressed in the 10-hour OSHA outreach courses. "Best practices" related to mandatory standards will also be discussed. Students will learn how to create a coherent company safety manual that combines program management topics, mandatory standards and general good safety practices in a user-friendly format.

OSH 420 Fundamentals of Industrial Hygiene (3). An introduction to the field of industrial hygiene, including the chemical, physical, and biological agents which affect the health and safety of employees; the application of control measures for the various agents; study of threshold limit values and occupational health toxicology. Prerequisite: CHE 105.

OSH 425 Physical Agents (3). The study of physical agents including noise, radiation (ionizing and non-ionizing forms), abnormal atmospheric pressure, and heat and cold stresses in the workplace. Emphasis is given to properties, measurements, health effects and engineering controls recommended and practiced by OSHA.

OSH 445 Fundamentals of Loss Control (3). An analysis of actual or potential exposures to hazards and their resultant losses posed by agents, energy forms, forces, and substances in the workplace; measuring the loss exposures created by those hazards; and managing the appropriate counter measures to compensate for perils presented by those losses. Field experiences required. Prerequisites: OSH 192.

OSH 450 Practical Application Lab (2). Course designed to assist students in understanding the various instruments that are utilized in occupational safety and health (industrial hygiene, ergonomics, and environmental sciences) and give them the chance to fully understand the way these instruments are calibrated and applied as well as their advantages and disadvantages. Intended for students in their junior or senior year. Field experience required.

OSH 452 Systems Approach to Hazard Control (3). This course is designed to identify the broad spectrum of actual and potential hazards such as biological, mechanical, and human factors, involving product safety, system development, and the workplace and to apply a systems approach to their resolution. Includes such areas as product and preliminary hazard analysis, failure mode and effects analysis, and fault tree analysis. Prerequisite: junior standing.

OSH 453 Human Factors in Safety Engineering (3). An analysis of the man-machine relationship and the biological, physiological and psychological factors that contribute to accident causation; examination of theoretical and applied research findings.

OSH 488 Cooperative Education/Internship (1-3). A meaningful, planned, and evaluated work experience related to the career and educational objectives of the student for which he/she may receive academic credit and possible financial remuneration. May be repeated for a maximum of six hours from any 488/489 courses. Graded pass/fail. Prerequisite: permission of chair.

OSH 489 Cooperative Education/Internship (1-3). A meaningful, planned, and evaluated work experience related to the career and educational objectives of the student for which he/she may receive academic credit and possible

financial remuneration. May be repeated for a maximum of six hours from any 488/489 courses. Prerequisite: permission of chair.

OSH 499 Professional Development Seminar II (1). Seminar for students in occupational safety and health, focusing on the transition to the world of work and related problems. Recommended for students in the senior year. Graded pass/fail. Prerequisite: OSH 299.

OSH 511 Hazardous Waste Site Operation (3). This course will train the student to become a hazardous materials specialist. The course will explore the various aspects of the hazardous waste site (especially Superfund Sites), including rights and responsibilities, hazard recognition and monitoring.

OSH 523 Occupational Diseases (3). Survey of occupational diseases covering routes of entry and modes of action. In particular, the pathogenicity, epidemiology and diagnosis of occupational diseases will be stressed as they relate to chemical, biological and radiological hazards, dermatoses, airway diseases, plant and wood hazards, chemical carcinogens, and pesticides.

OSH 527 Air Contaminants and Industrial Ventilation (3). A course examining air contaminant problems, gas calculations, and industrial ventilation. This course covers the EPA laws and regulations, and the scientific principles and controls of classical air pollution problems. It also focuses on the engineering evaluation and design of industrial ventilation systems. Prerequisite: OSH 420 (pre- or corequisite) or permission of instructor.

OSH 536 Motor Fleet Safety (3). A basic introduction to problems and practices of motor fleet safety programming with emphasis on regulatory requirements.

OSH 546 Fundamentals of Risk Control (3). An analysis of risk control as a component of risk management, the systematic process of managing an organization's risk exposures to achieve its business objectives in a manner consistent with public interest, human safety, environmental factors, and the law. Risk control consists of the administrative, procedural and engineering activities undertaken with the intent of preventing accidental or unplanned loss consistent with the organization's overall risk management plan.

OSH 550 Safety and Health Program Management and Training (3). The concepts, relationships and principles of managing the occupational safety and health function and the development of training procedures and practices to integrate that function into the organization. Prerequisite: senior standing.

OSH 571 Problems in Safety and Health (3). Course will explore the problems encountered by safety professionals and the opportunities and challenges they present. Prerequisite: OSH 488.

OSH 578 Workshop in Safety and Health (1-3). Individual study on topics pertinent to industry and technology. May be repeated once for a maximum of six credit hours. Prerequisites: approval of problem before registering for course and junior standing.

OSH 591 Engineering and Technical Aspects of Safety (3). A study of the properties and applications of industrial materials, manufacturing processes, engineering graphics, electricity, materials testing, selected plant facilities and other aspects of the work environment. Emphasis is placed on the application of this information to safety practices, hazard mitigation and loss control. Prerequisites: OSH 192, 353, and OSH 452 (pre- or corequisite).

OSH 621 Industrial Hygiene and Safety Program Development (3). Advanced, in-depth study of harmful chemical, biological, and physical agents found in the workplace. Emphasis is on analytical methods, control measures, monitoring and surveillance techniques, and developing and writing a comprehensive industrial hygiene or safety program. Prerequisite: OSH 420.

OSH 622 Toxicology of Industrial Materials (3). A study of the environmental and occupational health effects and hazards associated with the exposure to industrial chemicals and contaminants. Emphasis is given to laboratory animal and statistical risk toxicological studies and case histories, compliance testing, and engineering controls. Prerequisite: OSH 420.

OSH 623 Occupational Diseases (3). Survey of occupational diseases covering routes of entry and modes of action. In particular, the pathogenicity, epidemiology and diagnosis of occupational diseases will be stressed as they relate to chemical, biological and radiological hazards, dermatoses, airway diseases, plant and wood hazards, chemical carcinogens, and pesticides.

OSH 626 Industrial Hygiene Sampling Strategies (3). Advanced in-depth study of the approaches to workplace sampling. Emphasis is on statistical sampling methods, passive monitoring, colorimetric devices, breathing zone, and area sampling strategies. Course work will include laboratory exercises and field experience. Prerequisites: OSH 420 and PHY 125.

OSH 627 Air Contaminants and Industrial Ventilation (3). A course examining air contaminant problems, gas calculations, and industrial ventilation. This course covers the EPA laws and regulations, and the scientific principles and controls of classical air pollution problems. It also focuses on the engineering evaluation and design of industrial ventilation systems. Prerequisite: OSH 420 (pre- or corequisite) or permission of instructor.

OSH 630 Global Issues in Occupational Safety and Health (3). Course is designed to introduce the student to international issues in Occupational Safety and Health. The primary focus is for students to understand how culture can affect perceived risk and ultimately risk assessment. Course will be conducted in destination country.

OSH 636 Transportation Safety (3). An introduction to problems and practices of transportation safety-related issues including a review of regulatory compliance.

OSH 637 Biostatistics and Probability (3). The study and application of biostatistics and probability distributions in environmental and health-related sampling. Emphasis is given to hypothesis testing and graphical determination of confidence intervals. This course will also cover the use and application of log scales and their application in log-normal distributions. Prerequisite: PSY 300 or STA 135 or permission of instructor.

OSH 640 Safety and Health Program Management and Training (3). The concepts, relationships and principles of managing the occupational safety and health function and the development of training procedures and practices to integrate that function into the organization.

OSH 644 Graduate Cooperative Education (3). May be repeated for a maximum of six credits. Prerequisite: permission of chair. Graded pass/fail.

OSH 645 Loss Control Measurement and Management (3). An analysis of actual or potential exposures to hazards and their resultant losses posed by agents, energy forms, forces and substances in the workplace; measuring the loss exposures created by those hazards; and managing the appropriate counter-measuring to compensate for perils presented by those losses. Prerequisites: OSH 192.

OSH 646 Fundamentals of Risk Control (3). An analysis of risk control as a component of risk management, the systematic process of managing an organization's risk exposures to achieve its business objectives in a manner consistent with public interest, human safety, environmental factors, and the law. Risk control consists of the administrative, procedural and engineering activities undertaken with the intent of preventing accidental or unplanned loss consistent with the organization's overall risk management plan.

OSH 650 OSH Organizational Leadership and Management (3). An overview of the safety and health leader's role in accomplishing organizational objectives emphasizing leadership and management. Concepts covered include safety and health-related leadership issues, implementation of codes and standards, integration of leadership with safety engineering and management principles as well as leadership skills including communication, motivation, initiating change, team building, delegation, and credibility.

OSH 654 Advanced Safety and Health Management and Administration (3). Examination of past and current philosophical beliefs, practices and approaches to controlling safety and health hazards, risks exposure, accidents and loss.

OSH 655 Legal Aspects of Safety and Health (3). An analysis of legislation, liability and litigation in safety and health.

OSH 656 Ergonomics and Biomechanics (3). This course is concerned with the health, behavioral and technical sciences and their role in the reduction of worker stress. These factors are thus related to the neuro-muscular and skeletal systems and the mechanics involved in efficient workplace design. Prerequisite: OSH 353 or 453.

OSH 657 Current Literature and Research in Safety and Health (3). Survey of current literature and research in safety and health, including accident causation and prevention, hazard abatement, risk management, and loss control.

OSH 658 Introduction to Occupational Epidemiology (3). This course will give the students an overview of biostatistics which relate to occupational field investigations, including rates, ratios and proportions, charts, tables and graphs; the 2x2 table; measures of central tendency; and significance testing. Basic principles of epidemiology necessary to understand scientific literature, monitor data in industry, and/or to conduct scientific investigations or surveillance activities will be taught. The major types of epidemiologic study (cohort, case referent and cross-sectional) will be described. Students will learn how to calculate rate ratios, odds ratio and attributable risk. Epidemiologic principles of reliability, validity, bias, screening, and surveillance will be discussed.

OSH 663 Applied Workplace Ergonomics (3). This course is designed to provide the student the opportunity to apply the principles of ergonomics to the work environment. It is intended to offer students practical experience in applying ergonomics through the development of an industrial case study. Prerequisite: 656.

OSH 670 Internship in Safety and Health (3). Supervised work experience in safety and health-related operations focusing on the career objectives and educational objectives of the student. Evaluation of the experience made by the department. Graded pass/fail. Prerequisite: permission of chair.

OSH 671 Problems in Safety and Health (1-3). Individual study and research relating to safety and health. Prerequisite: approval of problem before registering for course.

OSH 680 Graduate Seminar in Occupational Safety and Health (3). This course involves on-site analysis of safety and health programs of area industries. Students are exposed to a variety of industrial settings and have the opportunity to interact with practicing safety and health professionals. Extensive weekly travel is required. Students also organize and present a seminar related to occupational safety and health.

OSH 687 Wastewater Treatment (3). A study of the operation and process design of wastewater treatment systems. This course focuses on aerobic biological treatment and process control for the activated sludge system. Topics will include treatment evaluations, trouble shooting, system design, and operational control strategies. Prerequisite: OSH 320 or permission of instructor.

OSH 689 Solid and Hazardous Waste Treatment (3). A study of the engineering related principles and practices utilized in the solid and hazardous waste treatment and disposal field. Topics include sludge treatment and dewatering, RCRA hazardous waste regulations, waste minimization, incineration, landfills, and groundwater monitoring and modeling. Prerequisite: OSH 320 or permission of instructor.

OSH 697 Research in Environmental Health and Safety (3). Designed to address issues and problems related to the environment and to scientifically reach solutions to existing and potential problems and hazards that threaten the health and safety in any industrial/environmental setting.

OSH 698 Thesis (3).

OSH 699 Thesis (3).

OFFICE SYSTEMS (OSY)

OSY 101 Keyboarding (1). Development of basic touch keyboarding skills for computer or typewriter use.

OSY 140 Beginning Word Processing (1). A course to provide a basic understanding of fundamental word processing concepts. The students will receive

hands-on instruction in the use of microcomputer word processing applications packages and have access to a microcomputer laboratory.

OSY 141 Beginning Spreadsheets (1). A course to provide a basic understanding of fundamental spreadsheet concepts. The student will receive hands-on instruction in the use of microcomputer spreadsheet applications packages and have access to a microcomputer laboratory.

OSY 210 Word Processing (3). This course builds on basic keyboarding techniques. The development of occupation-level formatting/production skills is stressed. Prerequisite: keyboarding and microcomputer skill.

OCCUPATIONAL THERAPY (OTR)

OTR 600 Occupational Therapy Foundations I (3). Course is the first of a two course series that covers the basic historical and theoretical foundations of the occupational therapy profession. This course will develop understanding of the philosophy and domain of occupational therapy practice. It will focus on the components of the Occupational Therapy Practice Framework. Prerequisite: admission to the MSOT program or consent of program director.

OTR 603 Occupational Therapy Functional Anatomy (3). Course will provide the student with a detailed understanding of anatomy, physiological processes, and kinesiological assessment related to occupational function. The focus will be on the study of human anatomy and its application to the motion of the musculoskeletal system as it relates to normal activities and dysfunctions. Prerequisite: admission to the MSOT program or consent of the program director.

OTR 606 Occupational Therapy Evaluation Techniques (3). Course will provide an introduction to principles of tests, measurement, and outcomes-based assessment relevant to the practice of occupational therapy. It will include assessment processes and procedures, statistical methods, and test selection and interpretation. Assessment instruments will be introduced including, but not limited to, screening tools, skilled observation, checklists, histories, interviews with the client/family/significant others, and standardized and non-standardized tests and batteries. Using the ICF as an overarching framework, the evaluation process will yield information about the individual's level of function, activity and participation. Students will critique various measurement tools to determine the level of evidence available to support clinical usage. Prerequisite: admission to the MSOT program or consent of the program director.

OTR 610 Occupational Therapy Disease and Performance (3). Course will provide students with an understanding of pathology and general health management of diseases and injuries across the lifespan encountered in a variety of occupational therapy treatment settings. It includes the etiology, symptoms, and the client's physical and psychological reactions to disease and injury. Prerequisite: admission to the MSOT program or consent of the program director.

OTR 613 Occupational Science (2). Course introduces the history and philosophy behind the discipline of occupational science. Students will explore the application of occupational analysis in relation to activities of daily living, work, play, leisure, and social participation. Prerequisite: admission to the MSOT program or consent of the program director.

OTR 620 Occupational Therapy Foundations II (3). Course is the second of a two-course series that covers the basic historical and theoretical foundations of the occupational therapy profession. This course will develop understanding of application of the Occupational Therapy Practice Framework. It will culminate an understanding of the roles and responsibilities of occupational therapists related to other rehabilitation professionals and referral sources. Prerequisite: OTR 600.

OTR 623 Occupational Therapy Culture and Context (1). Course will identify the various roles and functions that impact occupational performance as they related to occupation, health, and culture. It will promote the understanding of how culture influences those roles and the importance of understanding culture to promote health and wellness for various populations. Students will examine the context of local and regional environments and the impact of home, work, and community systems. Prerequisite: OTR 610.

OTR 626 Occupational Development (3). Course is designed to examine occupational development across the lifespan. The course will examine the developmental stages for sensory, motor, cognitive, emotional, and psychosocial development, and its implications for occupational performance. Prerequisite: OTR 613.

OTR 630 Occupational Therapy Biomechanical Evaluation and Interventions (3). This course will focus on the occupational therapy process of evaluating and treating clients with biomechanical impairments that limit the ability to participate in occupations. Theories, principles, assessments, and interventions focus on skills essential for performance of activities and routines of daily living, thus reducing or alleviating aspects of disease that impede client participation. Prerequisites: OTR 603 and 606.

OTR 635 Occupational Therapy Neuroscience (3). Course is an introduction to neuroscience related to occupational performance. Students will explore various aspects of neuropathology and neuroplasticity and be exposed to various intervention approaches. Prerequisite: OTR 603.

OTR 640 Clinical Practicum I (1). This is the first of three practicums that make up Level I Fieldwork. The clinical practicum is designed to afford students the opportunity for hands-on assessment, evaluation, treatment planning, intervention and documentation in a traditional setting for occupational therapy. Prerequisite: OTR 600.

OTR 643 Occupational Therapy Neurological Evaluation and Interventions (3). Course introduces students to clinical theories and techniques of assessment and intervention used to remediate or compensate for occupational dysfunction resulting from neurological deficits. Prerequisite: OTR 635.

OTR 646 Administration and Management of Therapy Services (3). Course is an introduction to the health care delivery system from an administrative and management perspective. Emphasis will be placed on reimbursement, program evaluation, outcome measurement, strategic planning, and entrepreneurship for practice. Prerequisite: OTR 620.

OTR 650 Occupational Therapy Media and Modalities I (3). This is the first of two courses that will focus on occupational therapy strategies used to promote performance and compensation of participation in activities of daily living. The course will emphasize specific treatment media and modalities in clinical practice that will challenge students to identify how occupational-based activities are essential to returning the patient to occupational performance. This course will also provide education in orthotic use and fabrication to assist in the compensation and protection due to disease and disability. Prerequisite: OTR 600.

OTR 653 Pediatric Evaluation and Interventions (3). Course will focus on evaluation and interventions for children from birth to adult to overcome issues related to developmental delays. The course will examine stages of feeding, play, social development, sensory integration, and self-help skills. Prerequisite: OTR 630.

OTR 655 Clinical Practicum II (1). This is the second of three practicums that make up Level I fieldwork. The clinical practicum is designed to afford students the opportunity for hands-on assessment, evaluation, treatment planning, intervention, and document in a setting that is focused on the provision of occupational therapy services for pediatric and developmentally delayed populations. Prerequisite: OTR 640.

OTR 660 Occupational Therapy Evidence-Based Practice (3). Course introduces the student to the concept of evidence-based practice and how to use evidence to make sound practice decisions. Students will also learn the principles of research and how to critically examine current research. Prerequisite: OTR 653.

OTR 663 Psychosocial Evaluation and Interventions (3). Course will focus on the occupational therapy process for clients with psychosocial issues. It will address evaluation, planning and interventions for mental health issues that impact occupational performance deficits across the lifespan. Prerequisite: OTR 643.

OTR 665 Occupational Therapy Media and Modalities II (3). This is the second of two courses that will focus on occupational therapy strategies used to promote performance and compensation of participation in activities of daily living. The course will emphasize specific treatment media and modalities in clinical practice that will challenge students to identify how occupational-based activities are essential to returning the patient to occupational performance. This course will also provide education in physical agent modalities and the use of assistive technology. Prerequisite: OTR 650.

OTR 667 Community-Based Practice (3). Supervised experience in adult rehabilitation occupational-therapy-related settings. Experience may focus on specific areas of teaching, consultation, program development, or direct service. This course is one of 3 clinical practicum courses that make up Level I Fieldwork Experiences. Prerequisite: OTR 646.

OTR 670 Clinical Practicum III (1). This is the third of three practicums that make up Level I Fieldwork. The clinical practicum is designed to afford students the opportunity for hands-on assessment, evaluation, treatment planning, intervention, and documentation in a setting that is focused on the provision of services for the psychosocial and community health populations. Prerequisite: OTR 655.

OTR 672 Level 2 Fieldwork I (6). This course is identified as Level II Fieldwork according to Accreditation Council for Occupational Therapy Education (ACOTE) guidelines. The Level II Fieldwork experience is the culmination of all previously learned material in academic courses and Level I fieldwork. It is divided into two separate experiences that are a full time 5 days a week for a minimum of 14 weeks experience each. Students will be provided with the opportunity to directly apply OT concepts and skills of a practicing therapist. The goal is to develop competent, entry-level, generalist occupational therapists. Each fieldwork course must be successfully completed within 18 months of didactic coursework for the program. The Level II Fieldwork clinical experience emphasizes the attainment of entry level competencies as an occupational therapist. Students will be assigned to and supervised by a certified Occupational Therapist or certified Occupational Therapist Assistant with a minimum of one year experience at the practice setting. Prerequisite: OTR 670. Co-requisite: OTR 674.

OTR 674 Clinical Research I (3). This course is designed to contribute to generalized knowledge of occupational therapy practice by providing students opportunities in investigation, research development, testing and evaluation. In this first course, the student will review the literature and begin to develop a plan and format of which they can pursue answering a clinical question. Prerequisite: Successful completion of all MS OT didactic course work. Co-requisite: OTR 672.

OTR 676 Level 2 Fieldwork II (6). This course is identified as Level II Fieldwork according to Accreditation Council for Occupational Therapy Education (ACOTE) guidelines. The Level II Fieldwork experience is the culmination of all previously learned material in academic courses and Level I fieldwork. It is divided into two separate experiences that are a full time 5 days a week for a minimum of 14 weeks experience each. Students will be provided with the opportunity to directly apply OT concepts and skills of a practicing therapist. The goal is to develop competent, entry-level, generalist occupational therapists. Each fieldwork course must be successfully completed within 18 months of didactic coursework for the program. The Level II Fieldwork clinical experience emphasizes attainment of entry level competencies as an occupational therapist. Students will be assigned to and supervised by a certified Occupational Therapist or certified Occupational Therapist Assistant with a minimum of one year experience at the practice setting. Prerequisite: OTR 672. Co-requisite: OTR 678.

OTR 678 Clinical Research II (3). This course is designed to contribute to generalized knowledge of occupational therapy practice by providing students opportunities in investigation, research development, testing and evaluation. In this second course, the student will refine their research question that was developed in Clinical Research I, collect and analyze data and formulate conclusion that impacts practice. Students will also be required to present their research project to faculty, peer and/or at state/national conference. Prerequisite: OTR 674. Co-requisite: OTR 676.

PHYSICAL EDUCATION**(PHE)**

PHE 200 Health Implications for HPE Professionals (3). Course is designed to cover health-related issues that are encountered by physical education/health teachers which include, but are not limited to: disease transmission, effective communication, illegal, prescription, and over-the-counter drug abuse, and misuse, as well as the abuse of alcohol consumption; eating disorders; risk management/liability issues associated with K-12 athletes; head injuries; performance enhancing drugs; and mental health. Prerequisite: permission of program coordinator.

PHE 205 Lifetime Activities (3). At least four of the following sports will be taught: fitness, golf, tennis, bowling, badminton, archery and outdoor leisure activities. Prerequisite: permission of program coordinator.

PHE 206 Team Sports (3). To provide the prospective physical education teacher with information and skill related to at least four team sports.

PHE 285 Football and Basketball Officiating (2). Football and basketball rules and theories of officiating.

PHE 289 Officiating Soccer (1). Course is intended to prepare students for a role as a certified soccer official. Certification is optional. The student will learn the laws of the game of soccer through a United States Soccer Federation certified instructor. The format of the class will be lecture and class participation. Each class will last four hours for four nights, one night per week.

PHE 304 Adapted Physical Education (3). Designed to develop understanding, knowledge and skills that encompass the theory and practice in physical education programs for special populations. Field experience required. Prerequisites: HPE 175, junior or senior standing, or permission of program coordinator.

PHE 306 Dance and Gymnastics (3). The course is designed to provide the prospective physical education teacher with the skills necessary to teach dance and gymnastics at the elementary and secondary school level.

PHE 310 Fundamentals of Athletic Coaching (2). Course is designed to introduce prospective athletic coaches and physical education teachers to the theory and applied practice of athletic coaching.

PHE 312 Coaching Football I (2). Course will present the technique and strategy in the various styles of offense and defense. Laboratory experience will be provided.

PHE 314 Coaching Basketball I (2). The various systems of defense and offense in basketball will be discussed and demonstrated. Laboratory experience will be provided.

PHE 316 Coaching Baseball I (2). The strategy and fundamentals of baseball will be discussed and demonstrated. Laboratory experience will be provided.

PHE 318 Coaching Track and Field I (2). The basic fundamentals of track and field will be presented and demonstrated. Laboratory experience will be provided.

PHE 319 Coaching Soccer (2). This course is designed to introduce basic soccer coaching techniques. During the class students will learn various soccer practice drills, conditioning, and ball handling techniques through actual practice and lecture material. Students will have the opportunity to compare and contrast various styles of soccer, e.g. European, South American and American styles. This class will be taught once a week for two hours.

PHE 330 Movement Concepts and Skill Themes (3). This course is designed for future physical education teachers. This course focuses primarily on “what” to teach in the elementary school and not “how” to teach. This class focuses on understanding quality physical education that is developmentally appropriate for children. Emphasis is on the skill theme curriculum focusing on movement concepts, generic levels of skill proficiency, and skill themes. Some basic motor development, applied scientific principles for movement, and fundamental health and fitness concepts are also included in the content. Prerequisite: HPE 175.

PHE 375 Movement Analysis for Physical Educators (4). This course is designed to develop physical activity analysis skills in preservice physical education teachers utilizing the basic principles of physics, biomechanics, and applied kinesiology. Topics include skeletal, muscular, and nervous system anatomy; basic principles of physics and motion; and teaching principles involved in movement analysis. Three hours lecture plus two hours laboratory per week.

PHE 400 Teaching Physical Education in the Elementary Schools (3). Investigation, appraisal and practice of methods, techniques, and materials for development of motor skill learning in the elementary school child. Prerequisite: EDU 303 or PHE 304.

PHE 405 Physiology of Exercise and Fitness (3). Concepts of physiology as applied to exercise and fitness directed toward the needs of physical education teachers. Prerequisites: HPE 175, all University Studies math/science requirements, and senior standing; or permission of instructor.

PHE 414 Coaching Basketball II (2). An in-depth study of basketball strategy and team play, involving such areas as the fast break, team offense, team defense, presses, and special situations. Also, various teaching, communication, and motivational techniques. PHE 314 is recommended.

PHE 416 Coaching Baseball II (2). A review of baseball fundamentals, strategies, theories of coaching, scouting and the intricacies of offensive and defense play will be stressed. PHE 316 is recommended.

PHE 459 Teaching Adolescent Physical Education (3). Introduces a number of teaching methods and techniques appropriate to middle and secondary physical education. Prerequisite: HPE 175.

PHE 475 Policy and Professional Practice in Athletic Settings (3). A study of legal issues associated with athletic settings, such as tort liability, individual rights, contracts, and federal or state regulations. Risk management and related best practices will be emphasized. Prerequisite: HPE 175 with a C or higher.

PHILOSOPHY**(PHI)**

PHI 100T Transitions (1). Course is designed to assist students in their transition to Murray State University. Content includes orientation to the specific area or major(s) and minor(s) within the academic program; university procedures, policies, and resources; strategies for personal and academic success, and extracurricular opportunities. Only one transitions course will count toward graduation. Graded pass/fail.

PHI 103 Critical Thinking (3). Course provides an introduction to reasoning in everyday life. It focuses on recognizing and evaluating arguments in advertising, news, politics, and ordinary conversation. Students will learn how to recognize and avoid informal fallacies and other common errors in reasoning, including use of statistics and misuse of data or incomplete information.

PHI 142 Philosophy-The Big Questions (3). Course will investigate the ways in which philosophers have examined the big questions such as the following: What is a good life? Are there universal truths? Are values absolute or relative? Why am I here? Does life have a purpose? Why do we suffer? Does God exist? What are my responsibilities to others? Who am I? What is consciousness?

PHI 184 Logic, Language, and Truth (3). An introductory course in truth-functional and predicate logic, philosophy of language, and theories of truth. Students will be introduced to the concepts and methods made use of in formal reasoning, with emphasis on deduction and rules of inference. Students will also be introduced to theories of meaning and of truth. Logic games are included.

PHI 201 Introduction to Philosophy (3). An introduction to fundamental questions in philosophy about self-knowledge, moral decision-making, knowledge about the world and others, the limits of knowing, and the perennial search for meaning. Emphasis will be given to the evaluation of arguments, philosophical inquiry, and reflection on the nature of human existence.

PHI 202 Ethics (3). Introduction to classic and contemporary problems of personal and social morality and to the systems and methods proposed by philosophers, past and present, in response to questions of good and evil. PHI 202 will not fulfill the requirements of HON 212.

PHI 203 Symbolic Logic (3). A systematic study of the fundamentals of logic, focusing on the concepts and methods of contemporary logics systems, which will include learning proofs of reasoning using mechanical decision procedures such as truth tables and truth trees.

PHI 221 (321) Philosophy of Religion (3). A study of basic philosophical issues in the consideration of religion, such as the basis for religious belief, the nature of religion, the cogency of talk about God, the meaning of evil. (Same as RGS 321.)

PHI 257 (357) Feminist Philosophy (3). A survey course covering feminist theoretical perspectives and current themes in feminist research, such as the body and gender, ethics, epistemology, and how gender informs social life and political/ institutional frameworks.

PHI 304 History of Philosophy I: Ancient/Medieval (3). This course examines the birth of Western philosophy in Ancient Greece from its pre-Socratic origins, through Classical and Roman thought and extenuations within Judaic, Christian, and Islamic traditions, and ending with neo-Platonic thought and the medieval period. Prerequisite: any PHI course.

PHI 305 History of Philosophy II: Modern/19th Century (3). This course examines major figures and themes in the development of modern thought, focusing on the Rationalist and Empiricist traditions and the development of modern science, and ends with an examination of the emergence of Idealism and Romanticism in the 19th Century. Prerequisite: any PHI course.

PHI 307 Epistemology (3). A study of issues in knowledge and justification, which will include such topics as the nature of knowledge, skepticism, perception, theories of justification, and the structure of belief. Prerequisite: any PHI course.

PHI 308 Metaphysics (3). A study of the fundamental nature of reality, causation, the external world, free will and determinism, God, the mind-body problem, temporality, identity, substance and theories of possible worlds. Prerequisite: any PHI course.

PHI 310 American Philosophy (3). An examination of the philosophical traditions shaping American culture past and present that will include influences from the Puritan tradition, Slavery, and Native American narratives, and intellectual movements such as Transcendentalism, Pragmatism, and Neo-pragmatism. Prerequisite: any PHI course.

PHI 315 Social and Political Philosophy (3). A study of the theoretical foundations of political and social thought that include theories of the state, justice, and revolution. Philosophers whose work influences our understanding of justice, government, gender roles, work, and other political/ cultural institutions today will be examined.

PHI 322 Philosophy of History (3). A study of some of the basic philosophical theories of history as found in the writings of such thinkers as Augustine, Hegel, Marx, Spengler and Collingwood. Prerequisite: any PHI course.

PHI 325 Philosophy of Art (3). Study of historic and contemporary theories of art that will focus on questions such as what constitutes art, beauty, and artistic activity, and will also explore the role of institutions in relation to art and criticism.

PHI 330 Medical Ethics (3). Study of ethical questions related to availability of healthcare and duties of healthcare workers, patients' rights-including the right to die, and current topics. Prerequisites: ENG 105 or 150 or the equivalent.

PHI 340 Special Topics (1-3). A study of a philosophical subject chosen for its particular topical or thematic interest. Topics will vary. May be taken up to three times for credit with the permission of the program director. Prerequisite: any PHI course.

PHI 350 Philosophy of Science (3). Survey course introducing students to descriptions of scientific method and theory construction, which may include topics such as the relationship between theory confirmation, explanation, prediction, and discovery, as well as theories of change and scientific rationality.

PHI 356 Continental Philosophy (3). An introductory survey of philosophical trends in Europe from the end of the 19th Century to the present, which will focus on issues and thinker within the Existentialist and Phenomenological traditions, the new Marxism, structuralism, post-structuralism, and deconstruction. Prerequisite: any PHI course.

PHI 360 Literature and Philosophy (3). Interdisciplinary look at ways in which literature raises philosophical questions and also how philosophical writings articulate a relationship between philosophy and literature. Topics may include the role of imagination and emotion in reasoning, interpretation, rhetoric, and the role of literature in moral reasoning. (Same as ENG 360.)

PHI 372 Philosophy of Cognitive Science (3). A study of philosophical questions raised by advances in cognitive science, and psychology, including the possibility of a language of thought, mental imagery, reductive explanations of the mind and consciousness, artificial intelligence and connectionism, and the application of cognitive science to traditional philosophical questions. Prerequisite: any PHI course.

PHI 376 Environmental Ethics (3). Survey course exploring views of the relationship between human beings and the natural world will examine current questions in environmental studies regarding ethical and epistemological frameworks. Topics may include the Gaia hypothesis, ecofeminism, and deep ecology.

PHI 378 Teaching and Philosophy (3). An examination of the philosophical foundations of pedagogical approaches, this course will also consider ways philosophy might enrich elementary and secondary curriculum.

PHI 380 Philosophy of Language (3). A study of philosophical questions of meaning, truth and reference, including such topics as the nature of propositional attitudes, theories of meaning and reference, internalism and externalism, ordinary language philosophy, and theories of truth. Prerequisite: any PHI course.

PHI 382 Philosophy of Social Science (3). An examination of the structure and nature of the social sciences and their foundation in philosophy, this course will focus on the relationship between social theory/ criticism and practice, in view of social theory as practical knowledge. Prerequisite: any PHI course.

PHI 383 Philosophy of Diversity (3). An introduction to diverse philosophical perspectives in contemporary culture that will focus on issues of race, gender, class, sexual orientation, and identity, drawing from African American, Native American, gender studies, and feminist perspectives.

PHI 392 Professional Engagement (1). Practical course for philosophy majors. Each student will work 25 hours on a project or job that requires utilization of skills taught in philosophy courses. Graded pass/fail. Repeatable up to three hours. Prerequisites: junior or senior standing, PHI 201, and permission by instructor.

PHI 442 Business Ethics and Environments (3). This course involves a study of modern and classical approaches to both business and personal ethics as well as the other major components of the business environment: the political, international, ecological, social and cultural environments. Prerequisites: LST 240, MGT 350, FIN 330, MKT 360, and senior standing. (Same as BUS 442.)

PHI 498 Major Figures (3). An intensive study of a major philosophical thinker and/or thinkers, such philosophers as Plato, Aristotle, Kant, Hegel, Marx, Nietzsche, Heidegger, Wittgenstein, among other, whose spheres of influence have engendered broader philosophical movements. May be taken up to three times for credit, at the discretion of the program director. Prerequisites: PHI 201 and any 300-level PHI course or permission of instructor.

PHI 499 Senior Research Project (3). A research/writing course designed to develop proficiency in research in philosophy and in logical argumentation, culminating in a scholarly paper that will demonstrate these skills.

PHI 550 Directed Study (1-3). Readings or other study in advanced topics. This course may be repeated for credit.

PHI 640 Special Topics (3). An examination of a traditional or contemporary topic in philosophy. May be repeated for credit. Prerequisite: permission of philosophy program coordinator.

PHI 650 Directed Study (1-3). Supervised independent work in philosophy. May be taken more than once for credit. Prerequisite: permission of philosophy program coordinator.

PHI 657 Feminist Philosophy (3). An advanced survey covering feminist theoretical perspectives and current themes in feminist research, such as the body and gender, ethics, epistemology, and how gender informs social life and political/institutional frameworks.

PHYSICS AND ENGINEERING (PHY)

PHY 100T Transitions (1). Course is designed to assist students in their transition to Murray State University. Content includes orientation to the specific area or major(s) and minor(s) within the academic program; university procedures, policies, and resources; strategies for personal and academic success, and extracurricular opportunities. Only one transitions course will count toward graduation. Graded pass/fail. (Same as EGR 100T)

PHY 103 Physics of Sports (4). Fundamental principles involved in sports. This course considers the physical mechanisms that are involved in a variety of sports. This physics course is intended for non-physics major with a general interest in athletics and recreation. The lab provides students with tools and principles to analyze and measure the mechanics of motion and sports. Three hours of lecture and two hours in lab per week.

PHY 105 The Science of Sound (4). Fundamental principles of acoustics and wave motion. This course considers the generation, transmission and perception of sound and vibration with an emphasis on musical acoustics. The course provides an examination of the physics of vibration and wave motion. It is intended for non-physics majors with an interest in science, music, education, speech, hearing, and acoustical or recording engineering. The lab provides student experience with the tools and principles used in the analysis, production and perception of sound. Three hours of lecture and two hours of lab per week.

PHY 125 Brief Introductory Physics (4). Topics in introductory physics including mechanics, heat, wave motion, electricity, light, modern physics. Combination conceptual and quantitative approach with emphasis on applications not requiring vector analysis. A student may not receive credit for both PHY 125 and either PHY 130 or PHY 132. Four hours lecture per week. Prerequisite: MAT 140 or equivalent. Corequisite: PHY 126.

PHY 126 Brief Introductory Physics Lab (1). Laboratory to accompany PHY 125. Two hours laboratory per week. Corequisite: PHY 125.

PHY 130 General Physics I (3). Elementary mechanics, heat, and wave motion. Fundamental laws of nature, definitions, and physical measurements are stressed. Prerequisite: MAT 140 or equivalent. Corequisite: PHY 131.

PHY 131 General Physics I Laboratory (1). Laboratory to accompany PHY 130. Two hours laboratory per week. Corequisite: PHY 130.

PHY 132 General Physics II (3). Elementary electricity, magnetism, light, and modern physics. Prerequisite: PHY 130 or equivalent. Corequisite: PHY 133.

PHY 133 General Physics II Laboratory (1). Laboratory to accompany PHY 132. Two hours laboratory per week. Corequisite: PHY 132.

PHY 150 Light and Lasers in Action (4). A laboratory course in general physics intended for non-physics majors with an interest in scientific, medical, engineering or education-related fields. This course will use the visual appeal of light and lasers as vehicles for the introduction of fundamental physical principles including energy, waves and fields. It will rely heavily on demonstrations of optical effects with student participation and interaction. Practical applications of the use of light and lasers in cultural and technical aspects of society will be demonstrated and discussed.

PHY 235 Mechanics, Heat and Wave Motion (4). Introduction to classical mechanics. Topics include kinematics, dynamics, energy, momentum, rotational motion, wave motion, and the laws of thermodynamics. Calculus and vector notation used. Must be taken concurrently with PHY 236. Three lectures and two recitation meetings per week. Corequisite: MAT 250.

PHY 236 Mechanics, Heat and Wave Motion Laboratory (1). Laboratory course must be taken concurrently with PHY 235. Two hours laboratory per week.

PHY 255 Electricity, Magnetism and Light (4). Electric and magnetic fields, circuits, electromagnetic oscillations, and optics. Calculus and vector notation used. Must be taken concurrently with PHY 256. Three lectures and two recitation meetings per week. Prerequisite: PHY 235. Corequisite: MAT 308.

PHY 256 Electricity, Magnetism and Light Laboratory (1). Laboratory course must be taken concurrently with PHY 255. Two hours laboratory per week.

PHY 299 Introduction to Research (1-3). Designed primarily for freshman and sophomore level students. The student participates in an on-going research activity or supporting function. The student will average four hours per week in the activity for each hour of credit. May be repeated for a maximum of four hours of credit. Prerequisites: open to students majoring in physics and with the consent of the directing staff member.

PHY 316 Introductory Astrophysics and Space Physics (3). Introduction to astrophysics and space physics. Space physics is concerned with understanding the environment between the sun and the earth's upper atmosphere. Topics include coronal mass ejections, the solar wind, magnetospheric storms, and auroral precipitation. Astrophysics is the study of planetary system formation and evolution, stellar structure and evolution, galactic structure, and cosmology. Phenomena of interest include quasars, black holes, supernovas, and the cosmic microwave background radiation. Prerequisites: PHY 132 or 255. (Same as AST 316.)

PHY 370 Introduction to Modern Physics (3). Concepts of atomic, nuclear, solid state, and particle physics. Philosophical, historical and cultural aspects are discussed. Prerequisite: PHY 132 or 255.

PHY 388 International Experience in Engineering (3). A short-term (10-14 day) study abroad experience highlighting selected historical and modern contributions to engineering and physics from another country and culture. Graded pass/fail. Prerequisite: consent of the instructor.

PHY 450 Laser Physics (3). Fundamental principles of laser operation. Lectures include a survey of different types of lasers and their application in various fields. Prerequisite: PHY 255. Corequisite: PHY 370.

PHY 460 Electricity and Magnetism I (3). Electric fields, potential dielectrics, steady currents, magnetic fields and electromagnetic induction. Three lectures per week. Prerequisites: PHY 255 and MAT 338. (Same as EGR 460.)

PHY 461 Electricity and Magnetism II (3). Magnetic materials, alternating currents, transient phenomena and electromagnetic radiation. Three lectures per week. Prerequisite: PHY 460. (Same as EGR 461.)

PHY 470 Optics (3). Reflection, refraction, thin lenses, interference, diffraction, polarization and selected optical devices. Prerequisites: PHY 132 or 255 and MAT 250.

PHY 475 (575) Solid State Physics (3). Fundamental physical properties of the solid state of matter. Prerequisite: PHY 255 and 256.

PHY 488 Cooperative Education/Internship (1-3). A meaningful, planned, and evaluated work experience related to the career and educational objectives of the student for which he/she may receive academic credit and possible financial remuneration. May be repeated for a maximum of six hours from any 488/489 courses. Graded pass/fail. Prerequisite: permission of chair.

PHY 489 Cooperative Education/Internship (1-3). A meaningful, planned, and evaluated work experience related to the career and educational objectives of the student for which he/she may receive academic credit and possible financial remuneration. May be repeated for a maximum of six hours from any 488/489 courses. Prerequisite: permission of chair.

PHY 495 Advanced Laboratory I (1-2). A laboratory for advanced students in physics. The experimental program will be planned on an individual basis with experiments chosen from optics, electricity and magnetism, classical mechanics, thermodynamics, atomic, nuclear and solid state physics. Two to four hours laboratory per week. May be repeated for a maximum of three hours. Prerequisites: PHY 255 and 256.

PHY 496 Senior Seminar (3). Capstone course for students completing the undergraduate physics curriculum. Students will be involved in discussions and presentations on a variety of topics in physics. Students will also prepare and deliver written and oral presentations on technical topics. Prerequisite: senior standing or permission from instructor.

PHY 515 Special Topics (3). Topics of current interest in physics and engineering. Delivery methods may include lecture, seminar, directed study, and laboratory. May be repeated for credit as different topics are offered. Prerequisite: permission of instructor.

PHY 520 Independent Study (1-3). Supervised reading course in specialized topics for upper-division students of high standing. May be repeated for a maximum of three hours. Prerequisites: major and permission of instructor.

PHY 530 Mechanics I (3). Dynamics of particles, coordinate transformation, and non-inertial reference systems. Celestial mechanics. Dynamics of systems of particles. Prerequisites: PHY 255 and MAT 338 (or concurrent registration).

PHY 531 Mechanics II (3). General motion of rigid bodies. Lagrangian mechanics, theory of small vibrations and special theory of relativity. Prerequisite: PHY 530.

PHY 535 Introduction to Quantum Mechanics (3). Fundamental course in non-relativistic quantum mechanics. Prerequisite: PHY 370.

PHY 580 Modern Physics I (3). An investigation of the physical phenomena explained since 1900 by the introduction of the discreteness of nature and the wave-particle duality, leading to the development of wave mechanics. Topics include Planck radiation, photoelectric and Compton effects, pair production and annihilation, the nuclear atom and Bohr theory, the deBroglie hypothesis, the Schroedinger equation and applications to atomic physics. Prerequisite: PHY 460 or 530.

PHY 581 Modern Physics II (3). Continuation of PHY 580 including angular momentum theory, perturbation theory, L-S coupling, Zeeman effects, nuclear properties, reactions and structures, particle accelerators and elementary particle physics. Prerequisite: PHY 580.

PHY 583 Applied Optics (3). Fresnel diffraction, polarization, Maxwell's equations, laser theory and application, holography, spatial filtering and applications. Prerequisites: PHY 460 and 470.

PHY 590 Mathematical Methods in Physics and Engineering I (3). Applications of mathematics to physical and engineering problems, curvilinear coordinates, analytic functions, transform theory, convolutions, Fourier series. Prerequisites: MAT 338; EGR 330 or PHY 330 permission of instructor.

PHY 591 Mathematical Methods in Physics and Engineering II (3). Solutions of partial differential equations, special functions, Green's function. Prerequisite: PHY 590 or permission of instructor. (Same as EGR 591.)

PHY 592 Problems in Advanced Physics and Engineering I (3). An applied course for advanced students in physics and engineering. The problems will be planned on an individual basis with topics including Monte Carlo and molecular dynamics techniques, fluidized-bed and numerical fluid dynamics, surface physics, cloud and aerosol physics, crystal growth and analog modeling of experiments. Students will be required to design, implement and test appropriate strategies for the solution of the chosen problem using their knowledge and understanding of basic physics and engineering principles. Prerequisite: CSC 420 or MAT 442 or permission of instructor.

PHY 593 Problems in Advanced Physics and Engineering II (3). A continuation of PHY 592. Prerequisite: PHY 592 or permission of instructor.

PHY 596 The History of Modern Physics (3). A detailed examination of the origin of quantum theory. Consideration is given to the notable works of Planck, Lorentz, Einstein, Stark, Haas, Sommerfeld, Nernst, Bohr and others. Senior standing in physics with a 3.25 average in major. Lectures and conferences.

PHY 599 Senior Research (1-3). Introduction to research practices, periodicals and literature of physics. Problems arranged individually with faculty members. Formal, scientific report of work required. Prerequisites: senior standing and permission of faculty. (Same as EGR 599.)

PLANNING, URBAN AND REGIONAL (PLN)

PLN 488 Cooperative Education/Internship (1-3). A meaningful, planned, and evaluated work experience related to the career and educational objectives of the student for which he/she may receive academic credit and possible financial remuneration. May be repeated for a maximum of six hours from any 488/489 courses. Graded pass/fail. Prerequisite: permission of chair.

PLN 489 Cooperative Education/Internship (1-3). A meaningful, planned, and evaluated work experience related to the career and educational objectives of the student for which he/she may receive academic credit and possible financial remuneration. May be repeated for a maximum of six hours from any 488/489 courses. Prerequisite: permission of chair.

PLN 507 Land Use Planning (3). Analyze the principles and techniques utilized in the planning process. Emphasis is placed on the practical aspects of planning — the needs, problems and proposed solutions. (Same as GSC 507.)

PLN 521 Geographic Information Systems (4). Techniques course that introduces digital georeferenced information systems, including data capture, editing and encoding techniques, data storage structures, database management systems, data analysis and model development, and information display methods. Three hours of lecture and two hours of laboratory per week. (Same as GSC 521.)

PLN 523 Problems in Urban Geography and Urban Planning (3). Theories, techniques and research in urban geography and planning. Focus placed on the designs and strategies addressing present day urban problems. (Same as GSC 523.)

PLN 607 Land Use Planning (3). Analyze the principles and techniques utilized in the planning process. Emphasis is placed on the practical aspects of planning — the needs, problems and proposed solutions. (Same as GSC 607.)

PLN 621 Geographic Information Systems (4). Techniques course that introduces digital georeferenced information systems, including data capture, editing and encoding techniques, data storage structures, database management systems, data analysis and model development, and information display methods. (Same as GSC 621.)

PLN 644 Graduate Cooperative Education (3). May be repeated for a maximum of six credits. Graded pass/fail. Prerequisite: permission of chair.

PLN 693 Special Problems in Urban Planning (3). Course is designed for students who have an aptitude for research in urban planning. May be repeated one time for credit. Prerequisite: permission of instructor.

POLITICAL SCIENCE (POL)

POL 100T Transitions (1). Course is designed to assist students in their transition to Murray State University. Content includes orientation to the specific area or major(s) and minor(s) within the academic program; university procedures, policies, and resources; strategies for personal and academic success, and extracurricular opportunities. Only one transitions course will count toward graduation. Required from all entering freshmen and transfer students with less than 12 hours of earned credit prior to their first semester at Murray State University. Graded pass/fail.

POL 140 American National Government (3). The American political system, its constitution, institutions and processes. An approved social science University Studies elective.

POL 240 State and Local Politics (3). Study of the three branches of state government coupled with an examination of the politics, organizations and functions of counties, townships and special districts.

POL 250 Introduction to International Relations (3). The nature of international society and the forces affecting the behavior of states in their relations with one another. An approved social science University Studies elective. POL 250 will not fulfill the requirements of HON 270.

POL 252 Introduction to Comparative Politics (3). This course provides the student with comparative and evaluative concepts and approaches necessary to developing an intelligent understanding and appreciation of the world's diverse political systems. An approved social science University Studies elective. POL 252 will not fulfill the requirements of HON 272.

POL 261 Introduction to Political Theory (3). Introduction to the concepts, enduring questions, and significant thinkers associated with political philosophy. Specific attention will be given to differing conceptions of human nature, politics, the state, civic obligations and rights, freedom, justice, and democracy.

POL 301 Model United Nations I (1). Course provides students with thorough understanding of the roles and functions of the United Nations System. May be repeated for a maximum of two credit hours. (Fall)

POL 302 Model United Nations II (2). This course, as a continuation of POL 301, provides students with advanced understanding of the roles and functions of the United Nations System. Students may attend regional/national level conferences. May be repeated for a maximum of four credit hours. Prerequisite: POL 301. (Spring)

POL 341 Local Governments in Rural Areas and Small Communities (3). The legal basis, organization, and functions of rural and small town governments in the United States, with special emphasis on administration and problems of non-urban communities.

POL 342 Ethnic Politics (3). An examination of the role played by ethnicity in American politics. The class will explore how racial and ethnic groups shape and are shaped by the American political system.

POL 343 Kentucky Government and Politics (3). A meaningful examination of the political processes and governmental machinery essential to an adequate understanding of government and politics in Kentucky.

POL 344 Media and Politics (3). The roles of media in the American political process.

POL 345 Campaigns and Elections (3). Considers the practical aspects of campaigning for public office on all levels of government including strategy, financing, organization, research, and media.

POL 356 Modern Middle East (3). History of the Middle East from 1700 to present, emphasizing political, social, and economic development of the region. Topics include the decentralization of empires, European imperialism, nationalism, constitutionalism, secularism, and state building. (Same as HIS 356.)

POL 359 Writing and Inquiry in the Social Sciences (3). The course focuses on the inquire process that is used in the social sciences and how the results of that inquiry are reported to others. Students will learn how to recognize, understand, and apply specific style, format, and rhetorical requirements for clear and concise expository writing in the social sciences. Students will create a variety of documents that typically include an essay, an annotated bibliography, and analytic case study, a policy brief, letters, memoranda, a policy or procedure, and the development of a research paper through the research design. This is the writing intensive course for all majors in political science, sociology, international studies, and public administration. Prerequisite: ENG 105 or 150. (Same as SOC 359.)

POL 360 Research Methods (3). Course will introduce students to social science research methods. Emphasis will be placed on the scientific method, research design, the various methods of data collection commonly used in political science and sociology, and data analysis. Prerequisite: PSY 300 or STA 135 and POL 359, or permission of instructor. (Same as SOC 360.)

POL 438 Inequality and Social Policy (3). Course engages in a comparative study of social policies across advanced industrial democracies. The course examines fundamental differences in social policy, with close attention to dimensions of economic inequality and gender inequality. Leading to an investigation of the relative role of partisanship, business interests, social movements, labor unions, international pressures, demographic changes in shaping, and transforming social policy.

POL 440 Political Parties and Interest Groups (3). The nature, development, organization, and functions of American political parties and interest groups.

POL 441 Legislative Process (3). The behavior of American legislative bodies and legislators.

POL 442 Government and Business (3). The role of government and politics in the regulation of business activities and the administration of major legislative enactments.

POL 443 Executive Process (3). An examination of the origin, development, and current status of the executive process with primary emphasis on the American Presidency.

POL 444 Judicial Process (3). A political science course that surveys the nature, functions and sources of law and the role of politics and the courts in the administration of justice. (Same as LST 444.)

POL 445 Constitutional Law I: Developments and Trends (3). A political science course that surveys the development of and historic trends in selected subjects of constitutional law. (Same as LST 445.)

POL 447 Constitutional Law II: Civil Liberties and Civil Rights (3). A political science course that studies the leading court decisions and their impact on the development of American Constitutional Law in the subject areas of civil liberties (Amendment I), civil rights (Amendments IV, V, VI, VIII, and IX), and the equal protection and due process clauses of Amendment XIV. (Same as LST 447.)

POL 448 Healthcare Policy (3). This course is an undergraduate level examination of the components of health care policy; health insurance and benefits planning, negotiation, and delivery; and health promotion within the context of public sector employment in national, state, and local governments.

POL 449 Human Rights (3). Course provides students with an understanding of the development and evolution of human rights and the factors influencing human rights standards globally.

POL 450 Modern Africa (3). A study of Africa since about 1880, including the transformation of African societies and their political development, with emphasis on the contact with other cultures, the growth of nationalism and nationalist movements, and the questions of African unity and neocolonialism. (Same as HIS 450.)

POL 451 Government and Politics of Europe (3). The dynamics of change in the political systems of Europe, focusing on government institutions and the development of the European Union.

POL 453 Government and Politics of Latin America (3). The dynamics of change in the political systems of Latin America, focusing on the problems and patterns of political and economic development.

POL 454 Government and Politics of Asia (3). The governmental institutions and political processes of China, Japan, and other selected states in Asia.

POL 456 American Foreign Policy (3). The formulation and implementation of U.S. foreign policy.

POL 457 International Law and Organizations (3). The origin and development of international law and international organizations. (Same as LST 457.)

POL 458 European Union Politics (3). This course will consist of an examination of the economic and political factors that led to the formation and development of the European Union. Emphasis will be placed on the institutions and policies of the European Union.

POL 459 Politics of China (3). This course introduces students to the political system of the People's Republic of China, its political economy, and its foreign relations, from the Maoist Revolution to the present day.

POL 460 Political Behavior (3). An introduction to major concepts and systems of thought useful in explaining and understanding political behavior.

POL 461 Classical and Medieval Political Thought (3). The development of political thought from the classical Greeks to the Renaissance with emphasis on Plato, Aristotle, Augustine and Aquinas.

POL 462 Modern Political Thought (3). The development of political thought from the Renaissance to the present with emphasis on Machiavelli, Hobbes, Locke, Rousseau, Burke, Marx, and the contemporary malaise.

POL 463 American Political Thought (3). The American political tradition from its colonial origins to the present with emphasis upon the major political writers.

POL 464 International Political Economy (3). Course provides students with an overview of the themes within international political economy, including globalization, trade, economic sanctions, foreign aid, and international development strategies.

POL 465 War and International Security (3). Course examines various issues involved in war and peace including why some states choose force while others do not and what factors promote or prevent war. These questions will be investigated in a general framework using scientific methods rather than focusing on a specific war.

POL 467 Regulatory Policy and Politics (3). An undergraduate level study of political, economic, administrative, and legal aspects of government regulation.

POL 469 Terrorism, Insurgency, and Counterterrorism (3). This course will provide an overview of terrorism, including its psychological and economic roots, the political consequences of terrorism and insurgencies, and analyze how countries work domestically and internationally to combat these activities.

POL 470 Foundations of Public Administration (3). The theory and practice of the administration and management of governmental operations; politics, policy and the bureaucracy.

POL 471 Contemporary Public Policy Issues (3). Consideration of social, economic, and political influences on the formation, direction, and implementation of public policy, with special emphasis on current issues.

POL 472 Public Planning and Evaluation (3). An examination of major planning and evaluation techniques of governmental programs.

POL 473 Public Budgeting and Finance (3). This course examines budgeting as a tool of governmental economic and public policy. Specifically, the course considers the evolution and purposes of budgeting, with special attention given to recent efforts to improve government resource allocation.

POL 476 Law in Public Administration (3). An examination of the role of law in the administrative process. Topics to be covered include administrative rulemaking and adjudication, enabling statutes, open records and open meetings laws, procedural due process, and civil liability and immunity for public employees and governments. (Same as LST 476.)

POL 477 Local Government Administration (3). A study of the economic, political, and social environments of cities and other forms of local governments as well as the impact those environments have on local government administration. The roles and tasks of local government management, as affected by metropolitan conditions and state, regional, and federal governments, are also examined.

POL 479 Public Sector Labor Relations (3). An intensive examination of the emergence of, current Federal and State policies on, and impacts of unionization and collective bargaining in the public sector. Special emphasis is placed on the responsibilities of public employees and public administrators in their respective

roles in contract bargaining and administration. The course includes multiple simulation exercises and workshops on labor-management practices.

POL 480 Topical Seminar in Political Science (3). Inquiry into selected topics and problems in the field of political science. May be repeated for a maximum of six hours provided topics vary.

POL 481 Public Sector Human Resource Management (3). An overview of public sector human resource and human capital management in the federal, state, and local governments, including such topics as types of personnel systems; recruitment and selection; compensation and benefits; training and development; performance management; legal compliance; diversity; and labor-management relations.

POL 482 Land Use and Planning Law (3). An undergraduate level examination of the legal, political, and economic aspects of efforts to control the use of land. The course will cover constitutional, statutory, and common law issues regarding nuisance suits, private covenants, subdivision controls, zoning and zoning procedure, planning processes, and the exercise of eminent domain. (Same as LST 482.)

POL 483 Comparative Public Administration (3). A comprehensive comparative study of public administration in a variety of different political, legal, and economic systems.

POL 484 Comparative Public Policy (3). A comprehensive comparative study of public policy in a variety of different political, legal, and economic systems.

POL 485 Local Government Law (3). An undergraduate level study of basic standards of law pertaining to various forms of local government, including municipalities, counties, special districts, public authorities, and school districts. (Same as LST 485.)

POL 488 Cooperative Education/Internship (1-3). A meaningful, planned, and evaluated work experience related to the career and educational objectives of the student for which he/she may receive academic credit and possible financial remuneration. To be eligible, a student must be a POL major or minor with a junior or senior status and an overall GPA of 2.5. A student must have at least nine hours in POL courses (POL 140 and six hours from POL 240, 250, 252, and 261) with a GPA of 2.8. Six hours of the POL courses must be completed at MSU. May be repeated for a maximum of six hours from any 488/489 courses. Graded pass/fail. Prerequisite: permission of chair.

POL 489 Cooperative Education/Internship (1-3). A meaningful, planned, and evaluated work experience related to the career and educational objectives of the student for which he/she may receive academic credit and possible financial remuneration. To be eligible, a student must be a POL major or minor with a junior or senior status and an overall GPA of 2.5. In addition, the student must have at least nine hours in POL courses (POL 140 and six hours from POL 240, 250, 252, and 261) with a GPA of 2.8. Six hours of the POL courses must be completed at MSU. May be repeated for a maximum of six hours from any 488/489 courses. Prerequisite: permission of chair.

POL 495 Special Problems (1-3). Supervised readings or research in selected subjects designed to supplement regular course offerings. Requires chair's approval. Restricted to junior and senior students. May be repeated up to six hours. Only three hours may count toward major. Prerequisites: Fifteen hours of POL courses with a minimum overall GPA of 3.0 and a minimum GPA of 3.25 for POL courses taken for the major or minor, and chair's approval.

POL 499 Senior Seminar in Political Science (3). Capstone course for all majors in Political Science and International Studies. It is a writing intensive course in which a discipline-based research paper is refined and orally defended. Students also develop job and graduate education search skills as well as complete program assessment instruments. Prerequisites: senior standing and completion of POL 360, or permission of the instructor.

POL 642 Government and Business (3). The role of government and politics in the regulation of business activities and the administration of major legislative enactments.

POL 648 Health Policy (3). Course addresses how public policy development and analysis have an impact on the public's health. The course is designed to provide professionals with the skills for collecting, analyzing, and communicating information on public health policy issues using approaches that would be useful in the policy making arena. Students will learn what policy is, who the policymakers are in public health, who the actors are who are affected by public health policy, and the major influences in determining what policy gets implemented, including the science underlying policy proposals. (Same as HEA 648.)

POL 659 Intergovernmental Relations (3). A seminar on the evolution, growth, and present nature of federal, state, and local interrelationships, with an emphasis on grants-in-aid and their implementation.

POL 660 Research Methods (3). Examines the process of research in public affairs, with an emphasis on quantitative methods and techniques. Required of all M.P.A. students.

POL 667 Regulatory Policy and Politics (3). A study of political, economic, administrative, and legal aspects of government regulation. The course is intended to prepare practitioners for work in the field of regulatory policy.

POL 670 Foundations of Public Administration (3). A graduate-level introduction to the study of public administration, covering substantive topics in the field as well as the political dimensions of public service and the ethical issues faced by government practitioners. Emphasis is placed on the development of the discipline as a field of inquiry. Must be taken in the first semester of coursework in the M.P.A. program.

POL 671 Public Policy Analysis (3). Problems and methods in perception of public problems, determination of goals, generation and evaluation of alternative policy practices and programs, and explanation of policy choices. Emphasis on political and analytical methods of examining policy making and policy outcomes. Includes a survey of literature dealing with theories of the policy process.

POL 672 Public Planning and Evaluation (3). An intensive, graduate-level examination of major planning and evaluation techniques for government programs.

POL 673 Public Budgeting and Finance (3). An intensive, graduate-level overview of public agency and governmental budgeting and finance at the federal, state, and local government levels. This course examines budgeting as a tool of governmental economic and public policy. Specifically, the course considers the evolution and purposes of budgeting with special attention given to recent efforts to improve government resource allocation.

POL 674 Public Organizations (3). An analysis of roles, responsibilities, and practices of the public manager in governmental organizations, with an emphasis on managing as a governmental actor in pursuit of the public interest, in compliance with law, and in response to a variety of elected officials; managing in highly constrained and political environments; and managing in inter-sectoral and networked arenas. Theories of bureaucratic behavior and public management are analyzed and evaluated.

POL 677 Local Government Administration (3). An intensive study of the economic, political, and social environments of cities and other forms of local governments and the impact those environments have on local government administration. The roles and tasks of local government management, as affected by metropolitan conditions and state, regional, and federal governments, are also examined.

POL 678 State and Regional Government, Politics and Administration (3). Comparative study of state and regional governments, administration, policies, and problems. Empirical research concerning structures, institutions, and political processes and the relationship between them and the policy outputs is examined and analyzed. Contemporary issues are examined from a comparative perspective to determine explanations for the variation among executives, legislatures, and bureaucracies in addressing or resolving these issues.

POL 679 Public Sector Labor Relations (3). An intensive examination of, current Federal and State policies on, and impacts of unionization and collective

bargaining in the public sector. Special emphasis is placed on the responsibilities of public employees and public administrators in their respective roles in contract bargaining and administration. The course includes multiple simulation exercises and workshops on labor-management practices.

POL 680 Topical Seminar in Public Administration (3). Inquiry into selected topics and problems in the field of public administration. May be repeated for a maximum of six hours provided topics vary.

POL 681 Public Sector Human Resource Management (3). An intensive, graduate-level overview of public sector human resource and human capital management in the federal, state, and local governments, including such topics as types of personnel systems; recruitment and selection; compensation and benefits; training and development; performance management; legal compliance; diversity; and labor-management relations. Students address the literature in one of these areas.

POL 682 Land Use and Planning Law (3). A comprehensive examination of the legal, political, and economic aspects of efforts to control the use of land. The course will cover constitutional, statutory, and common law issues regarding nuisance suits, private covenants, subdivision controls, zoning and zoning procedure, planning processes, and the exercise of eminent domain.

POL 683 Comparative Public Administration (3). A comprehensive comparative study of public administration in a variety of different political, legal, and economic systems.

POL 684 Comparative Public Policy (3). A comprehensive comparative study of public administration in a variety of different political, legal, and economic systems.

POL 685 Public Administration Capstone (3). A course integrating the theories and methods of public administration in a major research project related to a substantive management or analytic problem in the public sector. Students must propose, execute, and publicly defend their project after completing a major review of public administration literature. Normally this course shall be taken in the last semester of graduate work with the M.P.A. program. Required for all M.P.A. students. Prerequisites: POL 660, 670, 671, 673, 674, and 681.

POL 686 Law in Public Administration (3). An examination of the role of law in the administrative process. Topics to be covered include administrative rulemaking and adjudication, enabling statutes, open records and open meetings laws, procedural due process, and civil liability and immunity for public employees and governments.

POL 687 Local Government Law (3). Study of basic standards of law pertaining to various forms of local government, including municipalities, counties, special districts, public authorities, and school districts. Statutory, constitutional, and common law standards of law applicable to local governments will be examined. The course is intended to prepare local government practitioners for the legal challenges that they will face in their careers.

POL 690 Administrative Internship (1-6). A full-semester directed internship with an agency concerned with the administration of public affairs. Graded pass/fail. Prerequisites: completion of nine hours from the following: POL 660, 670, 671, 673, 674, or 681; 3.0 GPA in all graduate work, and permission of chair.

POL 695 Special Problems (1-3). Supervised readings or research in selected subjects designed to supplement regular course offerings. Prerequisites: completion of nine hours from the following: POL 670, 671, 673, 674, or 681; 3.25 minimum GPA, and permission of chair.

POSTSECONDARY EDUCATION

(PSE)

PSE (CSP) 615 Introduction to Student Affairs in Higher Education (3). The historical and philosophical development of the student affairs profession will be explored and discussed. Major topics include an in-depth study of the departments that typically constitute the division of student affairs. This includes history, function, trends, issues and significant personnel. Class content will be presented in seminar format.

PSE (CSP) 616 College Students in the United States (3). The characteristics of the contemporary college student in the United States will be examined. Major topics will include an examination of the motivations for entering institutions of higher education, developmental theory related to college students, problems and challenges specific to the American concept of making higher education accessible to a large percentage of the population, and the impact of contemporary economic and social trends on the college population.

PSE (CSP) 630 Globalization and Internationalization in Higher Education (3). Course serves as the introduction to the principles and practices of globalization and internationalization within the field of higher education. In addition to preparation for the international education specialist, the course offers the aspiring higher education generalist an overview of global issues and context in extending international education opportunity and knowledge to both international and domestic students in the United States. The course addresses the major components of international programs administration and campus internationalization.

PSE 700 History and Foundations of American Higher Education (3). Course provides a historical overview of the U.S. system of higher education, with an emphasis on the development of colleges and universities, and how these developments have shaped current policies and practices in higher education. Curricular, administrative, and policy issues will be explored.

PSE 710 Higher Education and the Law (3). Course examines legal issues relevant to American colleges and universities to provide educational leaders with the fundamental knowledge of higher education law for administrators. Key legal principles that impact professional practice in higher education that may be discussed include the legal governance of higher education, academic freedom, affirmative action, and other legal issues pertinent to faculty, staff and students. Prerequisite: permission of the instructor.

PSE 720 Internship I (3). Course provides a comprehensive examination of the nature of Higher Education through an internship in a Student Affairs setting. The student will complete a semester internship approved setting. Supervision will be by the site supervisor and the instructor. Field experience is required. Prerequisite: PSE 615 and 616.

PSE 730 Internship II (3). Course provides a comprehensive examination of the nature of Higher Education through an internship in a Student Affairs setting. The student will complete a semester internship approved setting. Supervision will be by the site supervisor and the instructor. Field experience is required. Prerequisite: PSE 720 and permission of the instructor.

PSE 740 Contemporary Issues in Postsecondary Education (3). The purpose of this course is to investigate contemporary issues impacting higher education. Current trends and innovation are critical themes for educational leaders to explore. Special topics in higher education explored in the course may include funding, policy, access, technology, learning initiatives and special populations.

PSE 750 Academic Program Management and Evaluation (3). Course introduces students to the subject of managing and evaluating academic programs in a higher education setting. Faculty credentialing and the program assessment practices will be examined.

PSE 755 Postsecondary Instructional Support Systems (3). Course examines the comprehensive nature of the instructional support system as a vital component in the evolving P-20 learner-centered environments of education. Theory and effective practice are used to guide the discussion and investigate the issues. Students investigate and seek potential solutions to authentic problems facing educational leaders such as diversity needs of students, instructional support, advising strategies, enrollment management, recruitment and retention, placement testing, career development, residential life, and student activities.

PSE 760 Organization and Operations in Postsecondary Education (3). The focus of this course is the management and planning functions within higher education institutions. Students will examine the competencies and training necessary to address key operational and leadership roles specific to the allocation and management of resources to meet the mission of the institution.

Resources other than financial will be included, and special emphasis will be given to maintenance of facilities, institution and community resources, personnel, and time.

PSE 765 Community College Leadership (3). Concepts and practices related to decision-making, governance, administrative structure, operations, and other leadership functions are the focus of this course. The mission, development, and structure of the community college are explored, along with current trends and innovations influencing the institutions. Practical applications in community college leadership will be investigated while allowing students to develop knowledge based on grounded in theory and research.

PSE 770 Academic Leadership in Higher Education (3). Course will focus on various roles and responsibilities of faculty members and individuals within academic leadership positions. The administrative contexts and organizational cultures within which they work will be analyzed, along with the career patterns of the academic person.

PSYCHOLOGY (PSY)

PSY 100T Transitions (1). Course is designed to assist students in their transition to Murray State University. Content includes orientation to the specific area or major(s) and minor(s) within the academic program; university procedures, policies, and resources; strategies for personal and academic success, and extracurricular opportunities. Only one transitions course will count toward graduation. Graded pass/fail.

PSY 180 General Psychology (3). A basic course introducing the student to psychology as a science that can be applied to practical problems and everyday issues by learning the methods, concepts, and terminology of the discipline. Note: This course is a prerequisite to all other courses in psychology.

PSY 199 Developing Psychological Skills (1). An applied course for students interested in enhancing their psychological skills. This course is recommended for persons in performance fields (e.g., psychology, physical education, social work, nursing, performing arts, business, etc.) who wish to improve their mental skills such as emotional and attentional control. Letter-graded course.

PSY 205 Introduction to Writing in the Psychological Sciences (3). An introduction to locating, writing, and critiquing scientific information in the field of psychology. Overarching themes include effective written communication, scientific literacy, and adherence to the ethical tenets of writing in the psychological sciences. Restricted to students majoring in psychology. Prerequisite: PSY 180, or HON 180, ENG 105 or ENG 150, declared major in psychology or permission of the instructor.

PSY 210 Career Planning Seminar (3). Seminar for psychology majors, focusing on career exploration, employment opportunities, the job search process, graduate school, and related issues. Recommended for students in their sophomore or junior year. Letter-graded course. Prerequisite: PSY 180 or HON 180 and sophomore standing or higher.

PSY 221 Psychology of Human Sexuality (3). A presentation of the psychological aspects of human sexuality as well as an exploration of contemporary psychological research and theory in the field. Topics are addressed from various perspectives (behavioral, social, cultural and biological) and include homosexuality, pornography, sexually transmitted disease, early sexual learning, adult sexual lifestyles and sexual dysfunction and treatment. Prerequisite: PSY 180 or HON 180.

PSY 222 Sport Psychology (3). This course is a survey of theory and research regarding the psychological aspects of sport and physical activity. Topics addressed include history of sport psychology, research methods and testing, learning, personality, attention, arousal, intervention, motivation, attribution, aggression, leadership, group dynamics, and audience effects as they relate to athletes, coaches and officials. Prerequisite: PSY 180 or HON 180.

PSY 223 Psychology of Sport Fans (2). This course will be a survey of theory and research regarding the psychological and sociological significance of sport fandom and spectating. Topics addressed will include the prevalence of sport

fandom, factors affecting involvement in sport as a fan and spectator, spectator aggression, the psychological impact of spectating, and the societal impact of spectating. Prerequisite: PSY 180 or HON 180.

PSY 245 Law and Psychology (3). An overview of the area of forensic psychology. Topics covered include aspects of criminal behavior, the insanity defense, competency, commitment of the mentally ill, and professional issues. Prerequisite: PSY 180 or HON 180.

PSY 260 Lifespan Development (3). A survey course of theory and research examining the changes and consistencies associated with human development from conception to death. Infancy, childhood, adolescence, and early, middle, and late adulthood will be examined. Prerequisite: PSY 180 or HON 180.

PSY 261 Child Psychology (3). A study of the biological, social, affective and cognitive aspects of the development of children from conception to adolescence. The implications of this development for present and future behaviors are presented. The research, principles, concepts and theories of child psychology are emphasized. Prerequisite: PSY 180 or HON 180.

PSY 262 Adolescent Psychology (3). A study of the biological, social, affective and cognitive aspects of the development of adolescents from puberty to young adulthood. The relationship of these developmental aspects to the individual's past, present and future behaviors are stressed. The research, theories, concepts and principles pertaining to adolescent psychology are presented. Prerequisite: PSY 180 or HON 180.

PSY 264 Psychology of Aging (3). The study of the biological, cognitive, affective and social aspects of the aging process. The normal and pathological conditions of aging are emphasized. The interaction of the aged and society is also considered. Prerequisite: PSY 180 or HON 180. (Same as GTY 264.)

PSY 265 Psychology of Death (3). A study of the place of death in the process of human development. Two viewpoints will be stressed: death of self and death of others. Emphasis will be given to the cultural, social, biological and affective aspects related to the final stage of life. Customs, medical practices, financial concerns, legal matters and scientific issues will be considered. Prerequisite: PSY 180 or HON 180. (Same as GTY 265.)

PSY 300 Principles and Methods of Statistical Analysis (3). An introduction to descriptive and inferential statistics as used in the behavioral sciences and human services. Computer-based techniques of statistical analysis are emphasized throughout the course. Prerequisites: Prerequisites: MAT 117, 120, 130, 135, 140, 145, 150, 220, 230, 250, 308, 309, or 330.

PSY 301 Principles and Methods of Psychological Research (3). An introduction to research techniques and resources in the field of psychology, covering scientific foundations of psychology; empirical research methods, both experimental and non-experimental; data analysis and report writing; literature search procedures; ethical issues. Prerequisites: PSY 180 or HON 180; PSY 205 and PSY 300 (pre- or corequisite) and the completion of nine additional hours of PSY courses.

PSY 302 Topical Seminar (3). A particular topic or combination of topics will be covered when there is sufficient student interest. Students will be expected to contribute to discussions on the basis of readings in the selected areas. May be repeated. Prerequisite: PSY 180 or HON 180.

PSY 303 Social Psychology (3). A survey of current theory and research regarding social behavior. Topics addressed include person perception, self-perception, attitude change, influence, pro-social behavior, transgressive behavior and group phenomena. Prerequisite: PSY 180 or HON 180.

PSY 307 (407) Abnormal Psychology (3). Introduction to the definition, classification, causes and treatment of abnormal behavior. Research methodologies and findings receive emphasis equal to that of "clinical" or applied considerations. Prerequisite: PSY 180 or HON 180; declared major in psychology, or permission of instructor.

PSY 310 Health Psychology (3). An exploration of theories, research, and interventions that emphasize interactions among biological, psychological, and social influences on physical health and health behavior. Topics include

theories of health behavior, stress, coping, and psychology's role in medicine. Prerequisite: PSY 180 or HON 180.

PSY 321 Sensation and Perception (3). A study of the sensory systems, psychophysical methods, and principles of perception that contribute to conscious experience. Prerequisite: PSY 180 or HON 180.

PSY 322 Motivation and Emotion (3). Presentation of basic concepts of motivation and emotion. Prerequisite: PSY 180 or HON 180.

PSY 325 Introduction to Clinical Psychology (3). An introduction for undergraduate students to the field and profession of clinical psychology. Topics covered include the historical and cultural context of the field, its scientific and theoretical aspects, the nature of psychological assessment, and the various intervention approaches in current use. Prerequisite: PSY 180 or HON 180.

PSY 326 Psychology of Language (3). A survey of psychological research on language behavior and the role of language in social and cultural contexts. Emphasis on understanding language processes in both the adult speaker and the child acquiring language. Prerequisite: PSY 180 or HON 180.

PSY 327 Problem-Solving and Decision-Making (3). An introduction to behavioral decision making theory, research. Topics include the roles of memory and knowledge organization in critical thinking, logic and reasoning in problem-solving, decision-making under uncertainty, heuristics and biases, and multidisciplinary applications. Prerequisite: PSY 180 or HON 180.

PSY 360 Directed Individual Study (1-3). Individual programs involving readings or conducting a research project in psychology. **Note:** Arrangement for faculty supervision is required prior to enrolling. May be repeated to a maximum of nine hours. No more than three hours count toward the psychology major. Does not count toward psychology minor or University Studies requirements. Prerequisites: approval by a faculty sponsor and the department chair.

PSY 373 Psychology of Consumer Behavior (3). A survey of current psychological theory and research regarding behavior of consumers. Topics addressed include perception, cognition, learning and memory, emotion and motivation, intentions, buying behaviors, effects of social contexts, effects of cultural contexts, sales interactions and applications to not-for-profit settings. Prerequisite: PSY 180 or HON 180.

PSY 390 Animal Behavior (3). This course is a survey of categories of behavior and the variables that influence these behaviors across species. Prerequisite: PSY 301 or permission of instructor.

PSY 402 Senior Seminar in Psychology (3). This course draws together the knowledge and analytical skills developed during the psychology major course of study and provides students with the opportunity to apply them to the study of a particular topic or combination of topics. Students will be expected to contribute to discussions on the basis of readings in the selected areas. Prerequisites: PSY 300 and 301; completed or concurrent enrollment in PSY 260, 303, 307, 414, and 415; senior standing.

PSY 403 History and Systems of Psychology (3). A survey of the systems and theories of psychology with emphasis on their historical development. Modern psychology is studied in the context of its philosophical roots and the evolution of the other sciences. Prerequisites: PSY 300 and 301; completed or concurrent enrollment in PSY 260, 303, 307, 414, and 415; senior standing.

PSY 404 Drugs, Alcohol and Behavior (3). This course provides a survey of the social, biological and psychological aspects of substance abuse, chemical dependency and addictive disorders. Prerequisite: PSY 180 or HON 180.

PSY 405 Industrial and Organizational Psychology (3). A survey of current theory and research regarding human behavior in industrial and organizational settings. Topics addressed include selection and placement, training and development, motivation, job satisfaction and performance, leadership, work environment, human factors, engineering and safety. Prerequisite: PSY 180 or HON 180.

PSY 406 Personality (3). The organization of the psychological characteristics which contribute to the uniqueness of the individual. Prerequisite: PSY 180 or HON 180.

PSY 408 Applied Research Design and Analysis (3). An advanced course designed to develop a comprehensive, integrated, and applied knowledge of issues surrounding the design, implementation, analysis, and evaluation of psychological research. Topics covered include research ethics, reliability and validity, descriptive and experimental design issues, and advanced statistical techniques. Students will be expected to design, conduct, and report the results of an original research project. Prerequisites: PSY 300 and 301; completed or concurrent enrollment in PSY 260, 303, 307, 414, and 415; senior standing.

PSY 414 (304) Psychology of Learning and Memory (3). Concerned with the principles and concepts of animal and human learning, and their bases in research. The student is introduced to learning theories. Prerequisites: PSY 300 and 301 (or concurrent enrollment), or consent of instructor.

PSY 415 (305) Physiological Psychology (3). An introduction to physiological psychology as the study of the relationships between biological events and behavior. The structure and function of the human nervous system are studied. Prerequisites: BIO 101 or 221 and PSY 300, 301 or consent of instructor.

PSY 460 Directed Individual Study II (3). Advanced individual programs involving readings or conducting a research project in psychology that involves the creative application of psychological concepts. Students are expected to design, conduct, and report the results of an original project. Arrangement for faculty supervision is required prior to enrolling. Prerequisites: PSY 300, 301 and 360; completed or concurrent enrollment in PSY 260, 303, 307, 414, and 415; senior standing and approval by faculty sponsor and the department chair.

PSY 471 Behavior Modification (3). This course presents assumptions, concepts and methods of behavior modification. Emphasis is on broad psychological theory and application to human problems. Prerequisite: PSY 180 or HON 180 or permission of instructor.

PSY 488 Cooperative Education/Internship (1-3). A meaningful, planned, and evaluated work experience related to the career and educational objectives of the student for which he/she may receive academic credit and possible financial remuneration. May be repeated for a maximum of six hours from any 488/489 courses. Graded pass/fail. Prerequisite: permission of chair.

PSY 499 Senior Thesis (3). An undergraduate research thesis for outstanding senior majors only. Prerequisites: PSY 300 and 301; completed or concurrent enrollment in PSY 260, 303, 307, 414, and 415; senior standing; and permission of the department chair upon nomination by a faculty member.

PSY 600 Statistics (3). Basic concepts of statistics are stressed. Specific topics include techniques dealing with single distributions, some correlational methods, probability, and an introduction to inferential statistics. Students enrolled for graduate credit will be required to fulfill additional requirements.

PSY 602 Graduate Seminar (1-3). Topical seminars in psychology. May be repeated to a maximum of six hours. Prerequisite: permission of instructor.

PSY 604 Drugs, Alcohol and Behavior (3). This course provides a survey of the social, biological and psychological aspects of substance abuse, chemical dependency and addictive disorders.

PSY 605 Industrial and Organizational Psychology (3). A survey of current theory and research regarding human behavior in industrial and organizational settings. Topics addressed include selection and placement, training and development, motivation, job satisfaction and performance, leadership, work environment, human factors, engineering and safety. Students enrolled for graduate credit will be required to fulfill additional requirements.

PSY 606 Personality (3). The organization of the psychological characteristics which contribute to the uniqueness of the individual. Students enrolled for graduate credit will be required to fulfill additional requirements.

PSY 608 Applied Research Design and Analysis (3). An advanced course designed to develop a comprehensive, integrated, and applied knowledge of issues surrounding the design, implementation, analysis, and evaluation of psychological research. Topics covered include research ethics, reliability and validity, descriptive and experimental design issues, and advanced statistical

techniques. Students will be expected to design, conduct, and report the results of an original research project. Students enrolled for graduate credit will be required to fulfill additional requirements.

PSY 610 Graduate Seminar in General Experimental Psychology (1). A forum for discussing a wide range of issues related to research, academics, and other aspects of graduate school and careers in psychology. Students learn about requirements of the Master's Degree in General Experimental Psychology and research interests of the faculty. The course meets one day per week, for one hour and is graded pass/fail.

PSY 620 Graduate Seminar in Professional and Ethical Issues (1). A survey and discussion of the professional aspects of clinical psychology and the ethical standards of the field. Emphasis is placed on the ethical principles and statements of the American Psychological Association in regard to the practice of psychology, the conduct of research, and the use of psychological tests. Prerequisite: psychology graduate program.

PSY 621 Biological Bases of Behavior (3). An advanced-level survey of the biological processes that underlie behavior. Prerequisite: psychology graduate program or permission of instructor.

PSY 622 Cognitive Bases of Behavior (3). An advanced-level survey of the cognitive processes that underlie behavior. Prerequisite: psychology graduate program or permission of instructor.

PSY 623 Social Bases of Behavior (3). An advanced-level survey of the social processes that underlie behavior. Prerequisite: psychology graduate program or permission of instructor.

PSY 624 Developmental Bases of Behavior (3). An advanced-level survey of the developmental processes that underlie behavior. Prerequisite: psychology graduate program or permission of instructor.

PSY 645 Clinical Measurement and Evaluation I (3). Emphasis is placed on administration, scoring and clinical interpretation of a variety of intelligence tests. Report writing and research underlying intelligence tests and psychological evaluations are presented. Prerequisite: clinical psychology graduate program or permission of instructor.

PSY 651 Correlational Research Design and Statistics (3). An integrated treatment of advanced correlation and regression research designs and analyses. Topics include parametric and nonparametric measures of correlation and association; chi-square goodness-of-fit and tests of independence; simple and multiple regression.

PSY 652 Univariate Research Design and Statistics (3). Advanced experimental design and research methodology is combined with a detailed treatment of analysis of variance. Prerequisite: PSY 651 or permission of instructor.

PSY 655 Topical Seminar in Research Design and Analysis (3). Selected topics in research design and data analysis. May be repeated for a maximum of six credit hours. Prerequisite: Permission of instructor.

PSY 664 Psychopathology (3). Theories and research pertaining to the etiologies, symptoms and prognosis of various behavior disorders are discussed. Prerequisite: clinical psychology graduate program or permission of instructor.

PSY 665 Clinical Measurement and Evaluation II (3). Emphasis on the theory and application of personality tests used in clinical settings. Practice in the administration, scoring and interpretation of various clinical instruments will be afforded. Prerequisites: PSY 645 and permission of instructor.

PSY 666 Advanced Clinical and Ethics Seminar (1-2). This course provides group discussion of active clinical cases, with attention paid to increasing diagnostic accuracy and sophistication, learning varied therapeutic approaches and becoming proficient in clinical interventions with demonstrated empirical support. Emphasis is placed on the understanding and resolution of legal and ethical issues that arise in clinical work. This course may be repeated for a maximum of four hours of credit. Graded pass/fail. Prerequisite: clinical psychology graduate program.

PSY 667 Practicum in Psychology (3). The student will work under close supervision in a clinical installation. Problems concerning psychopathology, diagnostics and psychotherapy will form the core of the work. This course may be repeated for a maximum six semester hours of credit. Prerequisites: PSY 620, 645, 664, 665, and 670 with a grade of B or above in each; an overall GPA of 3.0; and permission of instructor.

PSY 668 Advanced Practicum (1-3). The student will work under supervision of a licensed psychologist in a mental health facility. Emphasis is placed on the application of assessment and psychotherapy techniques with families, adults and children. This course may be repeated for a maximum of six hours of credit. Prerequisites: PSY 645, 664, 665, 667, and 670, with a minimum GPA of 3.0; at least two of the following: PSY 671, 672, 682, or 686; and consent of the instructor. Limited to students enrolled in the MSU master's degree program in clinical psychology.

PSY 670 Psychotherapeutic Procedures (3). Theories, practice and research are reviewed, with special emphasis on therapeutic procedures. Prerequisite: clinical psychology graduate program or permission of instructor.

PSY 671 Behavior Modification (3). An exploration of the learning foundations of behavior therapy together with a review of the methods, applications and research concerning behavior therapy. Prerequisites: permission of instructor.

PSY 672 Family Therapy (3). An advanced clinical course with emphasis on the major family therapy theories, ethical issues, and consideration of cultural factors in working with families. Practice will be afforded for students in the application of assessment and therapeutic procedures with families. Prerequisites: PSY 664, 670, previous or concurrent enrollment in PSY 667, and permission of instructor.

PSY 681 Advanced Adolescent Psychology (3). Analysis and appraisal of scientific studies dealing with the problems characteristic of the adolescent period. Observations and library research projects supplement class assignments.

PSY 682 Child Clinical Psychology (3). An advanced course with emphasis in developmental theories in relation to childhood psychopathology, therapeutic procedures with children, and specialized assessment techniques. Prerequisites: PSY 664, 670, or permission of instructor.

PSY 683 Tests and Measurements (3). The selection, administration and uses of psychological tests are discussed, with emphasis on application in educational settings. (Same as CNS 683.)

PSY 684 Directed Individual Study (1-3). Individual programs involving readings or conducting a research project in psychology. Note: Arrangements for faculty supervision are required prior to enrolling. May be repeated to a maximum of nine hours. Prerequisites: approval by a faculty sponsor and the departmental chair.

PSY 686 Group Psychotherapy Techniques (3). Emphasis on theory and application of the therapeutic techniques with groups. Prerequisite: permission of instructor.

PSY 688 Multivariate Research Design and Statistics (3). A survey of multivariate statistical techniques, including multiple correlation and regression, canonical correlation, multivariate analysis of variance, discriminant function analysis, and factor analysis. Computer-based techniques of statistical analysis are emphasized. Prerequisite: PSY 652 or permission of instructor.

PSY 691 Principles of Learning (3). Techniques and principles of human and animal learning behavior, and an introduction to theories. Experimental evidence will be stressed.

PSY 698 Thesis (3).

PSY 699 Thesis (3).

READING

(REA)

REA 096 Fundamental Reading Skills (1). Designed to prepare students for college level reading through practice in reading comprehension and vocabulary strategies. Emphasis is placed on applying analytical and critical reading skills to a variety of texts. The course is required for students with reading ACT scores of 16 or below. Advanced placement into a higher level reading course is possible through Murray State University's Center for Academic Success reading assessment exam. Credit earned in this course may not be counted toward graduation requirements. Graded pass/fail. Prerequisite: Reading ACT of 16 or below or KYOTE Reading score of 19 or below.

REA 306 Literacy Development in the Elementary School (3). An introduction to the teaching of reading and writing in the elementary school. Emphasizes the role of children's literature in reading and writing development. Field experiences required. Corequisite: ELE 307. Prerequisite: EDU 303.

REA 407 Middle School Reading (3). Course provides an overview of research-based literacy practices appropriate for teaching students in the middle grades. Emphasis is placed on teaching strategies designed to enhance comprehension and vocabulary development for students across the curriculum. Field experiences required. Prerequisites: MID 342 and admission to Teacher Education.

REA 412 Assessment and Strategies for Struggling Readers (3). A practicum providing classroom experiences in applying current assessments, methods, and materials in teaching reading to individuals and/or groups who are struggling with reading. This course addresses the use of reading assessments to determine classroom intervention and instructional strategies. It provides foundational information about stages of reading acquisition, factors that impact reading success or failure, and the nature of reading difficulties. Instructional strategies focus on building vocabulary skills, phonics, phonemic awareness, fluency, using teacher modeling, and building comprehension monitoring skills. Prerequisites: REA 306 and admission to Teacher Education.

REA 427 (527) Teaching Content Area Literacy in the Secondary School (1). Designed to help the secondary school teacher teach literacy in the content areas. Topics covered are literacy process, word recognition skills, comprehension, diagnostic prescriptive instruction and reading in the content areas.

REA 612 Foundations of Literacy (3). An advanced course in reading and writing instruction designed to enable classroom teachers to model and implement a variety of research-based instructional strategies and activities in an authentic instructional context.

REA 618 Content Area Literacy K-12 (3). This course builds upon theoretical perspectives and strategies for developing the literacy abilities of students in grades K-12 in the content areas. Attention is given to ways of making the most effective use of textual materials across the curriculum. A component of the course includes projects and/or activities which relate to an academic area of study or instructional responsibility.

REA 623 Enrichment in Reading (1-3). Provides an opportunity for advanced study of topics not covered in depth in other reading courses. Each topic involves work completed prior to class sessions, and the completion of a product appropriate to the topic's content. Check with instructor before enrolling for specific dates of activities. Prerequisite: REA 612 or permission of instructor.

REA 624 Kentucky Reading Project (3). This yearlong professional development initiative increases students' ability to design standards-based literacy activities, implement a balanced literacy approach, and encourage family involvement in literacy. Students participate in a two-week summer institute and four follow-up sessions during the academic year. They present their literacy action projects at a statewide share fair in the spring. Prerequisite: permission of instructor.

REA 626 Word Study: Phonics, Spelling, and Vocabulary (3). This course is designed to help teachers and reading specialists assess the word knowledge of students and to make informed decisions regarding instruction based on that assessment. This course will provide hands-on opportunities to make conceptually based word study lessons to meet developmental needs in phonics, spelling, and vocabulary. Prerequisite: REA 612.

REA 627 Teaching Reading in the Secondary School (3). Designed to help the secondary school teacher teach reading in the content areas. Topics covered are reading process, word recognition skills, comprehension, diagnostic prescriptive instruction, and reading in the content areas.

REA 628 Literacy Assessment (3). Designed to enable classroom teachers and reading specialists to implement a variety of technology-based assessment tools and strategies, to facilitate learning, provide appropriate instruction, make language learners aware of their own strength and needs as readers, writers, listeners, and speakers, and enhance teacher and curriculum development. Assessment strategies include: anecdotal records, checklists, interviews, conferences, observations, performance events and exhibitions, open-ended questions, self-assessment/reflection, running records, miscue analysis, and oral language assessment. Emphasis is on ways to work with teachers in classrooms and professional development to bring about educational reform and improvements in teaching and literacy instruction. Prerequisite: REA 612.

REA 638 Assessment and Instruction of Children with Reading Difficulties (3). A study of the causes of reading difficulties and procedures used to support P-12 students with reading difficulties. Approaches reading difficulty from a holistic view. Attention is given to technology-based assessment strategies, curriculum materials, and remedial procedures for correction. Prerequisite: REA 612.

REA 639 Supervised Practicum in Reading (3). Designed for teachers, clinicians, literacy coaches, and reading specialists. Emphasis will be placed on designing and supervising a reading program in a public or private setting. Repeatable for up to six hours of credit. Prerequisites: REA 612, 628, and 638.

REA 648 Research in Reading (3). Independent study, under the guidance of a supervising faculty member, which addresses an issue, problem or question pertinent to reading/literacy development. The issue, problem or question is to be selected by the student and approved by the instructor prior to the study. Prerequisites: REA 612 and 628 or REA 638.

RECREATION (REC)

REC 108 Golf (1).

REC 111 Clay Target Shooting (1). Course will provide an introduction to American trap and skeet, shooting techniques associated with those disciplines, and shotgun safety. The class will meet once per week for two hours on campus or at a local trap and skeet club. A student must provide his or her own shotgun for this course. Prerequisite: consent of the instructor.

REC 112 Open Water Scuba Diving I (2).

REC 113 Yoga for Wellness (1). Introductory level class teaching the basics of Hatha Yoga and how incorporating the practice of yoga with other healthy lifestyle choices can enhance wellness. Class will meet twice weekly for one hour. Graded pass/fail.

REC 118 Tai Chi Chuan (2).

REAL ESTATE (RES)

RES 132 Real Estate Principles I (3). A study of the basic essentials involving real estate transaction, terms, law, financing, and the general operation of the numerous specialties of the real estate business. License law requirements and professional ethics are considered.

RES 134 Real Estate Marketing I (3). An introduction to real estate market analysis and marketing techniques. Emphasizes the study of basic essentials of listing, prospecting, qualifying clients, showing of real estate, advertising and the organization of time.

RES 136 Real Estate Appraising (3). Analyzes the basic principles of property use and value, and the locational factors affecting valuation. Treats the theory and practice of real estate appraisal, introduces the cost, market and income approaches, the appraisal process and the techniques of area and site analysis. Report writing and the appraisal report are covered as is the scope of real estate appraising and the ethics of the professional appraiser. Prerequisite: RES 132.

RES 226 Real Estate Finance (3). The study of the money and capital markets and institutions as they influence real estate finance, mortgage banking, government activity in the financing of real estate, interest rate changes and their influence, and the major real estate financing instruments. Prerequisite: RES 132 or permission of instructor.

RES 242 Real Estate Law (3). Comprehensive survey of the law of realty as it effects the real estate professional. A study which involves historical and recent developments in legislation and court precedent affecting real estate, with emphases in license law, real estate commission rules and regulations and professional ethics. Prerequisite: RES 132 or permission of instructor. (Same as LST 242.)

RES 246 Advanced Appraising (3). A continuation of RES 136, Real Estate Appraising. Prerequisite: RES 136, or permission of instructor.

RES 338 Real Estate Brokerage Management (3). A compilation of the planning, procedures and techniques needed to establish a successful real estate brokerage management system. This course is intended to meet brokers' licensing requirements pursuant to the Kentucky Real Estate Commission and Kentucky Administrative Regulations 201 KAR 11:450.

RES 342 Real Estate Law II (3). This course is a comprehensive survey of the law of realty as it affects the real estate professional. A study which involves historical and recent developments in legislation and court precedent affecting real estate, with emphasis in license law, real estate commission rules and regulations and professional ethics. Prerequisite: RES 242.

RELIGIOUS STUDIES (RGS)

RGS 100 Comparative Mythology (3). Introductory survey of approaches to the study of mythology, of common themes in mythology, and the analysis and exegesis of mythological texts from multiple regions, societies, religious groups, and time periods. Possible topics include the place of mythology in religion and the interaction between mythology and literature, art, and culture.

RGS 200 Introduction to Religious Studies (3). A introduction to the major issues, topics, and concepts used in the study of religion with attention to the way scholars have analyzed and explain religion. This course also looks at how issues, topics, and concepts have developed in some of the major world religions.

RGS 300 Foundations of Judaism and Christianity (3). Introduction to the development of distinctive traits and traditions of Judaism and Christianity; cultures, beliefs, practices, institutions, and experience from biblical times to the present.

RGS 301 Western Religious Thought in the Modern World (3). Response of Western religious thinkers to major challenges to traditional religious faith posed by the emergence of modern intellectual, social, political norms. This course may be repeated, subject to approval of religious studies coordinator.

RGS 302 Medieval Europe (3). A survey of the major events in Western history from the Fall of Rome to the Renaissance, with special emphasis on those political, economic, social and cultural-intellectual forces and institutions that helped form the modern world outlook. (Same as HIS 302.)

RGS 306 Europe in Renaissance and Reformation (3). A survey of the development of Western Europe, emphasizing the Protestant and Catholic Reformations, the Crisis of the seventeenth century, and France under Louis XIII and XIV. (Same as HIS 306.)

RGS 309 Survey of World Religions (3). A study of the historical development of Christianity, Islam, Buddhism and other world religions, with emphasis placed upon their similarities and differences. (Same as HIS 309.)

RGS 316 The Bible as Literature (3). A study of the Bible as a literary source. Prerequisites: ENG 101 and 102 or ENG 105 or 150. (Same as ENG 316.)

RGS 317 Literature and Religion (3). Course that explores the intersections between literature and religion within larger cultural contexts. Depending

on individual research needs and the interest of the group, mandatory field experiences may be scheduled. Prerequisites: CIV 201, 202; HUM 211, 212 or equivalent. (Same as ENG 317.)

RGS 321 Philosophy of Religion (3). A study of basic philosophical issues in the consideration of religion, such as the basis of religious belief, the nature of religion, the cogency of talk about God, the meaning of evil. (Same as PHI 321.)

RGS 322 History of Religion in the United States (3). The historical development of organized religion in America, with emphasis placed upon the relationships between religion and other features of American society. (Same as HIS 322.)

RGS 350 Special Topics (3). A study of religion by examining a subject chosen for its particular topical or thematic interest. Specific topics will vary according to student and faculty interests. May be repeated for a maximum of nine credit hours.

RGS 354 Ancient Near East (3). A survey of Near Eastern history from prehistoric times to the end of the Persian Empire. Included are the emergence and development of civilizations in Mesopotamia, Asia Minor, Syria, and the Levant; the origins and influence of Near Eastern religions including polytheistic cults, Judaism, and Zoroastrianism; and the development of societies from city-states to large territorial empires. Special attention will be given to the art, literature, philosophy, and material culture of the civilizations within the region. (Same as HIS 354.)

RGS 355 Islamic Middle East (3). History of the Middle East from the 7th century to the 19th century. The course will examine the apostleship of Muhammad, the question of succession and the Sunni-Shi'ah schism, the government, society, and culture of the High Caliphate, the decline of Arab power and the rise of the Turks, the Islamic perspective of the Crusades, the revival of Islamic power under the Gunpowder Empires, and the decline of Islamic civilization in the face of Western expansion. (Same as HIS 355.)

RGS 356 The Art of Non-Western Cultures (3). Study of the arts of Asia, Oceania, Africa, and the Pre-Western Americas. (Same as ANT, GDS 356.)

RGS 362 Ancient Egypt (3). A survey of Egyptian history from prehistoric times to the Late Period. Included are developments during the pre-and proto-dynastic periods; the formation and general history of the Old, Middle, and New Kingdoms; and the collapse of Egyptian society leading to the Persian conquest. Topics covered will include Egyptian religious beliefs, organization, daily life, and contributions to world culture. (Same as HIS 362.)

RGS 363 Ancient Greece (3). A survey of Greek history from prehistoric times to Alexander the Great. Included are developments during the Bronze Age Minoan and Cycladic cultures, Mycenaean civilizations, the origin and formation of the Greek city-state, and the history of individual city-states such as Athens and Sparta. Special attention will be given to Greek art, literature, and philosophy, as well as the impact of Greek culture on later civilizations. (Same as HIS 363.)

RGS 364 Ancient Rome (3). A survey of Roman history from prehistoric times to the Third Century Crisis. Included are the origins of the city of Rome, the Roman monarchy, the origin and the formation of the Roman Republic, Republican society and philosophy, the transition from Republic to Empire, and the impact of Rome on the territories and peoples it conquered. Special attention will be given to Roman artistic, literary, and philosophical influences, as well as the impact of Roman culture on later civilizations. (Same as HIS 364.)

RGS 395 Archaeology of Religion (3). A survey of the archaeological evidence for religions throughout the world, from the earliest expressions of spirituality to the modern world religions. Emphasis is placed on the archaeological evidence for recognizing religious expressions in general, and for the emergence of modern world religions. Archaeological interpretations of New World, African, and Australian religions will be considered in comparative perspective. Fieldwork to a house of worship or cemetery will be required. Prerequisite: ARC 150 or permission of instructor. (Same as ARC 395.)

RGS 400 Seminar (3). Selected topics. May be repeated for a maximum of six credit hours. Prerequisite: advanced undergraduate standing or permission of instructor.

RGS 410 Directed Study (1-3). Course involves readings or other study in advanced topics, deconstruction of sacred texts, analyses of historical/theological issues, and comparisons and contrasts of the world's religions. May be repeated for a maximum of six credit hours. Prerequisite: permission of instructor.

RGS 415 Science and Religion (3). A survey of the relationship between science and religion in Western culture from ancient Greek times to the 20th century, with particular emphasis on how science has been influenced by both religious faith and religious institutions. (Same as HIS 425)

RGS 417 Medieval Art (3). Topics in the history of art from the Early Christian through the Gothic period. Prerequisite: ART 211 or permission of instructor. (Same as ART 416.)

RGS 420 Sociology of Religion (3). A study of the interrelationships of society, culture and the institution of religion. Prerequisite: SOC 133 or permission of instructor. (Same as SOC 420.)

RGS 425 Art of Asia (3). A history of the art of India, Central and Southeast Asia, China, Korea, and Japan. Prerequisites: Both ART 211 and 212, or ART 356, or permission of instructor. (Same as ART 425.)

RGS 449 Islam in the Modern World (3). Beginning with the 18th century, the course will cover reform movements, then look at Muslim responses to Western and modern influence in the Islamic world. Finally, the course will examine the rise of radical and moderate trends in Islam. The geographical reach of this course is Eurasia and Africa. Special attention will be paid to political Islam and Islamic terrorist organizations. (Same as HIS 449.)

RGS 459 Genocide in World History (3). This course is a survey of the causes, course, and consequences of genocide throughout world history from the ancient world to the present. It will explore case studies from different areas of the world across time. Special attention will also be given to the issues of religion and religious identity, memory, reconciliation, and justice. (Same as HIS 459.)

SCIENCE (SCI)

SCI 101 Introduction to Science I, Physical Systems (4). An inquiry-based and multidisciplinary course that introduces concepts in chemistry, geosciences, and physics. This course concentrates on physical systems and reflects the National Science Teacher Education Standards.

SCI 102 An Introduction to Science II, Biological Systems (4). An inquiry-based and multidisciplinary course that introduces concepts in biology, chemistry, and environmental science. This course concentrates on ecological systems and reflects the National Science Teacher Education Standards.

SCI 301 Understanding Scientific Communication (3). Course concentrates on the methods for preparation and presentation of scientific papers, posters, and oral communication. Students will utilize a data set to produce a publication-quality manuscript, a poster suitable for a scientific meeting; and a minute presentation such as would be given at a scientific meeting. Topics covered include abstracts, nature of scientific writing, structure and organization of scientific publication, use of literature, graphics and graphic design, and methods of polishing the oral and poster presentations. (Same as GSC 301.)

SECONDARY EDUCATION (SEC)

SEC 420 Practicum in Secondary Schools (3). A concentrated practicum experience for upper division students, which will include planned and supervised mini-teaching experiences with middle and/or senior high students as well as laboratory experiences in the development of teaching strategies and curriculum materials. (54 hours of field placement in a public school classroom.) This course encompasses practicum experience for Art P-12; Biology 8-12; Career and Technical Education 5-12 (Business/Marketing, Family and Consumer Sciences, and Engineering Technology); Chemistry 8-12; Economics 8-12; English 8-12 (TESOL P-12); French P-12; Geoscience/Earth Science 8-12;

German P-12; Health and Physical Education P-12; History 8-12; Japanese P-12; Mathematics 8-12 (vocal/instrumental); Music P-12; Physics 8-12; and Political Science 8-12. Credit cannot be earned for both SEC 420 and SEC 620. Must be taken two semesters before student teaching. Prerequisites: EDU 303 and admission to Teacher Education.

SEC 421 Student Teaching in the Secondary School (7-14). Student teaching in the secondary school should allow the individual to participate in the work and duties of the school that are generally expected of the classroom teacher. Student teachers will be supervised by a public school teacher as well as a university coordinator. (Will involve 7 or 14 weeks of placement in a public school classroom.) Graded pass/fail. Prerequisites: admission to Teacher Education and Student Teaching.

SEC 422 Extended Practicum (4). Course will provide opportunities for supervised direct involvement with classrooms in the public school setting. Students will implement strategies and procedures used in the education of students. 116 hours of field experience required. Field hours may include experiences at the elementary, middle, or secondary school setting. This course encompasses practicum experience for Art P-12; Biology 8-12; Career and Technical Education 5-12 (Business/Marketing, Family and Consumer Sciences, and Engineering Technology); Chemistry 8-12; Economics 8-12; English 8-12 (TESOL P-12); French P-12; Geoscience/Earth Science 8-12; German P-12; Health and Physical Education P-12; History 8-12; Japanese P-12; Mathematics 8-12 (vocal/instrumental); Music P-12; Physics 8-12; and Political Science 8-12. Prerequisites: EDU 405, SEC 420, and admission to Teacher Education.

SEC 620 Practicum in Secondary Schools (2). A concentrated practicum experience for students enrolled in the Career and Technical Education master's degree leading toward initial certification which will include planned and supervised mini-teaching experiences with middle and/or senior high students as well as laboratory experiences in the development of teaching strategies and curriculum materials. (20 hours of field placement in a public school classroom included.) Credit cannot be earned for both SEC 420 and SEC 620. Prerequisite: CTE 503.

SPECIAL EDUCATION (SED)

SED 300 Educating Students with Disabilities (3). This course introduces students to state and federal laws impacting the education of students with disabilities, prepares them to work collaboratively with other professionals and parents, and teaches them a variety of effective instructional techniques/strategies. It also increases their awareness of the special organizations, associations and other resources that will assist them in meeting their professional needs, the needs of families, and the needs of students with disabilities. Field experience required.

SED 350 Roles and Procedures in Special Education (3). Includes an overview of the legal requirements in the process of determining eligibility and delivery of special education services including the individual education plan (IEP) component of federal and state laws. Participants will gain skill in writing individual education plans for students with mild disabilities and information regarding service delivery models. Field experiences required. Prerequisite: SED 300.

SED 404 Special Education Procedures and Strategies in IECE (3). Students will develop skills in writing Individual Education Programs and Individualized Family Service Plans. Students will be introduced to relevant special education legislation, laws and policies. Students will develop skills in matching intervention strategies to the strengths and needs of young children with disabilities and their families. Students will acquire skills in the development and implementation of the Individual Education Program and the Individualized Family Service Plan in a variety of settings. Field experiences required.

SED 406 Procedures for Classroom Management and Discipline (3). The content of this course provides educators with the information and skills needed to increase their knowledge of advanced methods, and techniques of classroom management procedures. Field hours are required.

SED 407 Transdisciplinary Assessment of Individuals with Moderate/Severe Disabilities (3). This course involves procedures for assessment of the behavioral and educational performance of individuals with moderate to severe disabilities, task analysis, sequencing behavioral skills and designing individual instructional

programs. Students will be provided experience in conducting assessments, developing individual education plans and use of program evaluation techniques related to individuals with moderate to severe disabilities.

SED 408 Functional Behavior Analysis (3). The content of this course provides the student experience in understanding why individuals behave the way they do and how behavior may be taught, changed, and modified. Topics will include behavior management, training strategies, implementation, data-based programming, and field-based teacher research methods. Field hours are required.

SED 409 Instructional Procedures-Students with MSD (3). This course involves preparation in the use of special methods needed to teach children and youth with physical and sensory disabilities. Adaptations, prosthetic devices and technology used in educational programming as well as communication systems and self-care techniques will be included. Field experiences required. Prerequisite: admission to Teacher Education.

SED 410 Characteristics of and Strategies for Teaching Students with Mild Disabilities (3). Course includes an overview of the educational and social characteristics of children and youth with mild disabilities. It focuses on the development of specific competencies in instruction and curriculum requisite for the development of a personalized educational program for children and youth with mild disabilities. Context includes behavioral objectives, task analysis, precision teaching and use of technology relevant to curriculum and instruction. Field experience required. Prerequisite: SED 300.

SED 421 Student Teaching in Special Education (7). Student teaching in the special education classroom should allow the individual to participate in the work and duties of the school that are generally expected of the classroom teacher. Student teachers will be supervised by a public school teacher as well as a university coordinator. This will involve seven weeks of placement in a public school classroom. Graded pass/fail. Prerequisites: admission to Teacher Education and student teaching.

SED 425 Specialized Reading for Students with Mild Disabilities (3). This course is designed to emphasize the detection and remediation of reading difficulties that are typical for students with mild disabilities. Students will be shown how to recognize and remediate reading difficulties. This course would be appropriate for any education major. Field experiences required.

SED 455 Practicum (3). Course will provide opportunities for supervised direct involvement with individual children. Students will implement strategies and procedures used in the education of students with mild disabilities. Field experiences required. Prerequisites: SED 410.

SED 526 Education of Young Children with Disabilities (3). Course provides information related to the study of young children with disabilities or who are at risk for disability in terms of their personal, family, and educational needs. Field experiences required.

SED 531 Nature and Needs of Individuals with Moderate to Severe Disabilities (3). Survey of classification, identification, diagnostic techniques and intervention procedures used in the education and training of individuals with moderate to severe disabilities.

SED 537 Diagnostic Methods (3). Instruction which leads to demonstrated competence with instruments utilized in assessment and programming. Field hours are required. Prerequisite: admission to Teacher Education.

SED 554 Classroom Management of Individuals with Mod/Sev Disabilities (3). Study of the techniques and methods necessary for the organization and operation of educational programs for individuals with moderate to severe disabilities. Included are specialized teaching techniques such as precision teaching and behavior management applied to the learning environment as well as scheduling approaches, curriculum models and commercially available materials.

SED 602 Family-Professional Partnerships (3). The course content will focus on the family as an aid in the program or education of their child. Family characteristics will be investigated and related to the implications for meaningful

inclusion of the family in the education of a child with a disability. Differential programs for families will be overviewed. Field hours are required.

SED 603 Special Education Law and Procedures (3). Course is designed to familiarize graduate students with the laws and procedures that are required in the process of determining eligibility and delivery of special education services. Students will learn the roles of participants in “Admissions and Release Committee” (ARC), the procedural safeguards, and the order of events in the special education process as determined by federal and state law and procedures. Appropriate for all certified teachers, school psychologists, and administrators serving students with disabilities.

SED 604 Special Education Procedures and Strategies for IECE (3). Students will develop skills in writing Individual Education Programs and Individualized Family Service Plans. Students will be introduced to relevant special education legislation, laws and policies. Students will develop skills in matching intervention strategies to the strengths and needs of young children with disabilities and their families. Students will acquire skills in the development and implementation of the Individual Education Program and the Individualized Family Service Plan in a variety of settings. Field experiences required.

SED 605 Characteristics and Needs of Children and Youth with Mild Disabilities (3). This course surveys the etiologies, characteristics, and learning styles of children and youth with mild disabilities. State and federal definitions for each category of disabilities under the learning/behavior disability certification will be examined. This course should proceed SED 625.

SED 606 Procedures for Classroom Management and Discipline (3). The content of this course provides educators with the information and skills needed to increase their knowledge of advanced methods, and techniques of classroom management procedures. Field hours are required.

SED 607 Transdisciplinary Assessment of Individuals with Moderate/Severe Disabilities (3). This course involves procedures for assessment of the behavioral and educational performance of individuals with moderate to severe disabilities, task analysis, sequencing behavioral skills, and designing individual instructional programs. Students will be provided experience in conducting assessments, developing individual education plans and use of program evaluation techniques related to individuals with moderate to severe disabilities.

SED 608 Functional Behavior Analysis (3). The content of this course provides the student experience in understanding why individuals behave the way they do and how behavior may be taught, changed, and modified. Topics will include behavior management, training strategies, implementation, data-based programming, and field-based teacher research methods. Field hours are required.

SED 609 Instructional Procedures-Students with MSD (3). This course involves preparation in the use of special methods needed to teach children and youth with physical and sensory disabilities. Adaptations, prosthetic devices, and technology used in educational programming as well as communication systems, and self-care techniques will be included. Prerequisite: admission to Teacher Education.

SED 613 Advanced Behavior Support (3). This course is designed to provide an in-depth study of the field of educating children and youth with emotional disturbances and behavioral disorders. The course will include extensive examinations of disability etiologies, theoretical educational approaches, screening and assessment instruments and techniques, educational placement considerations, program development considerations, and ongoing evaluation based on student performance.

SED 614 Advanced Instructional Technology (3). This course includes instruction in technology that is requisite for the Individual Education Program (IEP) for student with mild disabilities. This includes, but is not limited to, assistive technology, technology as a means to meet the needs of different learner types, and students as users of technology.

SED 615 Collaboration Skills for Educators (3). Designed to develop knowledge, skills and abilities relative to collaboration and teamwork. Provides educators with information and skills necessary to collaborate and consult

with other professionals, families, and support agencies regarding the design and implementation of educational programs for students with and without disabilities. Field hours are required. Prerequisite: SED 603.

SED 625 Instructional Techniques for Children and Youth with Mild Disabilities (3). Course content focuses on instructional techniques requisite for the development of an individualized educational program (IEP) for children and youth with mild disabilities. Specific methods, media, and materials in the areas of reading, writing, math, and problem solving will be examined. Students will learn to develop a sequence of instruction from the student’s present level of performance to annual goals matching instruction to the student’s learning style. Prerequisites: SED 603 and 605.

SED 626 Education of Young Children with Disabilities (3). Study of young children with disabilities or who are at risk for disability in terms of their personal, family and educational needs. Field experience required.

SED 631 Nature and Needs of Individuals with Moderate to Severe Disabilities (3). Survey of classification, identification, diagnostic techniques and intervention procedures used in the education and training of individuals with moderate to severe disabilities.

SED 636 Issues and Trends in Special Education (3). Individual programs of study on current issues and trends in special education.

SED 637 Advanced Diagnostic Procedures (3). Instruction which leads to demonstrated competence with instruments utilized in assessment and programming. Field hours are required.

SED 640 Practicum (4-6). Makes provisions for students to participate in all activities and duties generally expected of an interdisciplinary early childhood education teacher or an educator working with students with disabilities. Supervision by the faculty member teaching the course will be provided. The university supervisor will observe students to evaluate their performance based on the appropriate program standards. A graduate portfolio is submitted at the end of practicum. Graded pass/fail.

SED 645 Strategies for Students with Autism (3). Study of the techniques and methods necessary for the organization and operation of educational programs for individuals with autism spectrum disorders. Emphasis will be placed on research-based strategies to enhance communication, learning, and methods for teaching more conventional behaviors.

SED 650 Administration of Special Education Programs (3). This course provides an overview of the history and current status of the organization, administration and supervision of special education programs. Emphasis is on the tasks of organization, administration and supervision, focusing on program planning and development, fiscal management, cooperating agencies, specialized facilities and equipment, legislative provisions, problems of supervision, and instruction in the development, adaptation and evaluation of instruction, curricula, methods, materials, and resources.

SED 651 Social Competence for Safe Environments (3). This course is designed to facilitate an understanding of the priority role that social competence should take in the school and post-school success of children and youth with severe behavior problems. Theories underlying social skills acquisition and practical approaches for implementation will be emphasized. Training strategies discussed will be applicable to a variety of educational environments, including residential, day-treatment, alternative education programs, public, and private schools. Field hours are required.

SED 652 Assessment and Program Planning for Infants, Toddlers and Preschoolers and Families (3). Students will develop skills in formal and informal assessment practices for young children birth through preschool. They will develop knowledge and skills in developmental screening, curriculum-based assessment, program evaluation, and evaluation for determining eligibility for special education services. Field experiences required.

SED 653 Methods and Materials for Infants, Toddlers and Preschoolers (3). This course explores the importance of understanding the nature of young children (birth to five years) and how they learn. The course will emphasize adaptation of curriculum and intervention approaches. The course includes teaching strategies and materials selection and use. Field experiences required.

SED 654 Classroom Management of Individuals with Mod/Sev Disabilities (3). Study of the techniques and methods necessary for the organization and operation of educational programs for individuals with moderate to severe disabilities. Included are specialized teaching techniques such as precision teaching and behavior management applied to the learning environment as well as scheduling approaches, curriculum models, and commercially available materials.

SED 655 Special Education Transition (3). The focus of this course is to support successful transition from school to community life. This includes transitions from different grade levels as well as from public schools to private life.

SED 657 School Safety and Classroom Management (3). Course provides educators with the information and skills needed to create conditions that promote and maintain positive, safe, and healthy school culture, climate, and environments. Educators will also increase their knowledge of advanced strategies and techniques for classroom, school-wide, and district level, positive behavior management procedures. Field hours are required.

SED 660 Problems in Special Education (3). This is an advanced seminar dealing with special topics. Course may be repeated as additional topics are offered.

SED 685 Positive Instructional Behavior Supports (3). To gain expertise in teaching students with emotional behavioral disorders. Attendance at Kentucky Department of Education's Behavior Institute is required.

SED 690 Exit Seminar in Special Education (1). Provides opportunity for students to conduct a self-analysis of knowledge, skills and abilities relative to the graduate program completed. This is accomplished by a review of past textbooks and notes, small group discussions, simulations, role-playing as well as finalizing of the eligibility portfolio. Course is repeatable up to two hours. Prerequisites: SED 605 and be within six hours or less of completing the program.

SED 695 Independent Study (3-6). The independent study is available for selected students who desire to investigate an area not covered in the course work in special education. A final written paper will be submitted to the faculty member directing the study. Prerequisite: advance written proposal approved by the faculty member directing the study.

SOCIOLOGY

(SOC)

SOC 100T Transitions (1). Course is designed to assist students in their transition to Murray State University. Content includes orientation to the specific area or major(s) and minor(s) within the academic program; university procedures, policies, and resources; strategies for personal and academic success, and extracurricular opportunities. Only one transitions course will count toward graduation. Graded pass/fail.

SOC 133 Introduction to Sociology (3). This course will introduce students to sociology and the sociological perspective by focusing upon contemporary societies. Through a study of key concepts such as culture, society, group behavior, population, family, stratification, community, social institutions, and change, students will be given the tools by which to understand better their society and others around the world. SOC 133 will not fulfill the requirements of HON 133.

SOC 231 Social Problems (3). This course is intended to provide the student with a conceptual framework within which to examine social problems. The class will examine the links between technological development, population growth, environmental degradation, social change and disorganization, social inequality, deviance and crime. An approved social science University Studies elective.

SOC 250 Global Sociology (3). This course will provide students with a better appreciation of the value of the sociological perspective in understanding different societies and cultures. The course will focus upon demographic factors shaping societies, values and norms, social inequality, and agents of social changes such as globalization.

SOC 269 Popular Culture (3). Course examines the production, effects, and meaning of popular television, movies, music, art, sports, and other cultural goods using sociological theory. Questions of how popular culture influences our perceptions of race, class, and gender are critically analyzed.

SOC 300 Social Theory (3). A study of the great classical tradition in sociological theory and the expression of this tradition in contemporary theory. The course will include (but not be limited to) such theorists as Weber, Marx, Durkheim, and Spencer.

SOC 305 Social Issues (3). This seminar will cover an important topic or related topics. Both student and faculty interest will determine the topic. Students will both contribute and lead discussions of the readings. Research paper is required. May be repeated for a maximum of nine credit hours.

SOC 315 Addiction: Treatment and Society (3). An overview of current theories, models and definitions of addictive disorders, with focus on both the addictive and recovery processes. The role of the social worker/helping professional in identification, intervention and treatment will be stressed. The needs of special populations, diverse populations and family and adolescent issues will be addressed. Prerequisite: junior standing. (Same as SWK 315).

SOC 325 Sociology of Food (3). Course will highlight the social and cultural dimensions of the human food system, from production to consumption. Topics include an examination of food production over time, analysis of food's role in religious observances, food taboos, food and social stratification, gender roles, food and body images.

SOC 331 The Family (3). This course will examine the contemporary family system in America. To gain an understanding, an historical perspective on the family will be provided along with some cross-cultural data on other family systems. Contemporary research findings will be presented on such topics as subcultural variations, gender roles, power, romantic love and mate selection, marriage and divorce, and alternative family structures.

SOC 332 Sociology of Childhood (3). Course places children at the center of inquiry, while recognizing that the meaning of childhood changes over time and place, and between social contexts and social groups. It examines how children are not just socialized by adults, but also shape their own (and adult) experiences. It will also examine various social problems as they relate to children and youth.

SOC 333 Sociology of Education (3). This course examines educational institutions, practices, and social issues. It examines the ways in which schools are embedded within historical, political, economic, and cultural contexts; the complexity of relationships with families/communities that they serve; and the role that education plays in stratification, social mobility, and social reproduction.

SOC 334 Sociology of Migration (3). Course uses a critical theoretical framework to examine migration, immigration, and emigration. Topics include: diverse factors and processes that influence crossing borders, immigration policies and rights, impact of migration on place of origin and destination, and mobility. Students also consider the impact of migration on transnational networks; intersections of race, class, gender, and sexuality with migration; and transcultural identities.

SOC 335 Sociology of Organizations (3). Theories of formal and informal organizations, bureaucratic systems, alternative systems, and organizational change. Special emphasis will be placed on the relationship between the organization and its environment as well as potential solutions to organizational challenges.

SOC 336 Society and Individual (3). Course provides an examination of the sociological perspective on the relationship between the individual and social institutions. In particular, the course focuses on collective influences on the person, and the role the person plays in sustaining collective conditions. Topics for study include aggression, altruism, attitude formation, conformity, intimacy and self-esteem. Recent research findings will be emphasized.

SOC 337 Social Inequality (3). An examination of the distribution of class, status and power in society. The course will focus upon theories of stratification, contemporary class systems, class differences in values and life styles, social mobility, consequences of stratification, and evolution of modern stratification.

SOC 338 Criminology (3). An exploration of the body of knowledge regarding crime as a social phenomenon. Special focus is given to the study of crime patterns, theories of crime causation, and differences in crime types. The connections between crime, other social processes, the law, and policies of corrections are also explored.

SOC 339 Rural Sociology (3). Deals with the principles underlying the organization, structure and processes of rural life. Demographic and institutional aspects of rural communities will be given particular emphasis.

SOC 340 Medical Sociology (3). An examination of sociological perspectives on systems of medical care; particular emphasis will be placed upon the structure and organization of health care institutions and societal responses to problems of illness and disease. (Same as GTY 340.)

SOC 341 Aging and the Life Course (3). Course examines the ways in which aging and the life course are embedded in and shaped by historical, cultural, and institutional contexts. Specific topics that may be covered include diversity in the aging experience, social support networks, intimacy and sexuality in the aging process, intergenerational equity issues, retirement, economic issues, health issues, and death and dying.

SOC 343 Race and Ethnicity (3). Identity, goals, and organization of racial and ethnic groups; dynamics of racism and ethnocentrism; and processes of communication, conflict, and accommodation. (Same as ANT 343.)

SOC 346 Urban Sociology (3). A study of the origin, growth, and structure of the urban community. Particular attention will be paid to the nature of and possible solutions to problems that come in the wake of rapid urbanization in both the developed and developing world.

SOC 347 Sociology of Mental Health and Illnesses (3). Course examines mental health and mental illnesses from a sociological perspective. Special attention given to demographic characteristics associated with mental illness and how the definition of mental health illness is shaped by history, institutions, and culture.

SOC 355 Sociology of Gender (3). Course examines the central role that gender and gender inequalities play in individuals' lives and the organization of society. It introduces key concepts and theories in the sociological study of gender, considers the intersections between gender and other axes of identity (race, class, etc.), and explores how gender operates within various social institutions.

SOC 359 Writing and Inquiry in the Social Sciences (3). The course focuses on the inquire process that is used in the social sciences and how the results of that inquiry are reported to others. Students will learn how to recognize, understand, and apply specific style, format, and rhetorical requirements for clear and concise expository writing in the social sciences. Students will create a variety of documents that typically include an essay, an annotated bibliography, and analytic case study, a policy brief, letters, memoranda, a policy or procedure, and the development of a research paper through the research design. This is the writing intensive course for all majors in political science, sociology, international studies, and public administration. Prerequisite: ENG 105 or 150. (Same as POL 359.)

SOC 360 Research Methods (3). Course will introduce students to social science research methods. Emphasis will be placed on the scientific method, research design, the various methods of data collection commonly used in political science and sociology, and data analysis. Prerequisite: PSY 300 or STA 135 and SOC 359, or permission of instructor. (Same as POL 360.)

SOC 370 Political Sociology (3). An examination of the central problems of concern to sociologists working in the field of politics. Theories and approaches to understanding the nature of political power, the cultural dimension of politics, and the dynamics of political change will be introduced. Special attention will be given to the ways political power intersects with structures of class,

gender, and race in the United States. Other topics will include the politics of the world-system, the security state, and global economic crises.

SOC 380 Society and Technology (3). This course will examine how technology, ranging from simple to complex, both shaped by society and culture. Controversies that stem from various technologies will be examined, such as bioethical issues, privacy, and the environment.

SOC 400 Senior Seminar (2). This course is a capstone course for all graduating majors in sociology. It is a writing-intensive course in which a discipline-based research paper is refined and orally defended. The writing emphasis is based on knowledge students gain from SOC 300 and 360. Students also develop skills for job searches, acquire information about graduate school, and complete the program assessment instrument.

SOC 420 Sociology of Religion (3). A study of the interrelationships of society, culture and the institution of religion. (Same as RGS 420.)

SOC 430 American Culture (3). This course analyzes the culture of American society focusing upon American values, cultural symbols, production and distribution of culture, cultural conflicts within American society, and culture and change.

SOC 432 Social Movements and Protests (3). The sociological analysis of protest and social movement organizations that challenge political institutions and other forms of institutional and cultural authority. Strategies and tactics of various types of social movements both domestic and transnational will be addressed.

SOC 435 Sociology of Work (3). This course will examine the nature of work in contemporary societies by focusing upon the impact of specialization and bureaucratization; it will examine the different types of work; workers' response to the workplace; impact of work on family, health; role of age, gender, race in the workplace; and finally, the future of work. Prerequisite: six hours of sociology.

SOC 436 Sociology of Sport (3). Theories, methods and substantive issues in a sociological approach to sports. Prerequisite: six hours of sociology.

SOC 438 Sociology of Deviant Behavior (3). Sociological frame of reference for studying deviant behavior, with emphasis placed upon problems of definition, social processing and evaluation of significant theory and research in deviant behavior. Prerequisite: six hours of sociology.

SOC 440 Sociology of Corporate and Political Deviance (3). Discusses and analyzes on both national and global levels the social, economic, political, structural and cultural causes and consequences of corporate and political deviance. Examples include consumer fraud, environmental crime, corruption of the mass media, fraudulent banking practices, identity theft, and computer crime.

SOC 441 Sociology of Youth Violence (3). Discusses and analyzes the social, economic, and cultural causes social consequences of youth violence. Examples include the emergence of international youth gangs, interpersonal youth violence, with attention to how they variously inform the socio-legal concept of "justice."

SOC 442 Law and Society (3). An analysis of legal institutions from a socio-cultural perspective, with emphasis placed on the interrelationships among social change, social problems, social policy and law.

SOC 445 Media and Crime (3). Course uses the sociological perspective to understand the complex relationship between media and crime. The course content will critically assess crime-related media in the United States, analyze media representations of race, gender, and social class, and explore the theories of mass media efforts. Special attention will be given to understanding the power of mass media in constructing dominant views on crime and the criminal justice system.

SOC 455 Environmental Sociology (3). Course will focus upon key theoretical approaches and research in the field of environmental sociology as well as the effects of population and economic growth along with technology, upon the environment. Environmental issues and disasters will be studied focusing upon the role of social organization, culture, values, and social inequality.

SOC 465 Globalization (3). An examination of the political, economic, social and cultural forces related to our globalizing world. Theories and approaches to defining and understanding globalization will be introduced. Topics will include global institutions, immigration, labor, crime, environmental problems, and social movements.

SOC 480 Special Topics in Sociology (3). An undergraduate-level overview of a specific topic in sociology. May be repeated for a maximum of six hours provided topics vary.

SOC 488 Cooperative Education/Internship (1-3). A meaningful, planned, and evaluated work experience related to the career and educational objectives of the student for which he/she may receive academic credit and possible financial remuneration. May be repeated for a maximum of six hours from any 488/489 courses. Graded pass/fail. Prerequisite: permission of chair.

SOC 489 Cooperative Education/Internship (1-3). A meaningful, planned, and evaluated work experience related to the career and educational objectives of the student for which he/she may receive academic credit and possible financial remuneration. May be repeated for a maximum of six hours from any 488/489 courses. Prerequisite: consent of chair.

SOC 490 Directed Studies (1-3). Selected topics in sociology as arranged by the students and a professor. Prerequisite: consent of chair.

SOC 499 Senior Honors Thesis (3). An undergraduate research thesis for outstanding senior majors only. Prerequisite: permission of the department upon nomination of a faculty member.

SPANISH (SPA)

SPA 101 Fundamental Communication in Spanish (3). Basic Spanish in which students learn to describe themselves to someone from another culture; to express preferences, abilities, needs, and obligations; to ask for information; to describe people, places, and things in their world; and to report their typical activities to a Spanish speaker.

SPA 102 Social Interactions in Spanish (3). Expanding upon skills built in SPA 101, students move toward increasing linguistic and social awareness of Spanish-speaking cultures. Students learn to use past tenses to talk about typical activities or to tell a story; to expand their basic vocabulary and ability to communicate in simple Spanish; and to demonstrate basic understanding of aspects of Spanish- and Latin-American cultures that may differ from their own. Prerequisite: SPA 101 or equivalent.

SPA 103 Elementary Spanish Conversation I (1). Designed to provide additional structured practice in the language for students enrolled in SPA 101. Emphasis is on the development of the speaking skill. Cannot be used for major, minor, or B.A.

SPA 104 Elementary Spanish Conversation II (1). A continuation of SPA 103. For students enrolled in SPA 102.

SPA 105 Introduction to Hispanic Culture (3). A survey of the contemporary culture of Spain and Spanish America with emphasis on values, behavioral characteristics, and social and political structures and achievements. Conducted in English. Students may not receive credit for both SPA 105 and 106.

SPA 106 Basic Spanish and Culture for Agriculture (3). An introductory course with an emphasis on agricultural terminology designed for basic communication in Spanish between agricultural employers and their Spanish-speaking employees. It includes a study of Hispanic culture and the contribution of migrant workers to the U.S. agricultural industry. Students may not receive credit for both SPA 106/AGR 109 and SPA 105. (Same as AGR 190.)

SPA 110 Basic Conversational Spanish (3). A conversation-oriented introduction to pronunciation, essential structures, and vocabulary. Designed to enable students to communicate in simple Spanish in everyday situations in Spanish-speaking countries. Pronunciation, listening comprehension, speaking and simple reading and writing of material related to conversational situations are included. No continuation offered. Not applicable toward Spanish major or minor. Only taught abroad.

SPA 201 Intercultural Communications in Spanish (3). Students strengthen their basic language skills while continuing to broaden cultural awareness of Spanish-speaking societies. Students relate experiences, produce brief reports on course topics, and express opinions concerning a variety of themes. Students learn to communicate on a more complex level in Spanish. Taught in Spanish. Prerequisite: SPA 102 or equivalent.

SPA 202 Practical Applications in Spanish (3). Students advance their speaking, writing, reading, and listening language skills in this interactive course focused on the practical application of the language in contemporary Spanish-speaking countries. Activities include role-play, projects, reports, and discussions of texts. Taught in Spanish. Prerequisite: SPA 201 or equivalent.

SPA 203 Spanish for the Working World (3). A continuation from SPA 201, this course is a practical application of Spanish for the working world together with grammar review and with emphasis on communication skills on the formal level. Includes further practice in listening, conversation, reading and writing. Students may be required to attend and write a report on two approved cultural events or complete alternative cultural assignments. Taught in Spanish. Students may receive credit for SPA 202 or 203, but not both. Spanish 203 counts toward the minor and the major. Prerequisite: SPA 201 or equivalent.

SPA 210 Intermediate Spanish Conversation (3). A course designed to develop the vocabulary and oral communication skills of the student with a background of one year of college Spanish or equivalent. Emphasis will be placed on bringing the student into contact with Spanish native speakers and various aspects of their culture. Either SPA 210 or 211 may count as an elective for the major or minor. Only taught abroad. Prerequisite: SPA 102 or equivalent.

SPA 211 Introduction to Spanish Culture (3). Focuses on the contemporary cultural character of Spain. Combines traditional class work with carefully planned excursions to cultural centers. Also designed to increase linguistic proficiency and is conducted in basic Spanish.

SPA 220 Spanish for Law Enforcement Professionals (3). Course is designed to develop the specific vocabulary and oral communication skills essential for a student who is intending to pursue a career in law enforcement and has a background of one year college Spanish or equivalent. SPA 220 will be taught only in study abroad programs in Mexico. Prerequisite: SPA 102 or equivalent.

SPA 230 Spanish for Medical Professionals (3). Course is designed to develop the specific vocabulary and oral communication skills essential for a student who is intending to pursue a career in medicine or nursing, and who has a background of one year of college Spanish or the equivalent. SPA 220 will be taught only in study abroad programs in Mexico. Prerequisite: SPA 102 or equivalent.

SPA 301 Conversation and Composition I (3). Intensive practice in speaking and writing based on a variety of topics and materials. Prerequisite: SPA 202 or equivalent.

SPA 302 Conversation and Composition II (3). Additional practice in speaking and writing based on a variety of topics and materials. Prerequisite: SPA 301 or permission of instructor.

SPA 306 Introduction to Literature in Spanish (3). A course designed to develop skills in reading, writing and oral expression which will prepare students to study authentic literature in Spanish. In addition, the rudiments of literary analysis and/or theory will be introduced through a variety of texts which might include short story, poetry, theater and film. Prerequisite: SPA 301.

SPA 310 Conversation and Composition Abroad (3). Intensive practice in speaking and writing based on the student's interaction with native speakers and the international setting. Only taught abroad. Counts toward the major and minor approved electives. Prerequisite: Two years of college Spanish or equivalent.

SPA 311 Business Spanish (3). Designed for students with interest in international business who have had at least two years of college Spanish or equivalent. The course integrates oral and written business communications, with an emphasis on the vocabulary of business in the Spanish-speaking world. Prerequisite: SPA 202 or equivalent.

SPA 314 Advanced Spanish Culture Abroad (3). Taught in Spanish and taught abroad, focuses on culture in Spanish speaking countries. The course may include carefully planned excursions to a number of specific cultural sites in conjunction with reading about the sites and the intellectual history and milieu behind their conception. The student will explore the history, art, architecture, literature, politics, and music of the host country. This course will only be taught on study-abroad programs in Spanish-speaking countries. Prerequisite: SPA 202 or equivalent, or consent of instructor.

SPA 315 Global Cinema in Spanish (3). A study of Spanish-language cinema, examining significant directors and film movements. This class includes a two-hour per week film screening in addition to class meeting. The course is conducted in Spanish. Prerequisite: SPA 301 or 331.

SPA 323 Spanish Culture and Civilization (3). A cultural survey of Spanish history with emphasis on twentieth-century Spain. Classes conducted in Spanish with extensive use of visual aids. Prerequisite: SPA 301 or permission of instructor.

SPA 324 Mexican Culture History (3). Introduction to Mexican culture from a contemporary and a historical perspective taught in Spanish. Focus will be on the area's geography, history, social and political institutions, and the cultural achievements of its people. It will also explore the values and behavioral characteristics of Mexican people in order for students to better adjust to residence abroad. Course will be taught in Mexico. Prerequisite: SPA 301 or equivalent.

SPA 325 Spanish-American Culture (3). A cultural survey of Spanish-American history with emphasis on twentieth-century Spanish America. Taught in Spanish with extensive use of visual aids. Prerequisite: SPA 301 or permission of instructor.

SPA 329 Mexican Literary Texts in Context (3). Will be taught on summer abroad programs in Mexico only. It is an introductory course on Mexican literature taught in Spanish. Authentic texts might include poetry, short story, drama or excerpts from long works and might be from any literary period. An effort will be made to take advantage of residence in Mexico through visits to sites that are related to the literature. Prerequisite: SPA 202, 203, or permission of instructor.

SPA 330 Spanish Literary Texts in Context (3). Will be taught on summer abroad programs in Spain and Latin America only. It is an introductory course in Spanish literature taught in Spanish. Authentic texts might include poetry, short story, drama or excerpts from long works and might be from any literary period. An effort will be made to take advantage of residence in Spain through visits to sites that are related to the literature. May be repeated for a total of six credit hours. Prerequisite: SPA 202, 203 or consent of instructor.

SPA 331 Advanced Language Practice (3). Course will offer students the opportunity to expand their cultural and linguistic knowledge of Spanish-speaking cultures through a central conceptual framework, such as an international conference, an apartment building, a hotel, or a business. Students will engage in extensive role-play and creative exercises to establish contexts, choose fictive identities, and improvise a series of encounters. Prerequisite: SPA 301.

SPA 332 Phonetics (3). A study of the vocal apparatus, phonetic transcription, and analysis of the contrast between Spanish and English phonology with individual work designed to improve pronunciation. Prepares prospective teachers to teach correct pronunciation effectively. Prerequisite: SPA 202 or permission of instructor.

SPA 401 Survey of Spanish Literature (3). A panoramic study of the literature of Spain from the Middle Ages to the present. Prerequisites: SPA 302 and SPA 301 or 306.

SPA 402 (503) Survey of Golden Age Literature. (3) Spanish literature of the sixteenth and seventeenth centuries. Prerequisites: SPA 302 and SPA 301 or 306.

SPA 403 Survey of Spanish-American Literature (3). A panoramic study of the literature of Spanish America from pre-Columbian times to the present. Prerequisites: SPA 302 and SPA 301 or 306.

SPA 404 (504) Don Quixote (3). Prerequisites: SPA 302 and SPA 301 or 306.

SPA 411 (511) Spanish-American Short Story (3). The origin and development of the short story in Spanish America, with emphasis placed upon the twentieth century. Prerequisites: SPA 302 and SPA 301 or 306.

SPA 419 European Cinema (3). Survey of European (including British) film by French, English, German, and Spanish directors in the original languages with English subtitles except for the English language films. Selected films will be organized around social themes, which will then be viewed from different national perspectives. The common discussion section on one day will be conducted in English to be accessible to students of all languages; the second discussion section will be conducted in Spanish. Students are required to attend film viewings in a separate lab section. Prerequisite: SPA 302 or permission of instructor.

SPA 421 Topics in Spanish Literature (3). Course content will vary according to the needs of the Spanish program. May be repeated to a maximum of six credit hours. Prerequisites: SPA 302 and SPA 301 or 306.

SPA 422 Topics in Spanish American Literature (3). Course content will vary according to the needs of the Spanish program. May be repeated to a maximum of six credit hours. Prerequisites: SPA 302 and SPA 301 or 306.

SPA 430 Advanced Conversation and Composition (3). Designed for students with at least two years of college Spanish or equivalent. The main purpose is to develop greater fluency and better pronunciation. Oral and written reports will be required. Emphasis will be placed on idiomatic structures and vocabulary building. Prerequisite: SPA 301 or permission of instructor.

SPA 441 Topics in Spanish Cultural Studies (3). Course content will include a variety of factors that contribute to and reflect the cultural life, social themes, and national perspectives of Spanish society. The course content will include literature and may include media and/or film. Students will write a research paper. May be repeated for a maximum of six credit hours. Prerequisites: SPA 302 and SPA 301 or 306.

SPA 445 Survey of Spanish Poetry (3). Course will explore Spanish poetry through a variety of authors and works within the genre. Prerequisite: Spanish 302 and SPA 301 or 306, or consent of instructor.

SPA 450 Literary Masterpieces in Spanish (3). A general survey of the literary periods, major authors, and initial acquaintance with their work. May be repeated for a maximum of six credit hours. Prerequisites: SPA 302 and SPA 301 or 306.

SPA 451 Directed Study (1-3). Independent work in the area of language, culture or literature, designed to meet the needs and interest of individual students. Prerequisites: SPA 302 and SPA 301 or 306.

SPA 460 Studies in a Genre (3). The course will explore a particular genre, e.g., the novel, novella, drama, poetry, short story, and the theory behind the respective genre and an examination of a variety of works within that genre. May be repeated as a second course for up to six credit hours provided that the second course covers a different genre. Prerequisites: SPA 302 and SPA 301 or 306.

SPA 505 Nineteenth-Century Spanish Literature (3). Romanticism through Naturalism. Prerequisites: SPA 302 and SPA 301 or 306.

SPA 507 Twentieth-Century Spanish Literature (3). A survey of representative authors. Prerequisites: SPA 302 and SPA 301 or 306.

SPA 512 Spanish-American Novel (3). Representative works from the major literary movements and most regional types will be studied. Prerequisites: SPA 302 and SPA 301 or 306.

SPA 521 Topics in Spanish Literature (3). Topics will vary according to the needs and interests of students. May be repeated to a maximum of six credit hours. Prerequisites: SPA 302 and SPA 301 or 306.

SPA 522 Topics in Spanish-American Literature (3). Topics will vary. May be repeated to a maximum of six credit hours. Prerequisites: SPA 302 and SPA 301 or 306.

SPA 531 Advanced Grammar (3). A specialized study contrasting Spanish and English grammatical structures and usage. Prerequisites: SPA 302 and SPA 301 or 306.

SPA 532 Phonetics (3). A study of the vocal apparatus, phonetic transcription and analysis of the contrast between Spanish and English phonology with individual work designed to improve pronunciation. Prepares prospective teachers to teach correct pronunciation effectively. Prerequisites: SPA 302 and SPA 301 or 306.

SPA 551 Directed Study I (1-3). Course work designed to meet specific needs and interests on an individual basis. Prerequisites: SPA 302 and SPA 301 or 306.

SPA 552 Directed Study II (1-3). Prerequisites: SPA 302 and SPA 301 or 306.

SPA 555 Study Abroad (3-9). Credit given to students for approved travel and study in Spain and Spanish America. Repeatable up to nine hours. Prerequisite: junior standing or above.

SPA 621 Topics in Spanish Literature (3). Topics will vary according to the needs and interests of students. May be repeated for a total of six hours of credit. Prerequisites: SPA 302 and SPA 301 or 306.

SPA 622 Topics in Spanish-American Literature (3). Topics will vary. May be repeated for a total of six hours of credit. Prerequisites: SPA 302 and SPA 301 or 306.

SPA 631 Advanced Grammar (3). A specialized study contrasting Spanish and English grammatical structures and usage. Prerequisites: SPA 302 and SPA 301 or 306.

SPA 651 Directed Study I (1-3). Course work designed to meet specific needs and interests on an individual basis. May be repeated for a total of six hours of credit. Prerequisites: SPA 302 and SPA 301 or 306.

SPA 652 Directed Study II (1-3). Prerequisites: SPA 302 and SPA 301 or 306.

SPA 655 Study Abroad (3-9). Credit given to students for approved travel and study in Spain and Spanish America. Repeatable up to nine hours.

STATISTICS

(STA)

STA 135 Introduction to Probability and Statistics (4). Elementary probability, the binomial, normal, student's and chi-square distributions, random sampling, regression and correlation. Prerequisite: ACT math standard score of at least 20 or MAT 097.

STA 235 Introduction to Probability and Statistics II (3). A study of applied statistical techniques, including re-expressing data, categorical data analysis, regression inference, analysis of variance, multiple and non-linear regression, and nonparametric analysis, from a conceptual standpoint. Prerequisite: STA 135 or consent of instructor.

STA 430 Explorations in Statistics (1-4). A guided investigation of selected topics in probability and statistics. May be repeated for a maximum of six hours of credit. Prerequisite: permission of instructor.

STA 450 Introduction to Engineering Statistics (3). Probability, population and sample distribution, sampling, hypothesis testing, regression on one variable, and quality control. Prerequisite: MAT 308 or consent of instructor.

STA 540 Mathematical Statistics I (4). Introduction to probability theory and statistical inference. Combinatorics, conditional probability independence. Discrete and continuous random variables and their distributions. Expected value and moments of distributions. Estimation theory and properties point estimators. Confidence intervals. Basic theory of hypothesis testing. Testing means and proportion. T-tests. Descriptive statistics. Prerequisite: MAT 308 or permission of instructor.

STA 541 Mathematical Statistics II (3). Additional topics in probability theory and statistical inference. Bayes' Theorem, functions of random variables, order statistics. Bayesian inference, F-tests, chi-square tests, contingency tables, regression and correlation. Prerequisite: STA 540.

STA 554 Statistical Methods (3). A survey course in statistical methods for advanced undergraduate students with no prior training in statistics. The course covers techniques commonly used for data analysis in many scientific fields. Topics included are probability distributions, sampling, variance, estimation, hypothesis testing, contingency table, regression and analysis of variance. (Does not apply toward any degree in mathematics or a minor in mathematics.)

STA 565 Applied Statistics I (4). A study of applied statistical techniques including correlation, regression, analysis of variance and non-parametric methods with a view toward applications. A statistical computer package will be used when appropriate, but no computer background is required. Prerequisite: an undergraduate course in statistics or consent of instructor.

STA 566 Applied Statistics II (3). A continuation of STA 565. Includes further topics in analysis and variance, non-parametrics and multivariate analysis. Prerequisite: STA 565.

STA 567 Introduction to Time Series Analysis (3). An introductory time series analysis course that introduces students to classical and modern time series models. Time series analysis comprises methods for analyzing time series data in order to extract meaningful statistics and other characteristics of the data. Time series forecasting is the use of a model to forecast future events based on known past events: to predict data points before they are measured. This course serves junior and senior mathematics majors, mathematics minors, and other interested students. A student taking this course should have a background in statistical methods. Prerequisite: STA 565 or permission of instructor.

STA 568 Bayesian Methods (3). A study of Bayesian data analysis methods including Bayesian inference, hierarchical modeling, model checking, model building, Bayesian computation, and convergence monitoring and diagnostics. A Bayesian statistical computing package will be used when appropriate. Prerequisites: STA 540 or 565 or consent of instructor.

STA 569 Topics in Statistics (3). Selected topics in probability and statistics. Prerequisite: permission of instructor.

STA 633 Teaching Probability and Statistics (3). An exploration of topics in probability and statistics from the viewpoint of future/current secondary and community college teachers of mathematics and statistics. Such topics include descriptive statistics, correlation and regression, uses and abuses of statistics in real life, traditional and simulation-based approaches to teaching statistical inference, common misconceptions in probability, and the AP Statistics curriculum. (This course does not offer graduate credit for those people seeking a master of science degree in mathematics or chemistry or a master of arts degree in mathematics.) Prerequisite: permission of instructor.

STA 640 Mathematical Statistics I (4). Introduction to probability theory and statistical inference. Combinatorics, conditional probability independence. Discrete and continuous random variables and their distributions. Expected value and moments of distributions. Estimation theory and properties point estimators. Confidence intervals. Basic theory of hypothesis testing. Testing means and proportion. T-tests. Descriptive statistics. Prerequisite: MAT 308 or permission of instructor.

STA 641 Mathematical Statistics II (3). Additional topics in probability theory and statistical inference. Bayes' Theorem, functions of random variables, order statistics. Bayesian inference, F-tests, chi-square tests, contingency tables, regression and correlation. Prerequisite: STA 540 or 640.

STA 654 Statistical Methods (3). A survey course in statistical methods for advanced undergraduate students and graduate students with no prior training in statistics. The course covers techniques commonly used for data analysis in many scientific fields. Topics included are probability distributions, sampling, variance, estimation, hypothesis testing, contingency table, regression, and analysis of variance. (Does not apply toward any degree in mathematics.)

STA 660 Biostatistics (3). A study of applied statistical techniques including correlation, regression, analysis of variance, categorical data analysis, and non-parametric methods with a view toward applications in clinical research and health related sampling. A statistical computing package will be used when appropriate. A student may not receive credit for both STA 565 and 660 or STA 665 and 660. This course does not offer graduate credit for students seeking a Master of Science in mathematics or chemistry, or a Master of Arts in mathematics. Prerequisite: an undergraduate course in statistics or consent of instructor.

STA 665 Applied Statistics I (4). A study of applied statistical techniques including correlation, regression, analysis of variance and non-parametric methods with a view toward applications. A statistical computer package will be used when appropriate, but no computer background is required. Prerequisite: an undergraduate course in statistics or consent of instructor.

STA 666 Applied Statistics II (3). A continuation of STA 665. Includes further topics in analysis and variance, non-parametrics and multivariate analysis. Prerequisite: STA 565 or 665.

STA 667 Introduction to Time Series Analysis (3). Linear time series models; moving average, autoregressive and/or ARIMA models; estimation, data analysis and forecasting with time series models; forecast errors and confidence intervals. Prerequisites: STA 565, STA 665, or consent of instructor.

STA 668 Bayesian Methods (3). A study of Bayesian data analysis methods including Bayesian inference, Hierarchical modeling, model checking, model building, Bayesian computation, and convergence monitoring and diagnostics. A Bayesian statistical computing package will be used when appropriate. Does not count towards a M.A. in Mathematics degree. Prerequisite: STA 565 or 665 or STA 540 or 640 or consent of instructor.

STA 669 Topics in Statistics (3). Selected topics in probability and statistics. Prerequisite: consent of instructor.

STEM LEADERSHIP (STM)

STM 901 Professional Studies in STEM Education I (3). A field- and research-oriented practicum at Breathitt Veterinary Center, Hancock Biological Station, MARC Center, or another approved MSU area. This course provides practical experience in an area of science, technology, engineering or mathematics designed to complement the main research efforts and expertise of the student. Prerequisite: completion of ADM 800.

STM 902 Professional Studies in STEM Education II (3). A field- and research-oriented practicum at Breathitt Veterinary Center, Hancock Biological Station, MARC Center, or another approved MSU area. This course provides practical experience in an area of science, technology, engineering or mathematics designed to complement the main research efforts and expertise of the student. Prerequisite: completion of ADM 800.

STM 904 Contemporary Issues in STEM Policy and Education (3). The purpose of this course is to investigate contemporary issues impacting STEM areas. Special topics explored in this course may include public policy, regional, national, or global trends, and educational practice. Prerequisite: completion of ADM 800.

SOCIAL WORK (SWK)

SWK 100T Transitions (1). Course is designed to assist students in their transition to Murray State University. Content includes orientation to the specific area or major(s) and minor(s) within the academic program; university procedures, policies, and resources; strategies for personal and academic success, and extracurricular opportunities. Only one transitions course will count toward graduation. Introductory seminar for all first-semester social work majors. Graded pass/fail.

SWK 102 Introduction to the Human Services (3). The course is designed to provide an overview of the human services field and to present similarities and differences between majors that prepare graduates for human services. Topics include education for the field, licensing requirements and practice settings. The course will help students explore social work and related fields

in order to make the best choice of major. Open to all students who have not completed a social work course above the 200-level. This course will not take the place of SWK 190 for social work majors.

SWK 120 Building Foundations for Successful Parenting (1). Course designed to give students an understanding of the skills necessary for a successful experience in the area of foster care and adoption services. The course includes content on Kentucky's standards of practice as well as federal legislation with regard to the safety, well-being and permanency of children in and out of home care; strengths and needs; grieving; the cycle of need; and, partnership efforts necessary between birth parents, foster parents, adoptive parents, social workers, therapists and others involved in the support and care of a child. Graded pass/fail.

SWK 121 Child Sexual Abuse Issues for Foster and Adoptive Parents (2). Course designed to give students an understanding of the specialized insights and skills necessary for working with children and birth families where there has been sexual abuse. Graded pass/fail. Prerequisite: SWK 120.

SWK 190 (101) Introduction to Social Work (3). A course designed to provide an overview of the field of social work and the various methods and areas of social work practice. Current response to human needs as well as trends and issues affecting the profession of social work will be explored. Prerequisite: ENG 105; SOC 133 as pre- or corequisite.

SWK 201 Social Work and Social Welfare (3). An introduction to the institution of social welfare and the profession of social work; includes the historical development of conflicting social philosophies and modern social welfare programs, as well as the historical development of the profession of social work. Prerequisites: ENG 105; POL 140, SOC 133 and SWK 101 as pre- or corequisites.

SWK 225 Human Diversity (3). This course is designed to give students an understanding of the concept of human diversity. It includes content on race, ethnicity, culture, class, gender, sexual orientation, religion, physical and mental ability, age and national origin. Prerequisite: ANT 140 or SOC 133 as pre- or corequisites.

SWK 230 Social Work in a Multicultural Society (3). Course focuses on racial and ethnic minorities such as the African American and Hispanic experience in the United States viewed specifically through the lens of the Kentucky experience. Oppression, economic and social class, education and family life will be emphasized, as will societal barriers to success. This course is designed to help students be successful in an increasingly diverse society.

SWK 301 Human Behavior and the Social Environment I (3). Focus on developmental processes (biological, psychological, and social) throughout the life span of individuals (pre-birth to old age) while emphasizing the interdependence between people and the environment in which they live. In addition, students learn to critically analyze theories related to human development and human behavior. Builds on general education courses including psychology, sociology, anthropology, and biology. Prerequisites: PSY 180, SOC 133, SWK 101, and 225 as pre- or corequisites.

SWK 302 Human Behavior and the Social Environment II (3). Primary focus is on models, theories, and knowledge related to larger systems such as families and other small groups, organizations, communities, and political systems. Prerequisites: PSY 180, SOC 133, SWK 101, and 225 as pre- or corequisites.

SWK 303 Principles and Methods of Research (3). An introduction to quantitative and qualitative methods of research designed to enable students to understand the critical and scientific methodologies their discipline uses to discover knowledge and ascertain its validity. Ethical issues and program evaluation will also be discussed. Enrollment will be limited to social work and criminal justice majors and minors or by permission of instructor. Prerequisite: STA 135 or approved statistics course.

SWK 304 Quantitative Analysis (3). Basic concepts of statistics are covered including descriptive and inferential statistics, up to and including linear regression. Students also learn to use a statistical package to enter data and calculate statistics. Prerequisite: ACT math standard score of at least 20 or MAT 097.

SWK 305 Services to Older Americans (3). An examination and study of the social problems experienced by older Americans and the modes of social intervention employed by society, through the Aging Network, to assist the aging and the aged. Prerequisite: junior standing. (Same as GTY 305.)

SWK 306 Social Work with African American Males (3). Course focuses on social work with African American males over the lifespan. Course will use the strengths perspective framework to focus on African American males as well as to the issues and challenges encountered by African American males in the United States. Emphasis will be given to issues such as racial profiling, incarceration of African American males, and equal access.

SWK 307 Social Work with African American Families (3). Course examines the changing dynamics within American society as related to African American families. Special attention will be given to key issues and challenges to the African American community through an examination of the intergenerational African American family.

SWK 308 (202) Interviewing Skills for the Human Services (3). Designed for those not majoring in social work, demonstration and practice of basic helping skills for those students who will work in human services agencies or other school, community, faith-based, or missionary settings. In a laboratory-like interaction, students practice the skills related to successful interviewing of clients. This course will not take the place of SWK 311 for social work majors.

SWK 310 Social Work Practice I (3). This is the first course in the social work practice sequence and presents the generalist model with emphasis on work with individuals and families. Social Work Practice I is designed to introduce the student to the skills and processes of social work. Content will include the theoretical and philosophical bases of the generalist model, intervention processes, and the legal and ethical parameters of practice. Fundamental principles of interviewing and record-keeping will be presented. The focus of the course is on the ethical application of practice theory. Participation in experiential activity and demonstration of basic helping skills are expected. Prerequisites: admission to the social work program; SWK 101, 201, 225, and 301 or 302.

SWK 311 Social Work Practice Skills (3). Presents a laboratory-like interaction, which builds on the theoretical information presented in SWK 310. Fundamental principles of interviewing and record-keeping will be presented. The focus of the course is on the ethical application of practice theory. Participation in experiential activity and demonstration of basic helping skills are expected. Prerequisites: SWK 101, 201, 225, 301. Corequisite: 310.

SWK 312 Social Work Practice II (3). This is the second course in the social work practice sequence and continues the study of social work practice with an emphasis on social work with families and groups. It is designed as an intermediate level investigation and study of the practical application of the generalist model within a group framework. Content will include conceptual framework and techniques of group work. This course may not be taken concurrently with SWK 313. Prerequisites: admission to the social work program; SWK 302 and 310.

SWK 313 Social Work Practice III (3). This is the third course in the social work practice sequence and continues the study of social work practice with an emphasis on social work with organizations and communities. It is designed as an intermediate level investigation and study of practical application of the generalist model within an organization and community framework. Content will include conceptual framework and techniques of social work in organizations and communities, models of organizational and community practice, and evaluation of practice. This course may not be taken concurrently with SWK 312. Prerequisites: admission to the social work program; SWK 302 and 310.

SWK 315 Addiction: Treatment and Society (3). An overview of current theories, models and definitions of addictive disorders, with focus on both the addictive and recovery processes. The role of the social worker/helping professional in identification, intervention and treatment will be stressed. The needs of special populations, diverse populations and family and adolescent issues will be addressed. Prerequisite: junior standing. (Same as SOC 315.)

SWK 316 Substance Abuse in Older Adults (3). This course provides students with an understanding of the biological, psychological, and social etiology of substance use and addiction in older adults. It will focus on assessment of older individuals with potential substance abuse and on the available forms on interventions. Gender, health-specific, cross-cultural, and polypharmacy issues will be addressed. Implications for social work intervention at micro, mezzo, and macro levels will be examined. Prerequisite: junior standing or instructor permission.

SWK 336 Family Violence (3). A comprehensive examination of the effects of violence on the American family, and the ways in which social service agencies and practitioners respond to the unique needs created by this social problem. Prerequisite: junior standing.

SWK 337 Social Work with Active Military, Veterans, and Military Families (3). Course is designed to help students understand the military culture and the particular issues facing veterans and their families during deployment and during reentry into the community. Particular attention will be paid to post-traumatic stress disorder, suicidality, domestic violence, and homelessness among veterans. Prerequisite: SWK 310.

SWK 338 Social Work in the Church Setting (3). Course is designed to help students understand the church as a practice setting for social work and to acquire the skills necessary to work in and with local churches to meet the needs of people locally and around the world. Particular attention will be placed on the role of values and volunteerism in this practice setting. Prerequisites: SWK 102 or SWK 190.

SWK 346 International Social Work (3). This course provides an examination of global interdependence and professional action in the context of social work history, values, policy, practice, and education in a global perspective. International aspects of domestic practice and policy, professional exchange, international development practice, and policy formulation and advocacy at the global level are also covered.

SWK 347 Social Work Practice in Rural Areas (3). This course explores the particular challenges associated with rural social work. Many of the social issues and problems associated with urban populations are also found in contemporary rural America. This course describes and analyzes current trends in rural social work practice and considers the most effective ways to serve rural communities.

SWK 348 Technology in Human Services (3). This course explores the integration of technology and human services. This course describes and analyzes current trends in the use of technology in human services and considers the most effective ways to utilize technology to serve underserved communities and populations.

SWK 350 Social Welfare Policies and Services (3). This course examines historical and contemporary legislative and political responses to the social and economic problems that confront society. A major focus is on the preparation of students, as generalist social workers, to systematically analyze social welfare policies and effectively impact the development of social policy. Prerequisites: ECO 140, POL 140, and SWK 201.

SWK 355 Perspectives on Women (3). Introduction to the study of women's issues in contemporary society. The course will include an overview of the history of the feminist movement and its role in human liberation. The socialization of women and their status in relationship to economic, social and political institutions will be emphasized. Particular attention will be given to these issues as they relate to women of color, older women and lesbian women. Prerequisite: junior standing or permission of instructor.

SWK 365 Crisis Intervention (3). This course will focus on the techniques and management skills employed by social workers in dealing with emergency and crisis situations. Short-term, limited goal interventions will be emphasized. Prerequisite: SWK 310 or permission of instructor.

SWK 370 Gerontological Social Work Theory (3). Course will examine the broader context of the social/cultural meaning of aging in contemporary American society and what social work professionals must know in order to provide social services to those classified as elderly. The emphasis in this course will be on social gerontological theories relevant to work with older people.

SWK 371 Biopsychosocial Aspects of Aging (3). The focus of this class is on the biological, psychological, social aspects of aging, and human development in the second half of the life cycle. The changing meaning of aging and its implications for social work practice will be emphasized.

SWK 375 Social Work in Health Care Settings (3). A study of the role and scope of social services in health care settings. Focus will be placed on the multidisciplinary team approach to service delivery. Prerequisite: SWK 310 or permission of instructor.

SWK 385 Social Work in Mental Health Settings (3). A study of the role and scope of social services in behavioral health settings. Focus will be placed on the interdisciplinary team approach to service delivery. Prerequisite: SWK 310 or permission of instructor.

SWK 395 Substance Abuse Prevention (3). This course is designed to provide an overview of substance or drug abuse and the various strategies used in preventive efforts. The role of prevention in the continuum of care will be examined from a historical perspective. A variety of problems associated with substance abuse, including legal, health and impairment problems, will be explored. Prerequisite: junior standing.

SWK 396 Issues Facing the Minority Elderly (3). The focus of the course is on the issues related to racial and ethnic group membership faced by minority elderly. Content will include a discussion of appropriate theories of aging as well as services available to this population and barriers to serving the minority elderly. Prerequisite: junior standing.

SWK 405 Child Abuse and Neglect (3). This course is designed to provide a comprehensive introduction to child abuse and neglect from a social work perspective. The course will focus on the extent of the problem, its effects on children, treatment issues, the social worker's role in a multi-disciplinary team approach to intervention and advocacy for individuals and families. This course is the first of two specific course requirements for the Public Child Welfare Certification Program available through Murray State University's Social Work Program and the Kentucky Cabinet for Families and Children. Prerequisite: permission of instructor.

SWK 410 Enhancing Safety and Permanency (3). Course prepares undergraduate students in the College of Health Sciences and Human Services to develop knowledge and skills in the delivery of services to children and youth in foster care and other out of home care situations in the context of an ecological and family solutions framework. Prerequisite: SWK 120.

SWK 415 Child Abuse Interventions (3). This course is designed to provide a comprehensive introduction to practice skills and treatment interventions related to social work with abused and neglected children and their families. This course will focus on the development of specific practice skills in collecting data and assessing situations with a variety of client types. This course is the second of two specific course requirements for the Public Child Welfare Certification Program available through Murray State University's Social Work Program and the Kentucky Cabinet for Families and Children. Prerequisites: SWK 405 and permission of instructor.

SWK 424 Case Management: Theory and Practice (3). This course will address the theory and practice of effective case management and the skills necessary to assess the client situation and to optimize client functioning. This course will focus on a diverse population of vulnerable clients across various practice settings. The settings emphasized include medical/health, educational, psychiatric, and services to the elderly. Policy issues will be addressed, as they relate to advocacy, service planning, and program design. Prerequisite: SWK 310.

SWK 425 HIV Disease: The Individual and Society (3). This course is an overview of HIV disease and its impact on individuals and society. This course will focus on the history of the illness, as well as, current medical and epidemiological information. Current treatment, legal and ethical issues, social responses, and personal and societal values will be explored. Prerequisite: junior standing.

SWK 426 Spirituality and Social Work Practice (3). Course is designed to assist students in understanding the role of spirituality in a person's life and how to engage in spiritually sensitive practice. Time will be spent exploring how

the social worker's spirituality influences their practice and the importance of including information regarding client spirituality when completing an assessment.

SWK 427 Professional Practice in Drug Court (3). Course will provide students with an understanding of the ethics in practice with drug court clients, and will deal with other professional issues including worker client boundaries, the role of worker self awareness in providing treatment, and dealing with community values related to drug court clients. Students may be asked to attend local drug court functions.

SWK 428 History and Philosophy of Drug Court (3). Course will provide students with an understanding of the role of drug court in Kentucky, national trends related to the establishment of drug courts, the history of drugs court in the state, and an understanding of the philosophy of drug court. Students may be asked to attend local drug court functions.

SWK 429 Behavioral Issues in Drug Court Practice (3). Course will provide students with an understanding of the behavioral issues present by drug court clients, including those issues caused by the effects of alcohol and other pharmacological substances. Students may be asked to attend local drug court functions.

SWK 431 Adult Protection (3). Course will provide students with an understanding of adult protective services, an institutional response to caring for vulnerable adults in society. The content of the class will be based on Kentucky laws, policies and procedures.

SWK 432 Foster Care and Adoption (3). Course will provide students with an understanding of the role of foster care in society, the role of protective services in monitoring foster care, and policies and procedures governing adoption.

SWK 435 Social Work and Human Rights (3). A social work program elective that looks at the history of human rights throughout the world and how history affects present efforts to create a more just society and world. Class will focus on present-day human rights issues around the world and at home using social work values and the Universal Declaration of Human Rights as a model. Prerequisite: Social Work major or permission from instructor.

SWK 442 Immigration and Social Work: A Global Perspective (3). Course will provide students with an understanding of the process of transnational migration and its impact, the varied life contexts that necessitate migration and the consequences to individuals, families, sending and receiving countries. The implications for social work at micro, mezzo, and macro levels and current global concerns with immigration will be addressed.

SWK 460 Topical Seminar (3). Seminar dealing with various social work topics. Topics may differ from semester to semester depending on program curricular needs and demonstrated interest of students. May be repeated for a maximum of nine credit hours when topic differs. Prerequisite: junior standing.

SWK 488 Cooperative Education/Internship (1-3). A meaningful, planned, and evaluated work experience related to the career and educational objectives of the student for which he/she may receive academic credit and possible financial remuneration. May be repeated for a maximum of six hours from any 488/489 courses. Graded pass/fail. Prerequisite: permission of social work program director.

SWK 489 Cooperative Education/Internship (1-3). A meaningful, planned, and evaluated work experience related to the career and educational objectives of the student for which he/she may receive academic credit and possible financial remuneration. May be repeated for a maximum of six hours from any 488/489 courses. Prerequisite: permission of social work program director.

SWK 498 Senior Seminar (3). The final social work practice course designed to prepare students for beginning professional entry-level generalist practice. This course will explore issues related to agency based work environments, service delivery in a generalist framework, current issues in the field, and focus on the professional use of self as well as professional writing in the field of social work. This course is taken in the final semester before SWK 499. Prerequisites: formal admission to the social work program, SWK 310, SWK 311, and either SWK 312 or SWK 313 (which may be taken concurrently).

SWK 499 Field Practicum (12). Internship in a community social service agency. Field practicum is designed to give students an educational work experience in which they apply generalist social work practice theory and skills. Concurrent field seminar class meets regularly on campus to explore current issues related to service delivery to individuals, families, groups, organizations and communities. Field practicum requires a full semester (500 clock hours) of full-time agency-based work. No student is guaranteed an internship since the agencies make the final decision about suitability. All academic coursework must be completed prior to enrollment in this class. Students must have professional liability insurance before beginning this class. Prerequisites: formal admission to the social work program, consent of field education review committee and SWK 498.

SWK 500 Independent Study (3). Faculty supervised independent study and investigation of selected topics related to the student's academic and/or career goals. This course cannot be used as a social work elective. Course may be repeated for a maximum of nine hours of credit if topics/investigations vary. Prerequisites: social work major with advanced standing, social welfare minor, and others with permission of instructor; permission of program director.

THEATRE (THD)

THD 100T Transitions (1). Course is designed to assist students in their transition to Murray State University. Content includes orientation to the specific area or major(s) and minor(s) within the academic program; university procedures, policies, and resources; strategies for personal and academic success, and extracurricular opportunities. Only one transitions course will count toward graduation. Introduction to policies and guidelines for the department. Transfer students to the theatre program are encouraged to participate. Graded pass/fail.

THD 101 Dance Appreciation (3). Orientation to dance as an art form: historical and aesthetic perspectives, basic dance elements, and the relationship to other arts and to the culture. Lectures, films, demonstrations and practical dance experience.

THD 103 Theatre Foundations (1). Preparation in audition techniques, resume, and portfolio presentation.

THD 104 The Theatrical Experience (3). Critical analysis of the theatre as an art form. Emphasis is on the play in production, not the play as literature. A student cannot have credit for both this course and HON 163.

THD 105 Introduction to Acting (3). The fundamentals of the craft of acting for the beginning/amateur adult actor will be taught. The course highlights introductory techniques to make a non-theatre major's performance more natural and spontaneous. Students will be required to see the productions presented by the Department of Theatre during the semester they are enrolled in the course. This course will not fulfill any requirements for a theatre major or minor.

THD 106 Theatre Production Practicum (1). Six credits of THD 106 are required for theatre majors prior to graduation. Theatre minors must enroll for two semesters prior to graduation. Successful completion of the course requires participation at all auditions during the semester enrolled and completed acting or crew assignments during the semester enrolled. Letter-graded course. Prerequisite: theatre major or minor.

THD 107 Summer Theatre Production (3). A practical experience in which participant work in a summer theatre as an actor, crew member, manager, or other production responsibility. Students work directly with the department faculty in pre- and post-production events for the course.

THD 110 Movement for the Actor (3). Introduction to basic physical skills needed for acting: relaxation, flexibility, manipulation of the body at rest and in motion.

THD 111 Acting I (3). An introduction to a Stanislavski-based approach to relaxation, concentration, script analysis, scoring techniques, and character development. Prerequisite: theatre major or minor.

THD 118 (201) World Theatre (3). Introduction to the development, expansion, and adaptation of theatre around the world through historical reference, understanding of the world's artistic elements, and cultural requirements that have made certain forms of theatre successful through the ages. Students will be required to attend MSU Department of Theatre main stage productions.

THD 120 Play Analysis (3). Study and application of the basic concepts and skills needed to successfully comprehend and approach a play in production.

THD 140 Stagecraft (3). Course will be an introduction to the basic techniques of scenic construction and backstage procedures. Practical work on productions is required outside of lecture.

THD 142 Costume Construction (3). An introduction to the techniques employed in costume construction. The class focus is on building costumes and sewing projects.

THD 210 Voice and Diction (3). Introduction to an organic and healthful approach to relaxation, breath support, vocal projection, and clarity of diction.

THD 220 Creative Drama (3). Theatre games, group expression, improvisation, and storytelling will be examined. Using drama to educate children will be the emphasis for the class.

THD 221 Performance Theory (3). A study of acting, directing, and design theorists from ancient times to the contemporary era. This is a lecture/discussion course that is team-taught by faculty in the disciplines of acting, directing, and design. Students will be required to attend all productions offered by the department during the semester the course is taught. Prerequisite: THD 120.

THD 225 Children's Theatre Touring Company (3). Audition-based touring organization. Performances will take place at K-12 institutions each semester. May be repeated once for credit towards the theatre major. Prerequisite: audition entry to the company.

THD 230 Stage Management (3). Examination of theoretical and practical aspects of working as a stage manager.

THD 241 Theatrical Makeup (3). The basic principles of stage makeup are explored through lecture demonstration and application.

THD 250 Basic Theatre Design (3). Fundamental techniques and theories of design for the stage in the areas of scenery, costuming, lighting, and sound will be introduced. This course is a lecture/discussion-based course. It will be team-taught by faculty in the theatre discipline of design. Students will be expected to attend all productions offered by the department each semester the course is taught and will respond to the productions in writing. Prerequisite: THD 120.

THD 260 Music Theatre Dance I (3). Exploration of choreographers and their styles as they relate to musical theatre genres. Practical dance experience is utilized in the course.

THD 262 Jazz Dance I (3). Study of the theory, technique, and history of jazz dance. Practical dance experience is utilized in the course.

THD 263 Theatre History and Literature I (3). An introduction to Western theatre history and literature from the Greek civilization to the English Renaissance.

THD 264 Theatre History and Literature II (3). Continued introductory study of Western theatre history and literature from the English Restoration to the modern era.

THD 270 Stage Combat (3). Students will study the techniques of staging moments of physical violence on stage. Emphasis on safety and performance. Students are required to attend all Murray State University Theatre Department season productions. Prerequisites: THD 110 and 111.

THD 275 Acting for Film, Television, and Commercials (3). An introductory course focused specifically on acting for film, television, and commercials. The course is focused on auditioning and acting techniques for the camera, as well as standard terminology and jargon actors need to know when working in film, television, and commercials. Prerequisites: THD 111 and 120.

THD 310 Acting II (3). A continuation of a Stanislavski-based approach to acting including in-depth scene work in modern are introduced and utilized along with formal script analysis and scoring techniques as they relate to the actor-audience relationship. Prerequisites: THD 111 and 221.

THD 312 Advanced Movement for Actors (3). A study of period movement techniques, stage combat and other advanced physical acting techniques. Students will be expected to participate in each class period with the instructor leading exercises and various other techniques. Students will be expected to attend all productions offered by the department each semester the course is taught will respond to the productions in writing. Prerequisite: THD 110.

THD 320 Playwriting (3). A study of the principles and practices of dramatic construction of play scripts. Prerequisite: THD 120.

THD 322 International Studies in Theatre (3). Study of current theatrical productions in a foreign country. A residency outside of the United States is required for this course. Prerequisite: permission of instructor.

THD 330 Theatre Management and Arts Leadership (3). A study of theatre management techniques focusing on arts leadership skills and theories.

THD 341 Advanced Theatrical Makeup (4). A practical study of advanced makeup for the stage. Prerequisite: THD 241.

THD 346 Acting Shakespeare (3). Advanced study of Shakespeare's work as it relates to acting. Scripts analysis, interpretation, and Shakespeare's scripts in performance will be emphasized. Prerequisites: THD 120, 310.

THD 350 Scene Design (3). Aesthetics of set design as it relates to the stage. Emphasis is placed on principles and theories of design. Practical work on university theatre productions is required. Prerequisite: THD 250.

THD 351 Lighting Design (3). Aesthetics of lighting design as it relates to the stage. Emphasis is placed on principles and theories of design. Practical work on university theatre productions is required. Prerequisite: THD 250.

THD 352 Costume Design (3). Aesthetics of costume design as it relates to the stage. Emphasis is placed on principles and theories of design. Practical work on university theatre productions is required. Prerequisite: THD 250.

THD 358 Sound Design for the Theatre (3). An introduction to the theoretical and practical processes of sound design for the theatre. Recording techniques, design techniques, sound reinforcement and other aspects of sound design for the stage will be discussed. This course is a lecture course. Students will be expected to attend all productions offered by the department each semester the course is taught and will respond to the productions in writing. Prerequisites: THD 140 and 250.

THD 360 Music Theatre Dance II (3). Study of music theatre dance as it relates specifically to musical theatre in performance. Prerequisites: MUS 127 and THD 111, or permission of instructor.

THD 362 Jazz Dance II (3). Continued study of jazz dance as it relates to THD 262. Prerequisite: THD 262.

THD 389 Musical Theatre Performance I (3). A study of principles of musical theatre performance. The course includes acting techniques, and musical preparation, culminating in a student showcase performance. Prerequisites: THD 111 and MUS 127.

THD 392 Professional Theatre Engagement (1-3). Practical engagement course for theatre majors and minors. Each student will work 45 hours on an approved project utilizing skills related to Theatre studies. Graded pass/fail. Course is repeatable for up to six credit hours. A total of two credit hours count towards graduation. Prerequisites: junior or senior standing and permission of instructor.

THD 400 Special Topics (3). Studies in theatre arts or dance topic not offered in the curriculum on a regular rotation. Only one THD 400 course will count towards a theatre major or minor's graduation requirements, but additional hours may be counted as free elective hours. Prerequisite: permission of instructor.

THD 410 Acting III (3). A study of acting styles for period literature. Prerequisites: THD 111 and 221.

THD 422 Contemporary Theatre (3). A study of contemporary theatre trends, practitioners, and literature from 1970 to the present.

THD 430 Directing I (3). Principles and methods of stage direction, script analysis, and the directing concept as they relate to play production. Prerequisite: THD 111, 120, and 250.

THD 465 Directing II (4). Practical application of principles learned in THD 430. Prerequisite: THD 430.

THD 466 Theatre Literature (3). Examination of theatre literature from the ancient times through the contemporary era. Emphasis will be placed on major historical periods of theatre arts from the ancient Egyptians to Contemporary Western Theatre literature. This course will be a lecture/discussion format. Students will be expected to attend the productions offered by the department each semester the course is taught and will respond to the productions in writing. Prerequisite: THD 120.

THD 590 Directed Independent Study in Theatre Arts (3). Individual projects of special interest under the direct supervision of a theatre or dance faculty member. Prerequisites: senior standing and consent of the chair of the department.

TEACHING ENGLISH TO SPEAKERS OF OTHER LANGUAGES (TSL)

TSL 331 ESL Methods Grades P-5 (3). This course provides an in-depth exposure to methodology, activities, and materials appropriate for ELL (English language learning) students in preschool and elementary school contexts. This course covers a range of instructional and classroom management techniques appropriate for stand-alone or pull-out ESL instruction. Field experience required. Prerequisite: ENG 228 or equivalent; or permission of instructor.

TSL 332 ESL Methods Grades 5-12 (3). This course provides an in-depth exposure to methodology activities, and materials appropriate for ELL (English language learning) students in middle school and secondary school contexts. This course covers a range of instructional and classroom management techniques appropriate for stand-alone or pull-out ESL instruction. Field experience required. Prerequisite: ENG 228 or equivalent; or permission of instructor.

TSL 409 Acquisition of Languages in Children and Adolescents (3). This course examines theories and perspectives on the language acquisition process in children and adolescents. Special emphasis includes a review of language acquisition research in school contexts and an examination of the relationship between various theories of acquisition and instruction. Prerequisite: ENG 310.

TSL 410 ESL Assessment, Placement, and Advocacy (3). Students will understand and practice various types of assessment particular to English language learners in the public school context, including administration and interpretation of standardized language proficiency and placement tests, tracking student language progress with respect to curricular standards, and creation of traditional and alternative language assessment instruments. Emphasis is also placed on developing skills to communicate student and family needs and progress to communities both inside and outside the school context. A field experience is required. Prerequisite: TSL 331 or 332.

TSL 600 Methods and Materials for Teaching ESL/EFL (3). Knowledge derived from the linguistic sciences about the nature of language and how it is learned serves as the basis for the exploration and evaluation of various methods, techniques and approaches to the teaching of English as a second or foreign language.

TSL 605 Writing and the Teaching ESL/EFL Writing (3). Course will explore writing and the acquisition of writing skills in a second/foreign language with specific attention to methods and techniques for teaching writing to all levels of English language learners. Students will apply this knowledge through extensive writing and analysis of writing in order to improve their expertise and understanding of writing approaches.

TSL 609 Foundations of Second Language Acquisition (3). An overview of the foundational concepts, theories, and methodology in the field of second language acquisition (SLA) in its historical and analytical aspects, treating issues and topics significant to SLA in depth. Prerequisite: ENG 310 or 618 or equivalent.

TSL 610 Applied Linguistics and Professional Practices (3). A specialized application of subareas of applied linguistics with emphasis on the impact of theories of linguistics on ESL/EFL pedagogy and preparing students to be critical consumers of applied linguistics research. Topics of focus include issues in research design and methodology, the ethics of teaching, and skills needed to participate as an active ESL/EFL professional. Prerequisite: TSL 609.

TSL 615 Course and Syllabus Design in ESL/EFL (3). Building on concepts in TSL 600, the course examines differing viewpoints of the global objectives of language programs and courses. Prerequisite: TSL 600.

TSL 620 Computer Assisted Language Learning (3). An introduction to computer assisted language learning (CALL), an overview of its specialized vocabulary and a review of research regarding its effectiveness.

TSL 623 Testing and Evaluation in Second Language Teaching (3). A review of a number of current methods for classroom/standardized language testing and evaluation.

TSL 634 Language and Culture (3). A study of the relationship among language, society and the individual's concept of reality. The course examines a variety of ethnographic concepts and findings as they relate to language and language learning in its broadest context. The course will also examine sociolinguistics, the relationship between culture and language, and the implications for second language teaching and the development of intercultural competence. (Same as ENG 634.)

TSL 653 Integrated ESL/EFL Skills Seminar (3). An exploration of advanced methods of teaching ESL/EFL integrating all language production and reception skills and linguistic structural knowledge within a content/theme-based pedagogical framework, specifically addressing how grammar is incorporated within a multidimensional model of ESL/EFL instruction. A field experience is required. Must be taken during the final semester of study in the M.A. in TESOL. A field experience is required.

TSL 680 Practicum (3). An intensive observation/learning experience in a classroom setting through which students reflect on and begin to apply the skills and methodological approaches learned throughout the program. Prerequisite: TSL 600.

TSL 690 Internship: Teaching Focus (3). A supervised teaching position in an educational institution or industry in the United States or abroad which allows the intern to gain experience over a period of at least four weeks. The employer participates in formal evaluation of the intern's performance. Must be taken during the final semester of study in the M.A. in TESOL.

TSL 691 Internship: Research Focus (3). A supervised research position, designed for students with prior or current teaching experience, that allows the intern to gain experience in advanced research skills. May receive an *R* grade if work needs to be continued for one additional semester. Prerequisite: Must have teaching experience; TSL 610; approval by the TESOL Committee based on a superior score of the TSL 610 final project and research proposal, using an external rubric; and recommendation of TSL 610 professor.

TSL 692 Internship: Materials Design Focus (3). A supervised project developed position designed for students with prior or current teaching experience, that allows the intern to gain experience in the development of course material worthy of possible publication. May receive an *R* grade if work needs to be continued for one additional semester. Prerequisite: Must have teaching

experience; TSL 615; approval by the TESOL Committee based on a superior score of the TSL 615 final project and materials proposal, using an external rubric; and recommendation of TSL 615 professor.

TELECOMMUNICATIONS SYSTEMS MANAGEMENT (TSM)

TSM 100T Transitions (1). Course is designed to assist students in their transition to Murray State University. Content includes orientation to the specific area or major(s) and minor(s) within the academic program; university procedures, policies, and resources; strategies for personal and academic success, and extracurricular opportunities. Only one transitions course will count toward graduation. A student (transfer or regular) who has not enrolled in and earned 12 hours prior to his/her first semester at Murray State University must take Transitions. Graded pass/fail.

TSM 118 Telecommunications Electronics I (3). A theoretical overview of the electronic building blocks involved in the field of telecommunications. Prerequisite: ACT standard score of at least 20 or MAT 097.

TSM 121 Telecommunications Electronic Principles (3). An overview of the processes and theory utilized in the field of telecommunications. Prerequisite: Mat 140.

TSM 132 Network Technical Support (3). Primarily lab-based course, studying microcomputer concepts, with emphasis on network technician practices. Students learn to operate, install, configure, troubleshoot, upgrade, and maintain microcomputers and gain an introductory understanding of computer networks. Two hours lecture and two hours lab.

TSM 133 Telecommunications Technology and Methods (3). An overview of the technology and managerial considerations of the telecommunications systems management field, including history, job market, educational requirements, microcomputer concepts and basic networking concepts. Two hours of lecture and two hours of lab per week.

TSM 134 (120) Introduction to Telecommunications Systems Management (2). An overview of the telecommunications industry including history, fundamentals, regulations, the marketplace, educational requirements, and job/career opportunities. The class will focus on telecommunications terminology, overviews of specific technologies and their business application.

TSM 135 (133) Introduction to Network Technology (2). An overview of the technology and managerial considerations of the telecommunications systems management field, including history, job market, educational requirements, microcomputer concepts and basic networking concepts.

TSM 218 Telecommunications Electronics II (3). A continued theoretical overview of the electronic building blocks involved in the field of telecommunications. Prerequisite: TSM 118.

TSM 219 Electronic Skills Lab (3). Electrical, electronic and related mechanical drafting; printed circuit board layout and masking techniques; introduction to CAD techniques; industrial documentation procedures. Four contact hours. (Fall)

TSM 232 Operating Systems (3). A study of operating systems and network administrative functions necessary to implement and maintain modern Local Area Networks (LAN). Topics include operating system installation and configuration, optimization, and administrative tasks. Two hours of lecture and two hours of lab per week. Prerequisite: TSM 133.

TSM 233 Network Services (3). A lecture-lab class providing the student in-depth analysis and evaluation, name resolution, directory services, IP management, email and web services and service availability. Two hours of lecture and two hours of lab per week. Prerequisite: TSM 232.

TSM 241 Networking Fundamentals (3). A study of fundamentals of networking including the topics of switches; routers; Ethernet; VLANs; sub-netting; routing and routed protocols; access-control lists; and device operating systems and management. Students will be able to design and implement simple wired networks and internetworks upon completion of this course. Two hours of lecture and two hours of lab per week. Prerequisite: TSM 232.

TSM 301 Physical Network Theory (3). A review of the electronic theory utilized in the field of telecommunications and current industry standards governing commonly implemented physical network systems. Prerequisite: MAT 130 or 140; PHY 125 and 126 or PHY 132 and 133 or EMT 110.

TSM 320 Introduction to Wireless Technology (3). An introduction to the rapidly changing field of wireless technology, including the topics of wireless access technologies and fundamentals, network mobility management and handoff, cellular, WLAN, broadband WiMax, and mobile satellite services and applications. Prerequisite: TSM 301.

TSM 321 Wireless Communications I (3). Introduction to wireless cellular communications fundamentals including coverage and traffic analysis, as well as an overview of mobile communication networks components. Prerequisite: TSM 320.

TSM 322 Wireless Communications II (3). Course provides a comprehensive technical foundation in IS136, GSM, CDMA, EDGE, CDMA2000 and higher generations of wireless technologies and applications. Prerequisite: TSM 321.

TSM 323 Wireless Mobile Internet (3). Course will develop a comprehensive understanding of the wireless internet describing the standard activities and the current status of wireless IP (Internet Protocol), and detailing network models and specific associated techniques. Prerequisite: TSM 321.

TSM 331 Digital Electronics (4). A study of Boolean algebra, binary number systems, and small- and medium-scale digital integrated circuits. Emphasis is placed upon the TTL and CMOS logic families. Three hours lecture and two hours lab. Prerequisite: TSM 210.

TSM 332 Microprocessors (4). A study of advanced digital systems and their relationships to microprocessor-based systems, general microprocessor architecture, and an in-depth study of a Motorola 6800-family microprocessor. Three hours lecture and two hours lab. Prerequisite: TSM 331. (Fall)

TSM 340 Information Security Management (3). An overview of the problems, techniques, and practices associated with establishing and maintaining information security. Prerequisite: TSM 241.

TSM 341 Communications Electronics I (4). An introduction to communications electronics including AM transmission and reception, single-sided-band communications, and FM transmission and reception. Three hours lecture and two hours lab. Prerequisites: MAT 130 and TSM 210.

TSM 342 Communications Electronics II (4). A continuation of TSM 341 including pulse and digital communications, television, telephone systems, microwave communications, fiber optic systems, transmission lines, wave propagation, and antennas. Lecture and laboratory. Prerequisite: TSM 341. (Spring)

TSM 343 Protocol Analysis (3). A lecture-lab course analyzing the operation and behavior of Internet and network protocols with emphasis on the TCP/IP suite of protocols. Two hours of lecture and two hours of lab per week. Prerequisite: TSM 232 and 241.

TSM 351 Principles of Information Security (3). An introduction to information assurance and the study of principles and mechanisms of network security. The topics include security architecture and services, symmetric and asymmetric encryptions, IP and web security, public-key infrastructure and authentication service. Prerequisite: CSC 232, STA 135 (or CIS 243), and TSM 241.

TSM 352 Systems Security (3). A study of security issues associated with network operating systems. Two hours of lecture and two hours of lab per week. Prerequisite: TSM 343 and 351.

TSM 353 Network Security (3). A study of the techniques for securing data networks. Two hours lecture and two hours lab per week. Prerequisite: TSM 343 and 351.

TSM 360 Virtualized Enterprise Systems (3). Class involves the virtualization technologies used in enterprise networks including virtualized approaches to data storage, processing, networking, applications, and user access. Management and security of the virtualized environment is also addressed. Using

virtualization technology to overcome challenges associated with building and maintaining highly scalable and resilient enterprise networks to support mission critical applications and dynamic user demands is emphasized. Prerequisites: TSM 233 and TSM 343.

TSM 380 Internship (3). These students, upon approval of the TSM faculty, are placed with cooperating firms to receive on-the-job training in telecommunications systems management. Work experience supervised by faculty; written reports are required. Graded pass/fail. Prerequisite: Permission of program director.

TSM 388 International Experience in Telecommunications (3). A study abroad experience, which includes a short-term trip, highlighting selective historic and modern contributions to telecommunications from another country and culture. Graded pass/fail. Prerequisite: permission of instructor.

TSM 397 Undergraduate Research in TSM (3). Research projects arranged individually with faculty members who agree to direct the research. A written plan of research must be filed with the instructor within two weeks of the beginning of the semester. A written summary of the research performed, data obtained, and conclusions following from the work must be submitted not later than the final week of classes. May be repeated for a maximum of nine credit hours. Prerequisites: junior standing and permission of the instructor.

TSM 411 Network Design, Operations and Management (3). Advanced study of network design, operations, and management from a technical point of view. As the capstone to the undergraduate TSM program, the course examines the technologies, tools, and procedures available to network managers as well as the principles of project justification and management. Students will learn to do requirements analysis, estimate cost, and calculate return on investment. Issues of efficiency, performance, reliability, risk management, disaster recovery, and security will be addressed. The course includes a major network design project. Prerequisites: CIS 317, TSM 241, TSM 320, and senior standing.

TSM 421 Mobile Satellite Communications (3). Course will examine elements of the architecture of mobile satellite service networks. Air interface, systems for processing and completing telephone and data calls, and the regulatory issues that hamper the creation of a viable business will be integral components of the course. Prerequisite: TSM 321.

TSM 440 Information Assurance Policy and Management (3). Advanced study of information assurance policy and management, and security auditing. The end-to-end process of information assurance policy development, implementation, management, and audit is examined including the impact of national policy and regulation, with the objective of establishing and maintaining the confidentiality, integrity, and availability of digital information. Prerequisite: TSM 351.

TSM 441 Advanced Information Security (3). Advanced topics in information assurance including computer and network forensics, malicious software (malware), and cryptography systems. Course provides the students with an advanced understanding of the vulnerabilities, threats, defenses, and incident response procedures involved in the safeguarding of modern information, networks, and computer systems. Prerequisite: TSM 352.

TSM 443 Voice and WAN Systems (3). A study of telephone systems including PSTN architecture, private exchanges and transmission and switching technologies. Emphasis is placed on the design and support of telephony and WAN systems in the enterprise, but regulatory and market issues are also considered. Two hours lecture and two hours lab per week. Prerequisite: TSM 343.

TSM 444 Enterprise Networks (3). Advanced topics in the theory, design, and performance of computer networks. The topics include quality of service support, high-speed network architectures, traffic management, transmission systems, queuing analysis, and emerging network technologies. Prerequisites: TSM 343 and 443.

TSM 450 Telecommunications Policy and Strategies (3). Course will cover social, ethical, legal, strategy, technical, and professional issues encountered in a business environment in the information age. The students will discuss telecommunications policy and regulations in the United States and other nations, and how these regulations impact the telecommunications industry. Prerequisite: senior standing or permission of the instructor.

TSM 488 Cooperative Education/Internship (1-3). A meaningful, planned, and evaluated work experience related to the career and educational objectives of the student for which he/she may receive academic credit and possible financial remuneration. May be repeated for a maximum of six hours from any 488/489 courses. Graded pass/fail. Prerequisite: TSM 241.

TSM 489 Cooperative Education/Internship (1-3). A meaningful, planned, and evaluated work experience related to the career and educational objectives of the student for which he/she may receive academic credit and possible financial remuneration. May be repeated for a maximum of six hours. This is a graded class. Prerequisite: approval by academic advisor.

TSM 517 Systems Planning (3). The primary focus of the course is to understand the development of a systematic planning cycle for implementing and maintaining an organization's Information Technology (IT)/Information Systems (IS). Specifically to understand the complex but direct relationship between "business planning" commonly called the "Corporate Strategic Plan (CSP)" and "systems planning" also call "Information System Plan (ISP)". Students will explore the theory and practice of IS planning through case study analysis. Students will understand how IT/IS projects and the planning involved in the projects implement the ISP. Prerequisite: CIS 317.

TSM 571 Problems in TSM (3). Individual study and research pertaining to special problems in telecommunications system management. Prerequisite: permission of instructor.

TSM 601 Telecommunications Principles (3). A graduate level introduction to the underlying principles of telecommunications. This course presents the problems and solutions involved in communicating over extended distances. Topics include: fundamental physical and electronic concepts; information theory; types of media; requirements and capacity calculations; modulation and multiplexing methods; standards and architectures; modern applications and issues. Throughout the presentation of the technical fundamentals, discussion will focus on relevant management issues such as cost, infrastructure, support, and business advantage. (Same as CIS 601.)

TSM 602 Telecommunications Systems (3). A graduate level introduction to modern telecommunication systems. This course presents systems oriented approaches for rapid and reliable communication over extended distances. Topics include: local area network topology, structure, and operating systems; backbone architectures; wide area networks; telephony; the Internet; security and privacy issues. Throughout the presentation of telecommunications hardware and software systems, discussion will focus on relevant management issues such as cost, efficiency, and business models. Prerequisite: TSM 601.

TSM 603 Telecommunications Project Management (3). Introductory project management course where students acquire key project competencies. Students will learn how to apply the competencies to implement project management processes established by the Project Management Institute Body of Knowledge (PMBOK Guide). Corequisite: TSM 601 or permission of instructor. (Same as CIS 603.)

TSM 607 Advanced Telecommunications Project Management (3). A project management course in which students study the processes that result in identification, qualification and selection of telecommunications projects. Projects that generally modify existing telecommunications infrastructure or incorporate an entirely new infrastructure. Students will study the differences in these processes when their client is internal or external. Students will study the processes from preparing proposals through contract negotiations to get projects initiated. Prerequisite: TSM 603 or permission of instructor.

TSM 610 Telecommunication Networks Management (3). An overview of fundamentals of daily telecommunication design, operations, management, and a survey of technologies and applications of telecommunications systems. Prerequisite: TSM 601. Corequisite: TSM 602.

TSM 615 Information System Security (3). Graduate-level study of modern computer, network, and information systems security. This course presents systems-oriented approaches to network defense, malicious software, and data encryption. Topics include network intrusion prevention and detection, incident response, worms, viruses, Trojan horses, public key encryption,

message authentication, and privacy issues. Throughout the presentation of security issues, discussion will focus on the cost of security to business and society at large. (Same as CIS 615.)

TSM 617 Advanced Systems Planning (3). The primary focus of the course is to understand the development of a systematic planning cycle for implementing and maintaining an organization's Information Technology (IT)/Information Systems (IS). Specifically to understand the complex but direct relationship between "business planning" commonly called the "Corporate Strategic Plan (CSP)" and "systems planning" also call "Information System Plan (ISP)". Students will explore the theory and practice of IS planning through case study analysis. Students will understand how IT/IS projects and the planning involved in the projects implement the ISP. Prerequisite: CIS 317.

TSM 625 Information Security Risk Management (3). Graduate-level study of the management of risk securing modern computer, network, and information systems. Prerequisite: TSM 351 or TSM 615.

TSM 630 Telecommunications Legal Environment: Law, Policy, and Regulation (3). Law, policy and regulation as they affect telecommunications technologies and telecommunications industry. Emphasis will be placed on an examination of the FCC, the Telecommunications Act of 1996, and the telecommunications business environment, including licensing, divestiture and antitrust. Primarily a lecture, readings, and discussion course.

TSM 671 Problems in TSM (3). Individual study and research pertaining to special problems in telecommunications system management. Prerequisite: permission of instructor.

TSM 680 Telecommunications Solution Development (3). A capstone course for the M.S. in TSM that requires students to use project management techniques involving the technical, financial and managerial aspects of developing an integrated communications network solution meeting voice, data and video requirements. Major emphasis in the proposed solution is on requirement analysis, solution design, solution implementation, and solution management. Oral communication skills are required for presentation of proposed solution. Prerequisite: 18 hours of graduate work toward the M.S. including ACC 604, TSM 602, 603, and 610.

TSM 688 Telecommunications Systems Practicum (3). Application of knowledge and skills developed in core courses in an organizational environment to solve telecommunication management problems. Emphasizes practical industry experience. A report is submitted to the Graduate Committee at the end of the project period. Prerequisite: permission of program director.

TSM 695 Comprehensive Project in Telecommunication Systems Management (3). The course consists of an independent, in depth study of a topic or problem in Telecommunication Systems Management under the direct supervision of a faculty member on an individual basis. Prerequisites: Nine hours of graduate work in Telecommunications Systems Management and permission of the instructor.

TECHNOLOGY TEACHER EDUCATION (TTE)

TTE 451 Manufacturing Systems (4). A study of the practices used in the manufacturing industry. Emphasis is placed on the theory and processes used to convert the needs and wants of consumers into distributed products. Technical aspects of materials, processes, equipment, products and occupations relating to the manufacturing industry will be explored. Problem-solving, research and experimentation will be used to establish an enterprise to select, design, test, mass produce, market and service products. Recycling and the impacts on and relationship to societal institutions, the environment and the individual are introduced and explored. Lecture and laboratory. Prerequisites: ITD 101 and 120, upper division standing or instructor approval.

TTE 452 Communications Systems (3). Introduction to the systems and techniques used to transfer and/or process ideas, knowledge and information. Problem-solving, research and experimentation will be used to experience encoding, transmitting, decoding, storing, retrieving and using information. Students will develop technical expertise in the design, construction, analysis and evaluation of the components, devices and subsystems of communication

systems. The impacts on and relationship to societal institutions, the environment and the individual are introduced and explored. Lecture and laboratory. Prerequisites: ITD 101 and upper division standing or instructor approval.

TTE 453 Transportation Systems (3). A study of systems used to move goods and transport people. Students will research, experiment and solve problems related to the design, development, evaluation and operation of subsystems and components of terrestrial, marine, atmospheric and space transportation as well as the transformation and transportation/transmission of energy to support those transportation systems. Students will select, design, construct, analyze and evaluate solutions to transportation problems. The impacts on and relationship to societal institutions, the environment and the individual are introduced and explored. Prerequisite: upper division standing or advisor approval.

TTE 455 Exploring Diverse Technological Systems (3). This course provides an overview of diverse technological systems. It explores technological aspects of how technology is designed, and used to meet the wants and needs of individuals and society. The problem-solving and design processes are examined in the context of production, communication and transportation systems. Emphasis is placed on teaching technical content and using the systems approach to develop technical understanding, rudimentary technical skills and problem solving expertise in the technology education classroom/laboratory setting.

TTE 472 Facility Planning, Operation and Maintenance (2). A study of the methods and procedures used in planning, utilizing, equipping, operating, maintaining and evaluating technology education classroom and laboratory facilities. Exploration of the laboratory management skills and techniques (including safety, inventory, record-keeping, requisitioning equipment and materials, maintenance and budgeting) necessary to develop, maintain and improve an educational environment which accommodates the instructional process in the technology education classroom. Lecture and laboratory.

TTE 554 Teaching in the Modular and Systems Environment (3). This course is designed to be the capstone course for pre-service technology education teachers. Emphasis is placed on teaching technical content using both the systems and modular approaches to develop technical understanding, rudimentary technical skills and problem solving expertise in the technology education classroom/laboratory setting.

WATERSHED SCIENCE (WSC)

WSC 601 Seminar in Sustainability Studies (2). An exploration of environmental problems caused by humans and the solutions to those problems, including human population growth, over-exploitation of natural resources, habitat destruction and extinction. The scientific basis and ethical issues surrounding these problems will be discussed. The course will also explore the potential for humans to live in a sustainable fashion on the planet, with an emphasis on social responsibility and civic engagement.

WSC 690 Seminar (1). Graduate students who anticipate completing the thesis must register for Seminar and defend their research before the college faculty and fellow graduate students.

WSC 693 Sustainability Practicum I (3). Students will work with a faculty mentor to design a capstone project that will focus on sustainability solutions. The project can be broadly defined to include everything from local approaches to improve recycling on campus to research on global climate change, and will be designed in consultation with the faculty mentor. Prerequisite: permission of the sustainability science graduate coordinator.

WSC 694 Sustainability Practicum II (4). Course will provide the opportunity for students to complete their capstone project, started during WSC 693, as part of their Sustainability Science M.S. degree. Students continue work on their project, give an oral presentation of their work at a Sustainability Science symposium, and complete a written report. Prerequisite: successful completion of WSC 693.

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