

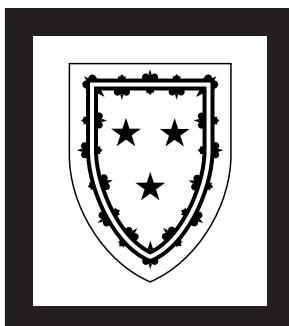
College of Science, Engineering and Technology

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College of Science, Engineering and Technology

Steve Cobb, Dean
Robert Pervine, Associate Dean and Graduate Coordinator
Martha Layne Collins Center for Industry and Technology,
Room 201A

The College of Science, Engineering and Technology has an outstanding record of excellence in teaching and research in the departments of Biological Sciences, Chemistry, Geosciences, Industrial and Engineering Technology, Mathematics and Statistics, and Engineering and Physics. The college's programs are strong because of its talented, dedicated, and student-oriented faculty. The faculty also have an impressive record of attracting extramural research funding which enhances equipment holdings and promotes the involvement of students in research. Students can expect to have considerable interaction with research faculty in both the classroom and laboratory, and will be exposed to state-of-the-art hardware and software. Graduates from the College of Science, Engineering and Technology are well prepared for further graduate study or to enter the workplace immediately.

Graduate degrees offered through the College of Science, Engineering and Technology are the master of arts in mathematics; the master of science in biology, chemistry, geosciences, management of technology, mathematics, and water science; and master of arts in teaching in mathematics. The college also offers courses in support of the master of arts in education. Further, the College of Science, Engineering and Technology, in conjunction with the College of Business and Public Affairs, offers a master of science in telecommunications systems management.

The Center for Reservoir Research (CRR), one of only five designated Centers of Excellence in the Commonwealth of Kentucky, has been in existence since 1987. In cooperation with state and national agencies such as the Tennessee Valley Authority, the U.S. Army Corps of Engineers, the U.S. Department of Energy, and the Kentucky Department of Natural Resources, and with private organizations and regional industry, the CRR maintains a program of research that insures Murray State's involvement in environmental concerns on regional, state, national, and international levels.

The Center for Watershed Environments (CWE) is a center that builds upon the accomplishments of the CRR and significantly expands the scope of Murray State's reservoir related research programs to explicitly include comprehensive studies of reservoirs at the landscape scale. The CWE, which is located in a unique region consisting of the confluence of four major rivers and two large reservoirs, offers the opportunity for graduate study and interdisciplinary research applied to understanding the complexity of interactions between human-altered landscapes and adjoining reservoirs.

The CRR and the CWE each draw on three components within the College of Science, Engineering and Technology: the Hancock Biological Station (HBS), the Mid-America Remote Sensing Center (MARC), and the Chemical Analysis Laboratory (CAL). The HBS, located on Kentucky Lake, is one of the finest facilities of its kind in the Midwest. Serving as the primary research facility for aquatic biologists and ecosystem scientists,

the HBS provides a unique opportunity for graduate study and research. At MARC, scientists and students apply remote sensing technology and geographic information science to study environmental data obtained from observational satellites and aircraft. The CAL provides state-of-the-art chemical analysis for studies in environmental chemistry, ecotoxicology, trace elements, and acid deposition.

The Center for Telecommunications Systems Management, designated a Center of Distinction by the Kentucky Council on Postsecondary Education, offers interdisciplinary courses and programs in conjunction with the College of Business and Public Affairs. Controlled student/teacher ratios, excellent computer support, and close collaboration with related business and industry, insures that students in the Center's programs develop professionally and graduate with the business insight and technical ability to manage all aspects of telecommunications systems.

With a highly qualified faculty dedicated to excellence in teaching and research, the College of Science, Engineering and Technology provides its graduates with the educational foundation on which to build a successful and fulfilling career.

Interdisciplinary Program in Water Science

Graduate Coordinator - Howard Whiteman
Hancock Biological Station
(270) 474-2272

The Center for Reservoir Research program in water science is an interdisciplinary master's program designed to prepare students for careers or for further graduate study in the broader aspects of water management and science. Each student's course of study will be designed to fit individual educational goals and may be concentrated in any aspect of water science. All students must complete a core curriculum, advanced courses in their areas of interest and a research thesis. During the first semester, students must work at either the Chemical Services Laboratory, the Mid-America Remote Sensing Center, or the Hancock Biological Station.

Requirements for Admission

Applicants must meet all Murray State University requirements (see Chapter 2). A faculty member must agree to mentor the student. Additional requirements for unconditional and conditional admission are as follows:

Unconditional

- Baccalaureate degree in biology, chemistry, geosciences, mathematics, physics, or a closely related field.
- At least a 3.0 undergraduate GPA.

- Composite GRE score of at least 1,000 (500 verbal + 500 quantitative).

Conditional

Recommendation of the advisory committee.

Master of Science in Water Science

CIP 26.1304

THESIS TRACK ONLY

Total Course Requirements..... 36 hours

- BIO 535 Watershed Ecology (same as GSC 535)
- BIO 669 Biological Limnology
- BIO 670 Limnological Analysis Lab
- GSC 665 Physical/Chemical Limnology
- WSC 690 Seminar
- WSC 698-699 Thesis

Graduate courses in related fields (16 hrs)
(as determined by advisory committee; at least seven hours at 600-level)

Other Degree Requirements

- Successful completion of courses in both statistics and introduction to computers, or MAT 565.
- Written and oral comprehensive examinations as specified by the advisory committee in broad aspects of water science and area of concentration (usually taken in third semester of residence).
- Defense of thesis.

Department of Biological Sciences

Chair - Tom Timmons
Graduate Coordinator - Edmund J. Zimmerer
2112 Biology Building
270-809-2786

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. The department also participates in a cooperative Ph.D. program with the University of Louisville (see graduate coordinator for information) and the master of arts in education degree in secondary education with a teaching area in biology (see Chapter 5).

Requirements for Admission

Applicants must meet the Murray State University requirements (see Chapter 2). 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 1,000 (V+Q) or higher.

Conditional

Recommendation of the advisory committee.

Master of Science in 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 TRACK

Total Course Requirements..... 30 hours

- BIO 689 Introduction to Graduate Study
- BIO courses, 600-level (8 hrs)
- BIO courses, 500- or 600-level (3-12 hrs)
- Graduate courses in related fields (0-9 hrs)
- BIO 696 Understanding Scientific Communication
- BIO 697 Seminar
- BIO 698-699 Thesis

Other Degree Requirements

- Proficiency in quantitative methods through MAT 565 or a graduate course in bioinformatics, such as BIO 530.
- 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 TRACK

Total Course Requirements..... 36 hours

- BIO 689 Introduction to Graduate Study
- BIO courses, 600-level (14 hrs)
- BIO courses, 500- or 600-level (6-18 hrs)
- Graduate courses in related fields (0-12 hrs)
- BIO 696 Understanding Scientific Communication
- BIO 697 Seminar

Other Degree Requirements

- Successful completion of an undergraduate level statistics course plus either MAT 565 or a graduate course in bioinformatics, such as BIO 530.
- 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.
- 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.

Graduate courses must include a minimum of one 500- or 600-level course from each of the following fields: botany, zoology, ecology, and genetics. Specific courses that fulfill the requirements for these fields will be defined by the faculty.

**Master of Arts in Education
(Secondary Education) with
Biology Specialization**

CIP 13.1205

Students seeking the M.A.Ed. in secondary education (see Chapter 5) may complete a biology specialization with 12 hours of 500- or 600-level biology courses.

Joint Doctoral Program (Ph.D.)

CIP 26.0101

The department has a cooperative Ph.D. program with the University of Louisville in aquatic biology and the environmental sciences. A student accepted to this program will complete at least one year of work at the University of Louisville taking specific course work and/or conducting research. The remaining two to three years will be spent in residence at Murray State University. A written dissertation will be required and the degree conferred by the University of Louisville. Additional information can be obtained from the graduate coordinator in the Department of Biological Sciences, Murray State University.

Department of Chemistry

Chair - Judy Ratliff
Graduate Coordinator - Judy Ratliff
270-809-2584

The Department of Chemistry offers the master of science degree. The M.S. degree in chemistry is designed to prepare students for additional graduate work, as well as for immediate employment in industry or community colleges.

Master of Science in Chemistry

CIP 40.0501

The department offers both a thesis and a non-thesis track toward the M.S. in Chemistry.

Requirements for Admission

Applicants must meet the Murray State University requirements (see Chapter 2). Additional information regarding unconditional and conditional admission is given below.

Unconditional

To qualify for unconditional admission, an applicant must have undergraduate preparation in chemistry. If that preparation does not conform to an American Chemical Society certified program, the student may be required to correct any deficiencies.

Conditional

Requirements for conditional admission are the same as MSU requirements (Chapter 2).

THESIS TRACK

Total Course Requirements.....30-32¹ hours²

CHE 511 Advanced Inorganic Chemistry I
CHE 527 Advanced Organic Chemistry
CHE 581 Advanced Physical Chemistry
CHE 601 Seminar³
CHE 602 Seminar³

Research and Other Requirements

CHE courses, 600-level (10-12 hrs)
CHE 698-699 Thesis Research

¹32 hours required if student must take all 500-level core courses as

a graduate student. Courses to be substituted for any of these required 500-level courses that were completed at the undergraduate level must be approved by the graduate advisor.

²At least half of the total formal coursework hours must be earned in 600-level courses, excluding CHE 698 and CHE 699.

³Each 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 519 or equivalent). This course can not be used for graduate degree credit.
- Successful completion of an advanced biochemistry course (CHE 530 or equivalent). This course can not be used for graduate degree credit.
- Submission and defense of a satisfactory thesis.

NON-THESIS TRACK GENERAL CHEMISTRY OPTION

Total Course Requirements.....36 hours^{1,2,3}

CHE 511 Advanced Inorganic Chemistry I
CHE 527 Advanced Organic Chemistry
CHE 581 Advanced Physical Chemistry
CHE 601 Seminar⁴
CHE 602 Seminar⁴

Graduate courses approved by advisory committee (0-9 hrs)

¹Courses to be substituted for any required 500-level courses that were completed at the undergraduate level must be approved by the graduate advisor.

²At least half of the total formal coursework hours must be earned in 600-level courses.

³CHE 591, 592, and 593 will not count toward completion of this degree.

⁴Each 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 519 or equivalent). This course can not be used for graduate degree credit.
- Successful completion of an advanced biochemistry course (CHE 530 or equivalent). This course can not be used for graduate degree credit.
- CHE 600-level electives to total 36 hours.

Master of Arts in Education (Secondary Education) with Chemistry Specialization

CIP 13.1205

Students seeking the M.A.Ed. in secondary education (see Chapter 5) may complete a chemistry specialization with 12 hours of 500- or 600-level chemistry courses.

Department of Geosciences

Chair - Tom Kind
Graduate Coordinator - Tom Kind
104 Wilson Hall
270-809-2591

The Department of Geosciences offers a master of science degree that focuses upon applications of remote sensing, archaeologic and geographic information technologies. Students are prepared for positions in the public and private sectors and study at the Ph.D. level. The department also offers courses in support of the master of arts in education.

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 Chapter 2). The department requires that three letters of recommendation accompany application materials. A letter discussing reasons for the applicant's interest in the program should also be forwarded. Submission of GRE scores is encouraged but not required. 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.

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 in Geosciences

CIP 40.0699

The student's program is developed in consultation with the graduate coordinator.

THESIS TRACK

Total Course Requirements..... 30 hours

- GSC 512 Remote Sensing
- GSC 521 Geographic Information Systems
- GSC 601 Graduate Study in the Geosciences
- GSC 640 Advanced Remote Sensing
- GSC 660 Spatial Analysis Techniques
- GSC courses at 600-level (3 hrs)
- GSC or related courses at 500- or 600-level (6 hrs)
- GSC 698-699 Thesis Research

Other Degree Requirements

- Proficiency in quantitative methods through MAT 565.
- Oral defense of thesis.

NON-THESIS TRACK

Total Course Requirements..... 33 hours

Same as above with the following substitution for thesis:

- GSC 696 Understanding Scientific Communication
- GSC courses, at 600-level..... increase to 6 hrs
- GSC or related courses at 500- or 600-level. increase to 10 hrs

Other Degree Requirements

- Proficiency in quantitative methods through MAT 565.
- Written and oral comprehensive examinations.

Master of Arts in Education (Secondary Education) with Geography Specialization

CIP 13.1205

Students seeking the M.A.Ed. in secondary education (see Chapter 5) may complete a geography specialization with 12 hours of 500- or 600-level geography courses.

Master of Arts in Education (Secondary Education) with Earth Science Specialization

CIP 13.1205

Students seeking the M.A.Ed. in secondary education (see Chapter 5) may complete an earth science specialization with 12 hours of 500- or 600-level earth science courses.

Department of Industrial and Engineering Technology

Chair - Daniel M. Claiborne
Graduate Coordinator - Michael Kemp
253 Industry and Technology Center
270-809-3392

The Department of Industrial and Engineering Technology offers the master of science degree in management of technology. 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 management of technology 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 Chapter 2). 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 program in management of technology 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 (outlined in Chapter 2), 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 (2.00 to 2.24 with department permission). 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 in
Management of Technology**

CIP 15.0000

The Management of Technology 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 | 584 | Engineering Economic Analysis |
| IET | 597 | Quality Control ² |
| IET | 691 | Industrial Operations |
| IET | 693 | Systems Management Technology |
| IET | 695 | Industrial Supervision |

Electives 30 hrs

Select four electives from within or across any of the following categories. (No more than two courses total may be taken with the following prefixes: ACC, BPA, CIS, ECO, FIN, MGT, or MKT.)

Resource Management

| | | |
|-----|-----|---------------------------------------|
| GCM | 560 | Plant Equipment Layout and Purchasing |
| IET | 619 | Industrial Energy Management |
| TSM | 603 | Telecommunications Project Management |

Supervision/Training

| | | |
|-----|-----|--|
| GCM | 554 | Printing Production and Manufacturing Management |
| GUI | 670 | Multicultural Issues in Human Services |
| MGT | 550 | Human Resource Management |
| MGT | 551 | Organizational Behavior |
| POL | 575 | Human Resource Administration |

Environment, Safety Management

| | | |
|-----|-----|---|
| CET | 555 | Environmental Regulatory Affairs |
| CET | 681 | Pollution Assessment and Control |
| CET | 686 | Environmental Assessment and Remediation |
| OSH | 550 | Safety and Health Program Management Training |

Business, Finance

| | | |
|-----|-----|----------------------------------|
| ECO | 500 | Foundations of Economic Analysis |
| FIN | 520 | Risk Management |
| GCM | 556 | Communications Sales Management |
| MKT | 568 | Global Marketing Management |
| POL | 671 | Public Policy Analysis |

Research, Communications and Information Systems

| | | |
|-----|-----|---|
| ADM | 630 | Methods of Research |
| COM | 585 | Advanced Organizational Communication |
| COM | 681 | Seminar in Conflict Resolution |
| GCM | 552 | Survey of Graphic Communication Management |
| GCM | 558 | Trends in Graphic Communication |
| IET | 679 | Technical Writings |
| IET | 697 | Research in Industrial and Engineering Technology |
| TSM | 601 | Telecommunications Principles |
| TSM | 602 | Telecommunications Systems |
| TSM | 610 | Telecommunication Networks Management |

Other Degree Requirements

- A written comprehensive examination is required as a component of graduation requirements.
- Independent study courses and other elective courses may only be scheduled with prior advisor approval.

Note: A thesis track is available with the management of technology degree. Students interested in this track must receive departmental approval and direct guidance in the development of the thesis direction.

¹A minimum of 15 hours, excluding thesis, special problems, practicum, internship, or co-op credit, must be in courses open only to graduate students (600-level).

²A basic statistics course or equivalent is required prior to enrolling in IET 597.

Telecommunications Systems Management

SET Coordinator - Daniel Claiborne
270-809-6970

A joint venture between the College of Business and Public Affairs and the College of Science, Engineering and Technology, the masters program in telecommunications systems management provides students a core of fundamental courses and the option of choosing a specialization within the curriculum. Although students in the masters program will have the insight and ability to manage all aspects of telecommunications systems, the program option 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 Chapter 2).

Unconditional

TSM applicants will be unconditionally admitted if their undergraduate grade point average (GPA) is 3.0 or higher and they submit a Graduate Management Test (GMAT) score of at least 400 or submit a Graduate Record Examination (GRE) score of at least 800. However, if the applicant's GPA is less than 3.0 and they submit a GMAT score that satisfies the GMAT admission formula, or they submit a GRE score that satisfies the GRE admission formula, they will be fully admitted.

GMAT formula: $(200 \times \text{GPA}) + (\text{GMAT score}) > 1,000$

GRE formula: $(200 \times \text{GPA}) + \text{GRE} \geq 1,400$

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

TSM applicants 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. The applicant could then be fully admitted to the program if the applicant meets at least one of the following two conditions:

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 maintains a 3.33 GPA for these nine hours; or

2) the applicant takes the GMAT or GRE and meets the unconditional admission formula within their first semester in the program.

If either of these conditions is not met, the applicant will be denied admission to the program even if the student has taken coursework in the program.

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) 213 cBT (computer-based test)
 - 3) Minimum of 20 in each band iBT (internet-based test)
- Or take the 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 in Telecommunications Systems Management

CIP 11.0401

NON-THESIS TRACK ONLY

Total Course Requirements.....30 hours

| | |
|---------|---|
| ACC 604 | Quantitative Financial Controls |
| MGT 651 | Seminar in Organizational Behavior |
| TSM 601 | Telecommunications Principles |
| TSM 602 | Telecommunications Systems |
| TSM 603 | Telecommunications Project Management |
| TSM 610 | Telecommunication Networks Management |
| TSM 630 | Telecommunications Legal Environment: Law, Policy and Regulations |
| TSM 680 | Telecommunications Solution Development |

and two of the following:

| | |
|---------|---|
| ACC 608 | Seminar in Accounting Information Systems |
| CIS 507 | Fundamentals of Distributed Database Applications |
| CIS 609 | Data Warehousing and Data Mining |
| CIS 645 | Decision Support and Expert Systems |
| CIS 646 | Manager's Guide to Database |
| CIS 647 | Systems Analysis and Design for End User/Manager |
| ECO 625 | Managerial Economics |
| FIN 612 | Capital Investment Analysis |
| MKT 667 | Marketing Planning and Application |
| MKT 675 | Marketing Applications in E-Business |
| MKT 685 | Business Geographics for Managers |
| TSM 670 | Developing E-Commerce Applications |
| TSM 688 | Telecommunications Systems Practicum |

Department of Mathematics and Statistics

Chair - Donald Bennett
Graduate Coordinator - Renee Fister
6C-9 Faculty Hall
270-809-2311

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 12 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 student's advisory committee and subject to its approval.

Requirements for Admission

Applicants must meet the Murray State University requirements (see Chapter 2). 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 the equivalent) in mathematics.
- Overall GPA of 3.0 or above in all mathematics courses beginning with the last elementary calculus course.

Conditional

Recommendation of the student's advisory committee.

Master of Arts in Mathematics

CIP 27.0101

THESIS TRACK

Total Course Requirements.....30 hours

MAT courses, 600-level* (12 hrs)

MAT courses, 500- or 600-level (12 hrs)

MAT 698-699 Research and Thesis (6 hrs)

*Must be approved by student's advisory committee.

Other Degree Requirements

Oral defense and examination of thesis.

NON-THESIS TRACK

Total Degree Requirements..... 30 hours

MAT courses, 600-level* (15 hrs)

MAT courses, 500- or 600-level (15 hrs)

*Must be approved by student's advisory committee.

Other Degree Requirements

Comprehensive examination over coursework.

Master of Science in Mathematics

CIP 27.0101

THESIS TRACK

Total Course Requirements..... 33 hours*

MAT courses, 600-level (9 hrs)

MAT courses, 500- or 600-level (6-18 hrs)

Allied field, 500- or 600-level (0-12 hrs)

MAT 698-699 Research and Thesis

*Must include at least 14 hours of 600-level courses, excluding thesis.

Other Degree Requirements

Oral defense and examination of thesis.

NON-THESIS TRACK

Total Course Requirements..... 33 hours*

MAT courses, 600-level (15 hrs)

MAT courses, 500- or 600-level (6 hrs)

Allied field, 500- or 600-level (12 hrs)

*Must include at least 17 hours of 600-level courses.

Other Degree Requirements

Comprehensive examination over course work.

Master of Arts in Teaching in Mathematics (M.A.T.)

CIP 27.0101

The 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 departmental advisor and an advisory committee must be established during the first semester of residence. A student portfolio is required.

Requirements for Admission

Applicants must meet the Murray State University requirements (see Chapter 2). Additional requirements for unconditional and conditional admission to the M.A.T. program are as follows.

Unconditional

- Minor in mathematics.
- Completion of requirements for teaching certification.

Conditional

See MSU requirements (Chapter 2) and conditional admission requirements for certification (Chapter 5).

NON-THESIS TRACK ONLY

Total Course Requirements..... 36 hours

MAT courses, 600-level (3 hrs)

MAT courses, 500- or 600-level (15-18 hrs)

Supporting field of science courses, 500- or 600-level (0-3 hrs)

Education Courses

ADM 630 Methods of Research

EDU 631 Application of Learning and Motivation Principles to the Classroom

EDU 633 Curriculum Development

EDU 645 History of Education in the United States

EDU 649 Research in Education

Master of Arts in Education (Secondary Education) with Mathematics Specialization

CIP 13.1205

Students seeking the M.A.Ed. in secondary education (see Chapter 5) may complete a mathematics specialization with 12 hours of 500- or 600-level mathematics courses.

