MURRAY STATE UNIVERSITY

DEPARTMENT OF INDUSTRIAL AND ENGINEERING TECHNOLOGY

COURSE NUMBER: ITD 350 CREDIT HOURS: 4.0

I. TITLE: Construction Systems

II. CATALOG DESCRIPTION:
A study of 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: 6 contact hours. Prerequisites: ITD 101 and ITD 130, junior standing, or instructor approval.

III. PURPOSE:

A. To prepare students to communicate with construction professionals: plan reviewers, inspectors, contractors, etc.
B. To prepare engineering graphics and design, interior design, manufacturing technology, and architectural technology students with a practical background in the materials, methods used in construction of light frame structures, specifically enabling students to better understand construction scheduling, processes and materials for projects they are designing or managing.
C. To provide students with a broad-based introduction to the field of light frame construction for students preparing to teach construction technology.

IV. COURSE OBJECTIVES:
As a result of participating in this course, students will:
A. Explain zoning ordinances, building codes, sets of plans and building inspections.
B. Design and produce construction framing plans/documentation for a structure (garage/shop, commercial building, etc.).
C. Plan and schedule construction activities.
D. Lay-out the building lines and lay up masonry block walls.
E. Identify and safely employ hand tools and portable power tools commonly used by building contractors.
F. Communicate the principles and procedures of building envelopes including: framing systems, sheathing systems, insulation systems, mechanical systems, etc.
G. Build residential framing system components (walls, roof frame, etc.)
H. Wire selected electrical circuits with non-metallic sheathed cable.
I. Design and assemble a drainage waste vent or potable water supply system for a single family detached dwelling.

V. CONTENT OUTLINE:

A. Overview of the construction industry.
B. Civil construction.
C. Single family residential vs. commercial construction.
D. Zoning.
E. Building codes
F. Tours of building sites
G. Construction Planning and scheduling
H. Surveying/site layout
I. Excavation and foundation systems
   concrete and masonry work and materials
J. The building envelope: framing systems, sheathing systems, insulation, ventilation and moisture control (including the specifics of foundation & framing plans for a small light framed building)
K. Plumbing systems
   supply
   drainage and venting
L. Electrical systems
M. Heating systems

NOTE: This is a lecture/laboratory course in which both theory and experiential learning is emphasized.

VI. INSTRUCTIONAL ACTIVITIES:

A. Lecture discussions
B. On-site inspection tours
C. Group and individual research/problem solving
D. Individual research/problem solving
E. Text assignments, group design & planning assignments

VII. FIELD, CLINICAL AND/OR LABORATORY EXPERIENCES:

None

VIII. RESOURCES:

Local contractors, city engineering office

IX. GRADING PROCEDURES:

Students will be evaluated according to the following criteria:

A.	Written exams (mid-term 10% + Final 20%	30%
B.	Course project: individual or team design and CAD drawings of foundation & framing plans of a selected structure	20%
C.	Design, planning and performance as team member on a masonry foundation project	10%
D.	Design, planning and performance as a team member on building envelope assignments and projects	20%
E.	Wiring and plumbing design, planning and construction activities	10%
F.	Class participation (Each student is expected to work on the class organized construction teams, to conscientiously participate in and complete the assigned laboratory activities in masonry, building framing, electrical and plumbing work.)	10%

Grading Scale: 90-100=A, 80-89=B, 70-79=C 60-69=D, <60=E

X. ATTENDANCE POLICY:

This course will adhere to the policy published in the current MSU Undergraduate Bulletin. Attendance in this class is important for the student to complete his or her work and to receive consultation and instruction. For excused absences, the student must make arrangements with the instructor (and team leader as appropriate) beforehand or make-up work or exams WILL NOT be provided/accepted. Excused absences are defined in the MSU Attendance Policy and except for death in the immediate family and medical emergencies require prior instructor approval. All other absences are personal/unexcused. With the third unexcused absence the student's grade will be decreased by one letter grade and further absences will result in a drop of one-half letter grade each. For the purposes of attendance, three tardies equal one absence. Attendance is recorded from the beginning and sometimes at the end of each class period.

XI. ACADEMIC HONESTY POLICY:

This course will adhere to the policy published in the current MSU Undergraduate Bulletin. Cheating, plagiarism (submitting another person's material as one's own), or doing work for another person which will receive academic credit are all impermissible. This includes the use of unauthorized books, notebooks or other sources in order to secure or give help during an examination; the unauthorized copying of examinations, assignments, reports or term papers; or the presentation of unacknowledged material as if it were the student's own work. Disciplinary action may be taken beyond the academic discipline administered by the faculty member who teaches the course in which the cheating took place.

XII. TEXT AND REFERENCES:

Feirer and Feirer, Carpentry and Building Construction, 6th ed., 2004. Glencoe.

XIII. PREREQUISITES:

ITD 101 and ITD 130, junior standing, or instructor approval.

XIV. Syllabus Statement of Equal Opportunity:

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 other 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. For more information, contact Equal Opportunity, Murray State University, at 270-809-3155.

Equipment Needed:
Safety Glasses
Shoes or Tennis/Athletic Shoes (No Open Toes)
Pencils

Dan Blankenship – Spring 2011