

**ITCM 101 - INTRODUCTION TO CONSTRUCTION TECHNOLOGY
SYLLABUS - SPRING 2008**

Department of Industrial and Engineering Technology
College of Science and Technology
Morehead State University



Instructor:

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Course Description:

Prerequisite: Pre-college curriculum. Description: Discussion of various aspects of the construction industry including introduction of major branches of construction technology, fundamentals of structures and building design, typical construction materials and methods, construction management and cost factors, and professional careers.

IMPORTANT:

- You are **registered** for this class at MSU but you **MUST ALSO ELECTRONICALLY ENROLL** for the class online at <http://moreheadstate.blackboard.com/>.
- Enrolling in ITCM 101 on Blackboard is not optional - **MUST** be completed immediately.
- Once enrolled, access the course online and click ***Student Tools, Personal Information***, then ***Edit Personal Information*** to update your email address and other information.
- It is **VERY IMPORTANT** to complete the Blackboard enrollment step and especially updating your email address on Blackboard.

Tentative Course Outline:

Week	Topic
1 (MW)	Introduction and Requirements, History of Construction
2 (TTh)	Construction Technology Functions, Building Process
3 (MW)	Codes and Standards
4 (TTh)	Foundation Loads
5 (MW)	EXAM #1, Soil Types
6 (TTh)	Soil Testing and Capacities
7 (MW)	Soil Voids
8 (TTh)	Subsurface Analysis
9 (MW)	Building Elements, EXAM #2
10	<i>Spring Break – NO CLASSES (Mar. 17-21)</i>
11 (TTh)	Foundation Structures
12 (MW)	Groundwater Considerations
13 (TTh)	EXAM #3, Estimating Process
14 (MW)	Structural Elements of Buildings
15 (TTh)	Concrete Utilization
16 (MW)	Student Presentations
17	FINAL EXAM - Comprehensive (Thursday, May 8, 12:45-2:45 p.m.)

Course Competencies and Assessment Techniques:

Upon successful completion of this course, the student will have gained the following competencies as evaluated using the assessment techniques indicated:

1. Comprehend and describe the necessary foundation of knowledge needed for technical managers in the field of construction technology (evaluated in Assignment #1, Exam #1, and Portfolio).
 - Write a description/definition of the field and careers of construction technology.
 - Explain various branches of construction technology and relationships to other industries.
2. Understand role of construction technology in historical development of technology (evaluated in Assignment #1, Exam #1, and Portfolio).
 - Explain the contribution of construction technology to the global society.
 - Discuss the historical development of technology and the function of construction in a technological society.
3. Understand the basic building process from “need” to “completion” (evaluated in Assignment #2, Exams #1 and #3, and Portfolio).
 - Illustrate the general residential and commercial building process.
 - Describe basics functions of site acquisition, financing, contracts, planning, subsurface exploration, layout, excavation, substructures, superstructures, landscaping.
 - Explain the “work breakdown system” in construction planning and estimating.
4. Understand the uses of codes and standards as applied in the construction industry (evaluated in Assignment #2, Exams #1 and #3, and Portfolio).
 - Describe the responsibilities and functions of agencies such as BOCA and ASTM.
 - Explain the source and use of codes (i.e. Uniform Building Code) for safety, fire, occupancy and other considerations in the building process.
5. Understand various types of structures, building components, applied loads, and fundamentals of structural design principles (evaluated in Assignments #3 and #4, Exam #2, and Portfolio).
 - Be able to identify the type and constituent structural components of a particular structure.
 - Explain the concept of loads and stresses that structural members must resist and the basic theory of strength calculation.
6. Understand the uses of the Unified Soil Classification System (USCS) and soil tests when planning the foundation work for residential and commercial structures (evaluated in Assignments #5 and #6, Exam #2, and Portfolio).
 - Be able to read the Unified Soil Classification System.
 - Describe soil types and know general behaviors of primary soils and their various interactions with building structures.
 - Analytically relate soil bearing capacity and footer bearing area.
 - Compute soil void capacities (i.e. porosity, saturation).
7. Comprehend the primary materials used in the construction industry (evaluated in Assignments #3, #4, #5, #6, and #7, and Exams #2 and #3, and Portfolio).
 - Explain the material properties of wood, concrete, steel, and aggregate in construction.
 - Describe fastener and retaining systems used in construction.
8. Understand the fundamental practice of various construction types such as wood, concrete, steel, and masonry construction (evaluated in Assignment #7 and Exams #2 and #3, and Portfolio).
 - Describe general construction procedures used for wood, concrete, steel, and masonry construction.

Course Text:

- Allen, Edward and Joseph Iano. 2003. Fundamentals of Building Construction: Materials and Methods. 4th Edition. New York: Wiley & Sons.
- Course Notes: Standard 3-ring binder is required; it must hold at least 100 sheets of course notes (from Blackboard and handouts) plus all other course materials.



Instructional Process:

The course is designed to introduce students to construction technology and is organized around a series of interrelated instructional topics. A significant portion of the course material is technical information that is covered through lecture, class discussion, and small group interaction. Development of student teams is an important element of this course and team problem solving will receive considerable attention.

Grading Description:

Exams (3 @ 75 points each).....	225
Final Exam	125
Assignments (8 @ 10 points each).....	80
Research and Class Presentation	50
Portfolio	20
Total Points Possible	500
<i>Bonus - Professional Organization Membership</i>	<i>5 points</i>

Assignments: Students will be assigned out-of-class weekly or bi-weekly writing and/or analytical work. This work should be written or typed legibly on white paper or green engineering pads appropriate for technology courses. Assignments must be submitted on the due date at the beginning of class; late assignments will not be accepted. However, a student can submit any assignment at the next class attended after an absence with a documented excuse for the due date of the assignment.

Grading Assignments/Exams: All written assessment will be graded and returned to students within one week of submission by students. The instructor will provide written feedback to students in the form of completed rubrics or handwritten comments on student assessment items (i.e. papers, assignments, exams). Once an assessment item is returned, students are encouraged to ask for a review of any graded work, if it is felt the grade received was not appropriate or accurate. Within one week of receiving the graded assignment, the work in question must be returned by the student with a written or oral statement of explanation. This statement must be justified and supported by lecture notes, textbook, or other material from class. The final decision for the grade on all student assessment items is the responsibility of the class instructor.

Attendance: Perfect and punctual attendance is expected. A role will be taken at the beginning of each class. Consistent tardiness is unacceptable; three occurrences of arriving late for class will equate to one absence. The following attendance bonus/penalty plan will apply to all students:

- NO absences (excused or unexcused) – 10 bonus points added to student’s final score.
- One absence (excused or unexcused) – 5 bonus points added to student’s final score.
- Two absences (excused or unexcused) – final course score is unaffected by absences.
- Three absences (excused or unexcused) – 25 points deducted from student’s final score.

For each subsequent absence greater than three (excused or unexcused), an additional 5 points will be deducted from the student's final score (i.e. 4 absences = 30 points deducted; 5 absences = 35 points deducted; 6 absences = 40 points deducted; 7 absences = 45 points deducted, etc.). *The instructor retains the option to vary this attendance policy under extenuating circumstances.*

In-Class Conduct: According to the [MSU Student Handbook](#), “No student either singly or in concert with others shall abridge the personal rights of another student by willfully disrupting or preventing the peaceful and orderly conduct of classes...” Further, students are expected to respect one another, especially when in class. Disruptive or distracting behavior of any type is not allowed in class. This includes talking (excluding class discussion, of course), reading newspapers, snoring, etc. Students that disrupt the class may be asked to leave. Regarding late arrivals to class, consistent late arrivals are considered a serious disruption to the class. The instructor will maintain a written record of late arriving students. After a student accumulates three (3) late arrivals, the instructor will ask the student to leave the classroom for all other class sessions in which the student arrives late.

Cell Phones and Pagers: The use of cellular phones and pagers is common. However, the operation of a cell phone and pager during a university class is likely to disrupt the class. Therefore, **all cell phones and pagers must either be turned off or set to a silent mode of operation (e.g., vibrating rather than beeping) during class and laboratory.** If you must answer a call, please quietly leave the classroom. Students whose phones disrupt the course will be asked to verbally apologize to the entire class and will be required to leave the class for the remainder of that session. The class instructor may approve an exception for special circumstances, based on a student request prior to class session.



Academic Honesty: Cheating, fabrication, plagiarism or helping others to commit these acts will **not** be tolerated. Copying information from the Internet is plagiarism if appropriate credit is not given. Academic dishonesty will result in severe disciplinary action including, but not limited to, failure of the student assessment item or course, and/or dismissal from MSU. If you are not sure what constitutes academic dishonesty, read [MSU Student Handbook](#) or ask your instructor.

Policy for Accommodating Students with Disabilities: In compliance with the Americans with Disabilities Act (ADA), all qualified students enrolled in this course are entitled to reasonable accommodations. It is the student's responsibility to inform the instructor of any special needs before the end of the second week of class.

Campus Safety Statement: Emergency response information will be discussed in class. Students should familiarize themselves with the nearest exit routes in the event evacuation becomes necessary. You should notify your instructor at the beginning of the semester if you have special needs or will require assistance during an emergency evacuation. Students should familiarize themselves with emergency response protocols at www.moreheadstate.edu/emergency.