

MURRAY STATE UNIVERSITY



CET 484 Soil Mechanics & Foundations

MURRAY STATE UNIVERSITY
DEPARTMENT OF INDUSTRIAL AND ENGINEERING TECHNOLOGY
SPRING SEMESTER, 2011

- I. TITLE Soil Mechanics & Foundations, 4 credit hours T.TH 8:00am-9:15am, IT 106
- II. CATALOG DESCRIPTION: 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 & Laboratory
- **III. PURPOSE:** To acquire the necessary knowledge and skills required to understand building foundation design and investigation.
- IV. COURSE OBJECTIVES: Students will (1)Be able to define and understand the most commonly used soil mechanics terms, (2) solve for soil properties using basic defined relationships, (3)be able to classify a soil using the Unified Classification System, (4) Input laboratory data into interactive computer programs to evaluate soils operations, (5) Analyze the compressibility of different soil types using soil characteristics and construction operations, (6) Write well-organized laboratory reports to communicate accurately and effectively with narrative, graphs and equations.

V. COURSE CONTENT:

- A. Introduction
- B. Subsurface Investigation
- C. Elements of Soil Mechanics
- D. Compressibility
- E. Shearing Strength
- F. Laboratory Experiments

VI. INSTRUCTIONAL ACTIVITIES:

- A. Lectures and discussions
- B. Laboratory Demonstration
- B. Computer assignments
- C. Homework & Class Assignments

VII. FIELD AND CLINICAL EXPERIENCES:

- A. Site visits to local construction projects.
- B. Industry professional guest speakers.
- VIII. RESOURCES: MSU Computer & Soils Laboratory

IX. GRADING PROCEDURES:

A. Grade Scale:

90-100 = A

80-89 = B

70-79 = C

60-69 = D

B. Graded Assignments Percentage Allocation:

| 1. | Examinations (3): | = 45% |
|----|-------------------------------|-------|
| 2. | Lab Assignments | = 20% |
| 3. | Quizzes | = 10% |
| 4. | Research Paper & Presentation | = 15% |
| 5. | Attendance & Participation | = 10% |

C. Laboratory Reports

- 1. Late laboratory reports and computer assignments will be accepted with a 5 point per day penalty <u>until</u> corrected copies are returned to students.
- 2. All laboratory reports will be typed.
- 3. 10% of the report grade will be based on the English composition used.

X. ATTENDANCE POLICY:

This course will adhere to the policy published in the MSU Undergraduate Bulletin, regular attendance in class is expected.

XI. PREREQUISITES: ENT 287: Statics

XII. ACADEMIC HONESTY POLICY:

This course will adhere to the policy published in the 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.

XIII. REQUIRED TEXTBOOK:

- A. McCarthy, David, <u>Essential of Soil Mechanics and Foundations</u>, Seventh Edition, Prentice Hall
- B. Bowles, Joseph E. <u>Engineering Properties of Soils and Their Measure</u>, Irwin McGraw-Hill

XIV. STATEMENT OF AFFIRMATIVE ACTION AND 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 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.