

J. Sargeant Reynolds Community College
Course Content Summary

Course Prefix and Number: CIV 225

Credits: 2

Course Title: Soil Mechanics

Course Description: Focuses on soil in its relationship to engineering and construction. Includes soil composition and structure, weight-volume relationships, sampling procedures, classification systems, water in soil, stresses, strains, bearing capacity, settlement and expansion, compaction, stabilization, and introduction to foundations and retaining walls. Prerequisite: MTH 115 or equivalent. Lecture 2 hours per week.

General Course Purpose: Indoctrinates the student to mechanical properties of soils from the standpoint of civil engineering design projects

Course Prerequisites and Co-requisites:

Prerequisite: MTH 115 or equivalent

Course Objectives:

Upon completing the course, the student will be able to

- a. Demonstrate a working knowledge of classifying a soil to identify its engineering properties;
- b. Demonstrate a general understanding of the fundamentals of geotechnical engineering; and
- c. Have a basic understanding of the performance requirements of the soil laboratory or soil field technician.

Major Topics to Be Included:

- a. Soil: origin and nature
- b. Soil classification
- c. Soil index properties
- d. Stress analysis and engineering properties
- e. Interpretation of soils reports (exploration procedures)
- f. Foundation types and application
- g. Moisture-density relationship
- h. Soil stabilization

Effective Date of Course Content Summary: August, 2008