

**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. 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/Corequisites** (Entry-level competencies **required** for enrollment)

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
- c. Have a basic understanding of the performance requirements of the soil laboratory or soil filed 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