Sinclair Community College
444 E. Third St.
Dayton, OH 45402

Master Syllabus

CAT 2421 - Soil Mechanics

Division: Science, Mathematics and Engineering

Department: Civil Engineering Technology

Credit Hour Total: 3.0 **Lecture Hrs:** 2.0 **Lab Hrs:** 2.0

Prerequisite(s): MAT 1280AND MET 1131

Date Revised: March 2015

Course Description:

Theories of soil mechanics including soil classifications, sampling and testing methods, stress distribution, shearing resistance and strength of soils. Two classroom, two lab hours per week.

General Education Outcomes:

- Written Communication Competency
- Critical Thinking/Problem Solving Competency
- Computer Literacy Competency
- Information Literacy Competency
- Oral Communication Competency

Course Outcomes:

Report Preparation
Prepare technical reports.

Assessment Method: Portfolios
Performance Criteria:

Score at least "7" out of 10 based on a performance rubric for written reports

Testing Procedures
Demonstrate soil testing procedures.

Assessment Method: Behavioral observations
Performance Criteria:

70% or higher on performance checklist

Assessment Method: Portfolios
Performance Criteria:

Score at least "7" out of 10 based on a performance rubric for technical reports

Soil Classification
Compare soil classifications.

Assessment Method: Locally developed exams
Performance Criteria:

70% or higher correct responses on written exams

Soil Strength Characteristics
Understand the relationship between soil strength characteristics and design of structures.

Assessment Method: Locally developed exams
Performance Criteria:

70% or higher correct responses on written exams

Subsurface Exploration
Identify subsurface soil exploration.

Assessment Method: Locally developed exams
Performance Criteria:

70% or higher correct responses on written exams

Outline:

Introduction and Geologic OverviewSoil Terminology and DefinitionsSoil TypesClassification SystemsMovement of Water Through SoilCompaction/Stabilization