CE 480

Soil Mechanics
(Required for a BSCE degree)

Instructor: Prof. H. Alawaji, M ASCE

Date: February 26, 2009

Prerequisite
CE 381, CE 303

Topics Covered
1. Introduction.
2. Stresses in a Soil Mass.
3. Compressibility of Soil.
4. Shear Strength of Soil.
5. Lateral Earth Pressure.

Course learning Objectives
Students completing this course successfully will be able to
1. Understand basic in situ stresses and stress increments in soil mass.
2. Understand shear strength of soil.
3. Understand consolidation and elastic settlements in soil.
4. Understand lateral earth pressure on retaining walls.
5. Understand slope stability analysis.
6. Use simple computer programs to compute and plot stresses and displacements in soil.
7. Improve the communication skills, including reading, writing and oral presentation and discussion.

Class/tutorial Schedule
Three lecture sessions and one Tutorial session per week (50 minute lecture and 50 minute Tutorial session).

Computer Applications
Applications of MS Word, Excel, Grapher and Analyses computer programs.

Contribution of Course to Meeting the Professional Component
1. Students learn how to use the stress analysis methods to be involved in calculating settlement of foundation on soils.
2. Students improve their writing, communication and presentation skills.
3. Students recognize the role of professional societies in developing specification requirements.

Relationship of Course to Program Outcomes
1. Students apply principles of soil mechanics.
2. Students are able to apply knowledge in mathematics, physics, and engineering science to civil and engineering problems.
3. Students are able to identify and formulate an engineering problem and to develop a solution.
4. Students are encouraged to improve their writing, communication and presentation skills.
Textbook(s) and/or Other Required Material

Grade Distribution
   1. Mid Term Exam 25%
   2. Tutorial 10%
   3. Quiz and in Class participation 15%
   4. Final Exam 50%