CNST 3372- SOIL MECHANICS AND FOUNDATIONS

**Description:**
The course gives an overview of the difference and correlation between soil mechanics and foundations engineering. **Soil mechanics** is the branch of engineering that involves the study of the properties of soils and their behaviors under stress and strain in idealized conditions. **Foundation engineering** is the application of the principles of soil mechanics in the planning, design and construction of foundations for buildings, highways, dams and so forth. This course presents a detailed look into soil properties and foundations design.

**Course Prerequisites:**
C or better in CNST 3355.

**Textbook**
Cheng Liu & Jack B. Evett (2008), Soils & Foundations

**Learning Objectives:**
Upon the completion of the course students will demonstrate the ability to:

1. Understand terminology and units of measurements related to soil explorations;
2. Understand ASTM test methods;
3. Understand terminology related to shallow and deep foundations for buildings
4. and shoring; and
5. Understand how to do exercises for characterizing soils.

In addition to the learning objectives above, this course emphasizes Ethics, Safety, and Oral/Written Communication.

**Topics:**
- ✓ Engineering properties of Soils
- ✓ Soil Compaction and Stabilization
- ✓ Water in Soil
- ✓ Stress distribution in Soil
- ✓ Consolidation of Soil and settlement of Structures
- ✓ Shear strength of soil
- ✓ Shallow foundations

**Text Book:**

**Academic Honesty:**
Each student is responsible for maintaining high standard of academic honesty and ethical behavior. Students are expected to work their exams, quizzes and reports on their own, based on their individual level of progress with the material. Students who violate University rules on scholastic dishonesty are subject to disciplinary penalties, including the possibility of failure in the course and dismissal from the University (See students Handbook for a detailed description of the UH Academic Honesty policy).

**Exam and Assignment Policy:**
Exams will include material covered in class discussions and homework assignments. Exam make-up will be given only in the event of a verified emergency or doctor-verified sickness. Assignments turned in late will be counted off 20 percent per day (with the exception of the previously listed cases). The student is responsible for all reading assignments and class handouts whether or not covered in class or listed in the syllabus.
The last day of class is the deadline for students to verify their grades and the accuracy of their score. After this deadline, there will be no consideration for any changes.

**Class Attendance:**
A student will be dropped from the course if he/she accumulates more than two absences in the first 3 weeks. Students who accumulate more than four absences during the semester will receive no credit for class participation (this includes laboratory days). *Quizzes will be given almost at the end of every class.*

**Classroom Behavior:**
High level of professionalism in the classroom is expected. The instructor has the right to set the rules in his/her classroom. A student does not have the right to make changes to the instructor’s way of managing the classroom. Disruptive behaviors, such as excessive talking, arriving late to class, and using unauthorized electronic devices during class is not permitted. Repetitive and seriously disruptive behavior may result in removal from class in accordance with policies and procedures set by the Dean of Students Office.

**University Counseling and Psychological Services:**
Counseling and Psychological Services (CAPS) can help students who are having difficulties managing stress, adjusting to college, or feeling sad and hopeless. You can reach CAPS (UH main campus www.uh.edu/caps, or UH Sugar Land campus http://www.uh.edu/dsaes/uhsugarland/) by calling 713-743-5454 during and after business hours for routine appointments or if you or someone you know is in crisis. No appointment is necessary for the “Let's Talk” program, a drop-in consultation service at convenient locations and hours around campus. UH main campus: http://www.uh.edu/caps/outreach/lets_talk.html UH Sugar Land campus: http://www.uh.edu/dsaes/uhsugarland/

**Course Evaluation:**
A course/instructor evaluation will be conducted at the last scheduled lecture. Any suggestions on improving the course, however, are welcome throughout the term. *The instructor has the discretion to make changes to this syllabus as circumstances require.*

**Students with Disabilities:**
University of Houston provides, upon request, appropriate academic adjustments for qualified students with disabilities. Any student with a documented disability (physical or cognitive) who requires academic accommodations should contact the Center for Students with Disabilities (713/743-5400) for more assistance. For detailed information about Disabilities, Religious Holy Days, the Academic Calendar, and Academic Honesty, and other information, please visit the following website: http://www.uh.edu/provost/policies/student/resources/.