

CEE3400 Introduction to Geotechnical Engineering Syllabus

Course Information

Instructor: Haiying Huang (haiying.huang@ce.gatech.edu)

Course Prefix and Number: CEE 3400

General Course Information

Description

This course introduces engineering properties of soils and their use in common geotechnical and geoenvironmental engineering applications. Specific topics include soil formation, characterization, and classification; flow through soils; compaction and soil improvement; stresses in soils; earth retaining structures; shear strength; and settlement analyses. The course includes laboratory sessions.

Course Learning Outcomes

Upon successful completion of this course, students are expected to be able to,

- Develop an understanding of the concepts of geotechnical engineering with an emphasis on the engineering behavior of particulate soils.
- Demonstrate an ability to apply concepts learned in earth science and mechanics of materials to solve problems in geotechnical engineering.
- Conduct laboratory experiments, analyze and interpret data on the engineering behavior of soils, and present the results of the laboratory experiments in written form.
- Design components of engineered systems, e.g., an earth retaining wall, using soil as an engineering construction material.

Required Course Materials

- Budhu, M (2015). *Soil Mechanics Fundamentals* (Metric Version), Wiley-Blackwell, 368pp.
- Lecture supplements and laboratory handouts that will be posted on Canvas.

Grading Policy:

- All laboratory reports must be submitted prior to the reading period to receive a passing final grade.
- All quizzes and exams are closed book/notes and in-person.

HW - 20%, Lab report - 20%, Pop quiz - 5%, Exam 1 - 15%, Exam 2 - 15%, Final Exam 25%

Final grade will be determined according to $A \geq 90\% > B \geq 80\% > C \geq 70\% > D \geq 60\%$.

Course Policies

Attendance and/or Participation

Attendance in all lectures and laboratory sessions is mandatory. In accordance with the Institute requirement, verification of participation of the class will be reported to the Registrar's Office and the Office of Scholarships and Financial Aid. Time stamp of your Canvas activities will serve as evidence of class participation.

Academic Integrity

Georgia Tech aims to cultivate a community based on trust, academic integrity, and honor. Students are expected to act according to the highest ethical standards. Review [Georgia Tech's Honor Code](#) and the student [Code of Conduct](#).

Any student suspected of cheating or plagiarism on a quiz, exam, or assignment will be reported to the Office of Student Integrity, who will investigate the incident and identify the appropriate penalty for violations.

Core IMPACTS

[Core IMPACTS](#) is the University System of Georgia's General Education curriculum. If you are teaching a course that counts towards Core IMPACTS, you should include a syllabus statement about the Core area and associated [career competencies](#). [This resource](#) developed by the Center for Excellence in Teaching and Learning and Online Education at Georgia State University includes template syllabus statements for each of the Core IMPACTS areas that you may adapt for your course.

Accommodations for Students with Disabilities

If you are a student with learning needs that require special accommodation, [contact the Office of Disability Services](#) (404-894-2563) as soon as possible to make an appointment to discuss your special needs and to obtain an accommodations letter. Please also e-mail me as soon as possible in order to set up a time to discuss your learning needs.

Student-Faculty Expectations Agreement

At Georgia Tech, we believe that it is important to strive for an atmosphere of mutual respect, acknowledgement, and responsibility between faculty members and the student body. [The Student-Faculty Expectations](#) articulate some basic expectations that you can have of me and that I have of you. In the end, simple respect for knowledge, hard work, and cordial interactions will help build the environment we seek. Therefore, I encourage you to remain committed to the ideals of Georgia Tech while in this class.

Campus Resources for Students

Undergraduate Student Academic Success Resources:

Academic Support: Academic Success and Advising (a unit in the Office of Undergraduate Education & Student Success) provides free support for your courses. Students can attend scheduled supplemental review (PLUS) sessions, stop by Drop-In Tutoring, or schedule a one-on-one appointment through Knack. To explore what options work best for you, please visit us online at success.gatech.edu/tutoring, email us at tutoring@gatech.edu, or come see us at Clough Undergraduate Learning Commons, Suite 283.

Student Well-Being:

At Georgia Tech, we are concerned about your overall physical, social, and mental well-being. A [comprehensive list](#) of wellness related resources has been compiled and maintained by the Office of the Vice President for Student Engagement and Well-being ([student-resource-guide.gatech.edu](#))