CE 464

Soil Modeling and Computational Soil Mechanics

Fall 2025-2026

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Textbook: Geotechnical Finite Element Analysis, a Practical Guide. Andrew Lees, ICE Publishing

Course Website: Students are required to register themselves at the IYTE Course Management System (https://cloud-lms.iyte.edu.tr), Teams, and enroll in CE 464. All announcements and course material will be uploaded on this site

I. Introduction to the concept of the finite element and numerical modeling
II. Numerical modeling of basic foundation types and comparison to analytical solutions
III. Modeling of excavations in soils with high groundwater table
IV. Modeling of retaining walls with tiebacks and key points in designing approaches
V. Modeling of slopes and comparison with limit equilibrium methods
VI. Effect of rapid drawdown in slopes
VII. Seismic analysis of slopes

Grading Policy: There will be two project presentations, which may include a paper-based exam before presentations. These projects (including exams) are weighted as 40% and 60%, the latter of which will be for your final project presentation.

Attendance: 70% of attendance is required

Cheating or copying: **If a student is found guilty of copying homework or cheating in tests, he/she will receive "F" grade for the course.**