

Mon 28 Feb - Fri 08 Apr 2022 - Advanced soil mechanics D GEO-E2010

Week	Lectures: Mon & Wed (10:15 am) R2		Exercises and tutorials: Tue & Thu (10:15 am) Maari E 229, Maarintalo	
9	28.2	L1 Introduction/soil structure and microstructure	1.3	Laboratory exercise: Introduction and report. (ML,ZL, ALR)
9	2.3	L2 Real soil behaviour & advanced soil testing	3.3	Design exercise slope stability (HG)
9			Fri 4.3, 13-16	Laboratory exercise, geotechnical laboratory R124 (ML, ZL, ALR)*
10	7.3	L3 Mohr-Coulomb Model & Elastic models for soil	8.3	T1 Mohr Coulomb Model (WS, ZL)
10			8.3, 9:15	T: Q&A before test 1 (WS), TBD
10	9.3	Test 1 (L1-3) L4 Limit analysis	10.3	C1 Settlements 1 (HG, ALR)
11	14.3	L5 Slope Stability	15.3	C2 Settlements 2 (HG, ALR)
11	16.3	L6 Earth pressures & retaining walls	17.3	C3 Sheet pile wall (HG, ALR)
12	21.3	L7 Water flow and seepage	22.3	C4 Water flow & seepage (WS, ZL)
12			22.3, 9:15	T: Q&A before test 2 (WS), TBD
12	23.3	Test 2 (L 4-7) L8 Introduction to Critical State soil Mechanics.	24.3	T2 Critical state soil modelling (WS, ZL)
13	28.3	L9 Modified Cam Clay Model	29.3	T3 Modified Cam Clay Model (WS, ZL)
13	30.3	L10 SCLAY-1 model	31.3	T4 Modified Cam Clay Model and SCLAY1 (WS, ZL)
13			1.4	Deadline for the return of the laboratory exercise (ML, ZL, ALR)
14	4.4	L11 Risk-based design	5.4	T: Q&A before test 3. (WS), TBD . Soil – structure interaction (intro)
14	6.4	Test 3 (L 8-11) L12 Interaction between soil and structures	7.4	C5 Soil - structure interaction (WS, ZL)
14			8.4	Deadline for return of the design exercise (HG)

***There may be an extra laboratory session organised if necessary due to a large number of students in the course, possible date to be decided on the 1st of March.**

Teachers: WS – Wojtek Sołowski, HG – Henry Gustavsson, ML – Monica Löfman, ZL – Zhongsen Li, ALR – Alejandra Lopez Ramirez.

Symbols: L – lecture, C – calculation exercise, T – tutorial, TBD – to be decided on the first lecture whether the session takes place.

Course grading: 1/2 lecture (based on 3 tests), 1/6 lab (based on lab report and attendance), 1/6 calculations exercises (C1-C5, equal weight), 1/6 design exercise (based on the submitted design).

All classes will be held on campus. Due to a possible difficult epidemic situation, we will stream and record the lectures as well as introductions to the exercises/tutorials.

Please **follow MyCourses.aalto.fi** for the announcements and updates, as all the changes to the schedule will be communicated through the MyCourses system.

Disclaimer: Due to possible technical issues and other unexpected events, we don't guarantee that streaming will always be available. Similarly, we do not guarantee that all the classes will be recorded. The course is designed to be taken on campus – the learning experience when attending remotely can be significantly inferior and some activities arranged in-class may not be available when attending remotely. In some exercises there may be no help available for those who attend exercises remotely; the Zoom session may be terminated after streaming the introduction.

Remote attendance via Zoom is meant mainly as an inferior substitute in case someone cannot make it to the class. The recordings are meant to be a reminder of the in-class experience as well as a help for those who could not attend the class.