

GEO-E2080 Foundation Engineering and Ground Improvement (5 cr) in hybrid mode

Autumn 2021 2. Period – changes are possible

Prerequisites: GEO-E1020 Geotechnics

Lectures **Lectures will start on Mo 1.11.2021 at 14.15 in room 265-(R5)**
Lecturers: Prof. Leena Korkiala-Tanttu (LKT), Henry Gustavsson
Leena's room R148b, ph. 050 312 4775
leena.korkiala-tanttu@aalto.fi

Exercises Exercises on Tuesdays **10.15-12.00** and Thursdays **14.15 – 16.00** room
Maari C-D
First exercise is on 9th November.
Attendance > 80 %
Exercises will be held by university teacher Henry Gustavsson (HG)
henry.gustavsson@aalto.fi

In this course you will learn about different foundation and ground improvement methods, and when and how they can be applied. You will also learn the basics of their design concepts. This course is useful for geotechnical, structural, rock and pavement engineers. The exam will be right after the course on Wednesday 15.12 13-16 as a lecture exam and another on a week after. If you miss the first exam, there is alternative exam in the next week. The weight of exercises / exam is **50% / 50%. The course will be organized in 2021 as hybrid course.**

You need to attend the exercises. **You can be away once from the exercises.** All the exercises have to be returned. Exercises are mainly done during exercises hours, but you might need to do also something later on. There are both group and personal exercises. You will get feedback already during the course. Exercises are returned weekly. Only those who have returned all exercises can attend the exam (DL 15.12.2021?). There might also be some additional homeworks. There will be more information of them during the course. The exercises are valid for one year (to the end of 2022). The course includes also an excursion to Sitowise, where they will show you the modern way of design with BIM tools. **Some lectures are shared with the students from GEO-E1030 Structural Design of roads course (highlighted with green).**

Course material consists mainly on hand-outs and they will be available in MyCourses. We will update only English lecture material. Finnish material and other additional material is delivered too. Feedback is collected though Webropol system. We will give you our counter-feedback in MyCourses.

NOTE: some changes are possible. Follow MyCourses pages.

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Timetable

(L lecture, E exercise):

Week	Mo 14:15 - 16:00 R5 R002/265=R5	Tu 10:15 – 12:00 Maari C- D	We 12:15-14:00 R5 R002/265=R5	Th 14:15 – 16:00 Maari C-D
44 / 1	1.11. L1 Introduction of the course LKT Programming and analysis of ground investigations LKT		3.11. L2: Geotechnical design Stability, LKT	4.11 Geotekniikan päivä limited amount of students accepted
45 / 2	8.11. L3 Stability, and Excavations LKT	9.11 E1 Ground investigations and report (Part 1) HG/JL	10.11 L4; Excavations LKT Geotechnical monitoring, SY	11.11. E3: Stability of a road embankment HG
46 / 3	15.11 L5; Vertical drainage and mass exchange LKT	16.11 E4 Excavations, HG	17.11 L6: Frost and frost protection HG	
47 / 4	22.11 L7: Drainage systems LKT	23.11 E6: Drainage and frost protection HG	24.11 L8: Deep stabilization LKT	25.11 E5: Settlements of road embankment HG
48 / 5	29.11 L9: Piling 1, LKT	30.11 E7: Piling HG	1.12 L10: Recycled and lightweight materials LKT	2.12 E2 Ground investigations and report (Part 2) HG/JL
49 / 6	6.12 Independence day	7.12. L11 Piling 2, LKT NOTE room R2	8.12 L12: Earth construction LKT Feedback of exercises and lectures	9.12 L13: Geosynthetic materials and their use, PJ NOTE ROOM R5 Possible time for returning the exercises and feedback
50 / 7	Lecture exam We 15.12. at 13-16 in R1			
51	Alternative Exam We 22.12 at 13-16 in R1			

LKT = Leena Korkiala-Tanttu;

HG = Henry Gustavsson;

JL = Jani Lepistö

PJ = Perttu Juntunen, Geosynt Oy

SY = Sami Ylönen, Finmeas