

GEO-E2040 Rock Construction
15.4.-23.5.2019

13.5.2019 JAN

Lecture / Exercise	Date	Lectures and exercises (14:15-16:00)	Hall	Lecturer
1	15.4.2019	Course intro (15 min), Rock mass as a resource for underground facilities	R7	Juha Antikainen
2	15.4.2019	Qualifications to design and construct underground facilities	R7	Mikael Rinne
3	17.4.2019	Main stages of a rock engineering project	R5	Juha Antikainen
4	17.4.2019	Pre-investigations in rock engineering projects	R5	Juha Antikainen
Ex 1	18.4.2019	Project Exercise: Pre-investigations	R7	Juha Antikainen
5	24.4.2019	General and detailed planning of underground facilities	R5	Juha Antikainen
6	24.4.2019	Typical underground facilities (traffic tunnels, infrastructure, radioactive waste etc.)	R5	Jukka Pöllä
7	25.4.2019	Building Information Modelling in rock engineering	R5	Frans Horn
8	25.4.2019	Building Information Modelling in rock engineering	R5	Frans Horn
9	29.4.2019	Dimensioning of underground facilities	266	Lauri Uotinen
10	29.4.2019	Underground excavation design	266	Lauri Uotinen
Ex 2	2.5.2019	Project Exercise: Dimensioning	266	Lauri Uotinen
11	6.5.2019	Environmental impact of blasting, theory of vibrations	R5	Tuomo Hänninen
12	6.5.2019	Environmental impact of blasting, calculating vibrations	R5	Tuomo Hänninen
13	8.5.2019	Underground rock reinforcement design	R5	Lauri Uotinen
14	8.5.2019	Monitoring of rock structures	R5	Lauri Uotinen
Ex 3	9.5.2019	Project Exercise: Reinforcement design (Computer classroom Y338)	Y338	Lauri Uotinen
15	13.5.2019	Grouting and sealing, requirements for water tightness	R5	Mikael Rinne
16	13.5.2019	Waterproofing, insulation and fire protecting structures	R5	Mika Lemmetyinen
17	15.5.2019	Design of blasting: surface	R5	Tuomo Hänninen
18	15.5.2019	Design of blasting: underground	R5	Tuomo Hänninen
Ex 4	16.5.2019	Project Exercise: Blasting design	R5	Tuomo Hänninen
19	16.5.2019	Legislation related to rock construction and mining (16-17)	R5	Tuomo Hänninen
20	20.5.2019	Selection of rock reinforcement design concept for underground spaces and mining	R5	Lauri Uotinen
21	20.5.2019	Geological model and deriving rock mechanical parameters	R5	Lauri Uotinen
22	22.5.2019	Project planning and timetable	R5	Miika Penttala
23	22.5.2019	Cost calculations	R5	Miika Penttala
Ex 5	23.5.2019	Project Exercise: Cost calculation	R5	Miika Penttala

Exam 27.5.2019 12:30 - 15:30 Otakaari 1, Hall D