



Geology (BMEEOGMAT41)

Requirements of the subject

2018/19 I. semester

BME Department of Engineering Geology and Geotechnics	
1. Name and code of the subject	Geology(BMEEOGMAT11)
2. Language	English
3. Topics of the subject	The geology provides the characterization of geological formations and materials from a civil engineering point of view. It describes the processes and the interactions between the engineering works and the geological environment. The dynamics of the Earth, the description of raw materials and geo-materials used in engineering practice (minerals and rocks), the geological risks such as earthquakes, volcanism, landslides and their effect, characterization of surface and subsurface waters and related geological problems.
4. Type	Compulsory subject (BSc)
5. Lecture/Seminar/Laboratory/ETCs	1/2/0/3
6. Pre-study requirements	-
7. Recommended semester	1
8. Cross-semester	not available
9. Lecturer(s)	PhD Balázs Vásárhelyi, PhD Gyula Bögöly Dorottya Kovács, Richárd Varró Jalal Zenah, Mortaza Davarpanah
10.a Attendance on lectures (%-ban)	70
10.b Attendance on seminars (%-ban)	70
10.c Check of attendance	register
11. Requirements to receive signature	1. At least 70 % attendance 2. Successful submission of home assignment 3. Successful accomplishment of the tests
12. Number of tests	3
13. Number of home assignments	1
14. Type of exam	oral (after preparation in written form)
15. Grading	60% exam, 40% tests and home assignment Rules of grading: <div style="margin-left: 40px;"> (5) 85 - 100% (4) 74 - 84% (3) 62 - 73% (2) 50 - 61% (1) <50% </div>



Geology (BMEEOGMAT41)

2018/19 I. semester

Weekly schedule

Week	Lecture	Seminar
1.	Earth's history, the internal structure of Earth and continental drift. Building materials of the Earth' crust. The rock cycle.	Requirements of the subject, Civil engineering aspects of geology, application area, engineering geology Rock-forming minerals
2.		Igneous rocks, their characterization and usage, practice of igneous rock recognition
3.	Mineralogy and rock forming minerals: properties, types, recognition	Visit of the Mineral Museum of ELTE: minerals, properties of minerals, different applications, engineering aspects, different textures of rocks
4.		1. rock recognition test
5.	Petrology: detailed description of igneous, sedimentary and metamorphic rocks, igneous rock types	Sedimentary rocks, their characterization and usage
6.		Metamorphic rocks, their characterization and usage, practice for the rock recognition test
7.	Structural geology: faults, folds and geological structures	Handing out of the home assignment (Expert's report), practice for the rock recognition test
8.		2. rock recognition test
9.	Processes acting on the Earth's surface: weathering, erosion, mass movements, landslides, earthquakes, volcanism	Field trip to the Gellért-hill, structural geology, rock slope stabilization
10.		Basic concepts of geologic mapping, training exercises for the 3. test
11.	Surface waters (oceans, seas, lacustrine environments and rivers), Groundwater (types, karstic water, groundwater flow, springs, and water chemistry	3. test: Geologic mapping
12.		3. test: Geologic mapping
13	Laboratory analyses (petrological and mineralogical tests), Applied geology: site investigations, slope	Engineering geological tasks and problems; examples, case studies
14.		Repeat tests

