

Course G1627: GEOLOGY

GENERAL INFORMATION

Fall Semester
6 ECTS credits

INSTRUCTOR(S)

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Description

This subject covers the main properties of rocks with an emphasis on problems and applications to engineering projects. Rocks and discontinuities are the key elements of rock mass and the subject will cover the principles of bedrock classification based on these criteria. There is also an introduction to Geomorphology and its application to engineering projects. The course includes practical activities focused mainly on geological maps but also aerial photography and identification of rock samples.

TEXTBOOK

Textbook: *Geology for Engineers and Environmental Scientist, 3rd Edition. Alan E. Kehew*

SYLLABUS

1. Introduction and Earth System
2. Internal structure of the Earth
3. Plate Tectonics
4. Mineralogy applied to civil engineering
5. Igneous rocks and igneous processes
6. Sedimentary rocks and sedimentary processes (I)
7. Sedimentary rocks and sedimentary processes (II)
8. Metamorphic rocks and metamorphic processes
9. Geological structures. Rock mass description and classification (I)
10. Geological structures. Rock mass description and classification (II)
11. Weathering, erosion and soils
12. Rivers and fluvial processes
13. Rivers and fluvial deposits
14. Mass movement and slope stability
15. Glaciers, permafrost and deserts