MSc Specialisation in Geotechnics and Geology
Final exam questions

Engineering Geology MSc (BMEEOGMMG-1)

1. Engineering geological characterization of rocks and introduction of their parameters. How can be characterized of soft rocks – hard soils type rocks?
2. Introduce the rock mass classification according to the Geological Strength Index (GSI) for basic, weak and heterogeneous rocks. How changes the GSI value because of the effect of weathering, water etc.
3. Stability analysis of rock slopes, quarries, methodology of investigation of landslides and soil slope stability.
4. Engineering geological investigation of tunnels, storage cavities (nuclear waste disposal), underground cellars: special methodology, examples.

Environmental Geology (BMEEOGMMG-2)

1. Methodology of environmental condition assessment, describe the process and documentation of the assessment!
2. Technology and methodology of treatment of environmental damage. Describe the structure and operation of environmental monitoring systems!
3. Technology and applicability of waste management, description of different type of waste materials in waste disposal point of view.

Geotechnical Design (BMEEOGMMG-3)

1. Describe the principles and method of CPT sounding. Present the soil classification and soil physics determination based on CPT results.
2. Describe the analyses of soil liquefaction and the recommended soil-improvments.
3. Describe the technology and design of anchors.
4. Describe the technology and design of jet-grouting

Earthworks of Infrastructures (BMEEOGMMG-4)

1. Describe the possibilities and methods of a dam construction! Focus on the following aspects: site selection, materials used, construction technology and the most important failure mechanism.
2. Describe the possibilities of earthwork construction on soft clayey soils! The problem shall be presented in details from the soil exploration to the monitoring.
3. Describe the behaviour of organic soils and peat. What are the specialties of earthwork construction on organic soils?
4. Describe the geotechnical problems and risks related to flood protections dykes!