



University of Nicosia, Cyprus

Course Code GEOL-121	Course Title Engineering Geology	ECTS Credits 5
Department Engineering	Semester Fall, Spring	Prerequisites None
Type of Course Required	Field Geology	Language of Instruction English
Level of Course 1 st Cycle	Year of Study 1 st	Lecturer(s) Dr Ernestos N. Sarris
Mode of Delivery Face-to-face	Work Placement N/A	Co-requisites None

Objectives of the Course:

The main objectives of the course are to:

- Introduce the students to the discipline of engineering geology.
- Provide the general concepts arising from the theory of plate tectonics.
- Obtain knowledge on the internal and external processes that take place on the Earth's interior and exterior.
- Appraise the consequences that arise from the external process of the erosion cycle which include the physical and mechanical properties of soils and rocks.
- Teach methods for controlling landslides and slope stability analysis.
- Prepare the students for both theoretical and applied examples specifically designed for Civil Engineers.
- Provide the principles for field methods for geological exploration of soils and rocks.

Learning Outcomes:

After completion of the course students are expected to:

- Demonstrate knowledge of the Geology's most important theory: Plate Tectonics.
- Explain the internal and external processes of the Earth and the erosion process of the rock cycle.
- Discuss how these processes (internal and external) are useful in the analysis of the physical and mechanical properties of rocks and soils.
- Explain the implications of failures like landslides and slope stability in both weak and hard soils and rocks.
- Demonstrate practical knowledge on the solution of applied problems specifically designed for civil engineers and learn also from case studies.
- Understand and explain physical phenomena that are related with geomechanics.
- Demonstrate basic knowledge and solving skills on numerical problems in geotechnics.

Course Contents:

Learning Activities and Teaching Methods:

Lectures, in-class examples and exercises, projects, discussion.
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Assessment Methods:

Homework assignments, final project, mid-term exams, final exam.
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Required Textbooks/Reading:

Authors	Title	Publisher	Year	ISBN
David George Price	Engineering Geology: Principles and Practice	Springer	2009	9783540292494

Recommended Textbooks/Reading:

Authors	Title	Publisher	Year	ISBN
Tony Waltham	Foundations of Engineering Geology, 3 rd Edition	Taylor Francis	2009	9780203894538
Braja M. Das, Khaled Sobban	Principles of Geotechnical Engineering, 8 th Edition	Cengage Learning	2013	9781133108665