



Course Code GEOL-110	Course Title Physical Geology	ECTS Credits 6
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 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 study of the Geology science.
- Familiarize students with the operation and effects of the various internal processes that comprise the geological environment of the Earth and shape its evolution over geological time.
- Review basic concepts of petrophysics, geochemistry, and applied technical geology.
- Develop the student ability to identify and interpret earth materials, processes and features.

Learning Outcomes:

After completion of the course students are expected to:

- Explain the basic structure of the earth and the nature of solid earth materials.
- Identify common minerals and rocks.
- Describe the physical processes that operate to reshape our dynamic planet.
- Understand the concept of geologic time and be familiar with the geologic time scale.
- Understand the causes of geologic hazards such as earthquakes, volcanic eruptions and landslides.
- Understand the formation and extent of geologic resources such as soil, mineral ores, fossil fuels, and sustainable use.
- Be able to communicate their understanding of geologic issues to others.

Course Contents:

- Introduction to geologic processes
- Minerals resources
- Volcanism and the rock cycle
- Igneous processes and Igneous rocks
- Sedimentary rocks

- Metamorphic rocks
- Weathering and erosion
- Internal processes: Plate tectonics
- Internal processes: Earthquakes
- Geologic time scale.

Learning Activities and Teaching Methods:

Lectures, Laboratory exercises, project, discussion

Assessment Methods:

Homework, project assignment, mid-term tests, final exam.

Required Textbooks/Reading:

Authors	Title	Publisher	Year	ISBN
Frank Press, Raymond Siever, John Grotzinger And Tom Jordan	Understanding Earth 4 nd Edition	W.H Freeman U.K	2003	0716796171

Recommended Textbooks/Reading:

Authors	Title	Publisher	Year	ISBN
Graham Thompson and Jonathan Turk	Introduction to Physical Geology 2 nd Edition	Brooks Cole	1997	0030243483
Brian J. Skinner, Stephen C. Porter, Jeffrey Park	Dynamic Earth: An Introduction to Physical Geology	John Wiley & Sons	2004	9780005425695
Edward J. Tarbuck, Frederick K. Lutgens, Dennis G. Tasa	Earth: An Introduction to Physical Geology	Prentice Hall	2013	9780321814067