

COURSE OUTLINE

(1) GENERAL

SCHOOL	ENGINEERING		
ACADEMIC UNIT	MINERAL RESOURCES ENGINEERING		
LEVEL OF STUDIES	UNDERGRADUATE		
COURSE CODE	MRE103	SEMESTER	1 st
COURSE TITLE	GEOLOGY		
INDEPENDENT TEACHING ACTIVITIES <i>if credits are awarded for separate components of the course, e.g. lectures, laboratory exercises, etc. If the credits are awarded for the whole of the course, give the weekly teaching hours and the total credits</i>		WEEKLY TEACHING HOURS	CREDITS
LECTURES		2	3
LABORATORY EXERCISES		2	2
Add rows if necessary. The organisation of teaching and the teaching methods used are described in detail at (d).			
COURSE TYPE <i>general background, special background, specialised general knowledge, skills development</i>	SPECIAL BACKGROUND		
PREREQUISITE COURSES:	NO		
LANGUAGE OF INSTRUCTION and EXAMINATIONS:	GREEK		
IS THE COURSE OFFERED TO ERASMUS STUDENTS			
COURSE WEBSITE (URL)	http://eclass.uowm.gr/courses/MRE114		

(2) LEARNING OUTCOMES

<p>Learning outcomes</p> <p><i>The course learning outcomes, specific knowledge, skills and competences of an appropriate level, which the students will acquire with the successful completion of the course are described.</i></p> <p>Consult Appendix A</p> <ul style="list-style-type: none"> • Description of the level of learning outcomes for each qualifications cycle, according to the Qualifications Framework of the European Higher Education Area • Descriptors for Levels 6, 7 & 8 of the European Qualifications Framework for Lifelong Learning and Appendix B • Guidelines for writing Learning Outcomes
<p>After the successful attendance of the course students will be able to:</p> <ol style="list-style-type: none"> 1. Recognize a petrification macroscopically 2. Discern the geological formations in nature 3. Discern tectonic elements in nature

General Competences

Taking into consideration the general competences that the degree-holder must acquire (as these appear in the Diploma Supplement and appear below), at which of the following does the course aim?

Search for, analysis and synthesis of data and information, with the use of the necessary technology	Project planning and management
Adapting to new situations	Respect for difference and multiculturalism
Decision-making	Respect for the natural environment
Working independently	Showing social, professional and ethical responsibility and sensitivity to gender issues
Team work	Criticism and self-criticism
Working in an international environment	Production of free, creative and inductive thinking
Working in an interdisciplinary environment
Production of new research ideas	Others...

- Students comprehend the use and eligibility of the various geological formations for technical works.
- Students learn about the use of each petrification in construction works.
- Students understand the ore deposit meaning of the geological formations.
- Students acquire the ability and the knowledge for devising/developing geotechnical studies.

(3) SYLLABUS

- Introduction to Geology
- The planet Earth (age, structure, composition)
- Continents, Oceans, Lithospheric tectonic plates
- Earthquakes, Volcanism
- Petrogenetic minerals
- Rocks (Igneous, Sedimentary, Metamorphic)
- Geological cycle, Orogenic mineral systems
- Morphology - Topographic maps
- Exogenic Forces: The impingement of water – ice- seas- wind
- The evolution of the Earth (fossils, rock deformation, erosions)
- Tectonic Geology (geological maps, crevasses, flexures)
- Springs, Karstic phenomena
- Mineral raw materials (ore minerals- fuel minerals- ferrous minerals- industrial minerals)
- Technical Geology: Soil Mechanics – Rock Mechanics/Engineering – Technical Works
- Geology – Spatial Planning – Environment
- Brief reference to the Greek History of Geology

(4) TEACHING and LEARNING METHODS - EVALUATION

DELIVERY <i>Face-to-face, Distance learning, etc.</i>	Face-to-face	
USE OF INFORMATION AND COMMUNICATIONS TECHNOLOGY <i>Use of ICT in teaching, laboratory education, communication with students</i>	Use of ICT in teaching, laboratory education, communication with students	
TEACHING METHODS <i>The manner and methods of teaching are described in detail. Lectures, seminars, laboratory practice, fieldwork, study and analysis of bibliography, tutorials, placements, clinical practice, art workshop, interactive teaching, educational visits, project, essay writing, artistic creativity, etc. The student's study hours for each learning activity are given as well as the hours of non-directed study according to the principles of the ECTS</i>	Activity	Semester workload
	Lectures	26
	Laboratory Practice	26
	Independent & Guided learning	50
	Educational visits	23
	Course total	125
STUDENT PERFORMANCE EVALUATION <i>Description of the evaluation procedure Language of evaluation, methods of evaluation, summative or conclusive, multiple choice questionnaires, short-answer questions, open-ended questions, problem solving, written work, essay/report, oral examination, public presentation, laboratory work, clinical examination of patient, art interpretation, other Specifically-defined evaluation criteria are given, and if and where they are accessible to students.</i>	Language of assessment: Greek Methods of evaluation: <ul style="list-style-type: none"> • Formative • Multiple choice questionnaires • Short-answer questions • Written assignment • Essay/Report • Oral examination • Practice assignment • Public Presentation 	

(5) SUGGESTED BIBLIOGRAPHY

<p>- Suggested bibliography:</p> <ul style="list-style-type: none"> • Περιβαλλοντική Τεχνική Γεωλογία, Σεραφεΐμ Σαθβΐδης, Έκδοση: 1/2014, ISBN: 978-869-80374-0-3 • Ν.Ε. ΔΑΒΗ, Μαθήματα Γενικής Γεωλογίας, Εκδόσεις Συμμετρία, Αθήνα 1991. • Ν.Ε. ΔΑΒΗ, Πετρολογία, Εκδόσεις Συμμετρία, Αθήνα 1991. • Ε.Α. ΧΑΤΖΗΔΗΜΗΤΡΙΑΔΗΣ, Στοιχεία Γενικής Γεωλογίας, Θεσσαλονίκη, 1990. • Γ.Π. ΜΙΓΚΙΡΟΣ, Βασικές αρχές και έννοιες στη Γεωλογία, Αθήνα, 1996. •Ν.Δ. ΜΙΣΟΠΟΛΙΝΟΣ, Γεωλογία – Πετρογραφία, Εκδόσεις Γιαχούδη-Γιαπούδη, Θεσσαλονίκη, 1990. • MONTANA, R. CRESPI, G. LIBORIO, Guide to Rocks and Minerals, Simon & Schuster's, New York, 1988. • R.W. OJAKANGAS, Introductory Geology, Shaum's Outline series, McGraw Hill Inc., New York, 1991. • C.W. MONTGOMERY, Fundamentals of Geology, WCP Publishers, 1997. • R. THORPE, G. BRAUN, The field description of igneous rocks, John Wiley & Sons, Chichester, 1995. • N. FRY, The field description of metamorphic rocks, John Wiley & Sons, Chichester, 1997. • M.E. TUCKER, Sedimentary rocks in the field, John Wiley & Sons, Chichester, 1993 <p>- Related academic journals:</p> <ul style="list-style-type: none"> • Mineral Wealth
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