

COURSE OUTLINE

(1) GENERAL

SCHOOL	SCHOOL OF ENGINEERING		
ACADEMIC UNIT	DEPARTMENT OF MINERAL RESOURCES ENGINEERING		
LEVEL OF STUDIES	UNDERGRADUATE		
COURSE CODE	MRE402	SEMESTER	4
COURSE TITLE	ECONOMIC 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
Lab exercises		2	2
Total		4	5
<i>Add rows if necessary. The organisation of teaching and the teaching methods used are described in detail at (d).</i>			
COURSE TYPE <i>general background, special background, specialised general knowledge, skills development</i>	General background		
PREREQUISITE COURSES:	No		
LANGUAGE OF INSTRUCTION and EXAMINATIONS:	Greek		
IS THE COURSE OFFERED TO ERASMUS STUDENTS	Yes		
COURSE WEBSITE (URL)	https://eclass.uowm.gr/courses/MRE134/		

(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><i>Consult Appendix A</i></p> <ul style="list-style-type: none"> • <i>Description of the level of learning outcomes for each qualifications cycle, according to the Qualifications Framework of the European Higher Education Area</i> • <i>Descriptors for Levels 6, 7 & 8 of the European Qualifications Framework for Lifelong Learning and Appendix B</i> • <i>Guidelines for writing Learning Outcomes</i>
<p>On successful completion of the course, students will be able to:</p> <ul style="list-style-type: none"> ✓ Be familiar with the study of ore deposits. ✓ Know the various types and categories of ore deposits, associated with the way of formation, age, tectonics, mineralogical composition. ✓ Analyze and synthesize the processes of locating of ore deposits in continental and oceanic environments. ✓ Assess the economic viability of an ore deposit, based on current financial data. ✓ Be fully informed about the existing reserve and resource ore deposits in Greece and their possible uses.

- ✓ Be knowledgeable about the protection of the environment in the context of the sustainable extraction and exploitation of mineral raw materials.

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?

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

The course aims at:

Search, analysis and synthesis of data and information

Working independently

Production of free, creative and inductive thinking

(3) SYLLABUS

The modules in this course cover:

- Introduction: definitions – terminology. Shape and textures of ore deposits. Ways of ore deposits genesis. Factors that affect the formation of ore deposits. Exploitability of ore deposits – Exploitability indicators. Magmatic deposits: Hydromagmatic – Hydrothermal – Sub-volcanic – Volcanic – Volcanic, Deposits of gaseous fumes, Process of underwater vapor and volcanic action, Deposits from metamorphism, Contact metasomatism ore deposits, Volcanic sedimentary deposits, Alluvial or Placer deposits, Residual or Laterite deposits, Oxidation and hypergenetic enrichment, Evaporation, Chemical and Biochemical sedimentation, Non-Energy Mineral Raw Materials in Greece, Energy Raw Materials in Greece, Critical and Strategic Minerals, Institutional and Development Framework of Europe on Mineral Raw Materials, Development Potential in the Mining Sector, Sustainable Development Roadmap, The Role of Local Communities, Field training.
- Laboratory: Macroscopic description and properties of minerals / ore deposits (metal and non-metallic). Description and identification of the main metal minerals under the metallographic microscope.

(4) TEACHING and LEARNING METHODS - EVALUATION

<p>DELIVERY <i>Face-to-face, Distance learning, etc.</i></p>	Face to face	
<p>USE OF INFORMATION AND COMMUNICATIONS TECHNOLOGY <i>Use of ICT in teaching, laboratory education, communication with students</i></p>	Use of data projector, asynchronous training platform – eclass, laboratory education.	
<p>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.</i></p> <p><i>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></p>	Activity	Semester workload
	Lectures	65
	Lab work	35
	Lectures study	25
	Course total	125
<p>STUDENT PERFORMANCE EVALUATION <i>Description of the evaluation procedure</i></p> <p><i>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</i></p> <p><i>Specifically-defined evaluation criteria are given, and if and where they are accessible to students.</i></p>	<p><i>Language of Assessment: Greek</i></p> <p><i>Evaluation methods:</i></p> <p><i>Theory: 60% Final Written Examination (Short Answer Questions, Essay Development Questions).</i></p> <p><i>Laboratory: Oral Examination, Written Examination 40%</i></p> <p>Assessment criteria are provided in the course page on the eclass platform and are available to students from the start of the semester.</p>	

(5) SUGGESTED BIBLIOGRAPHY

<p>- <i>Suggested bibliography:</i></p> <ul style="list-style-type: none"> • <i>Χαραλαμπίδης Γ. (2016). «Γενική Κοιτασματολογία». Εκδόσεις ΑΛΕΞΑΝΔΡΟΣ Σ. Ι.Κ.Ε. 382 σελ.</i> • <i>Prasad U. (2006). "Economic Geology: Economic Mineral Deposits". 2nd ed., CBS PUBLISHERS AND DISTRIBUTORS PVT LTD, 300pp.</i> • <i>Ridley J. (2013). "Ore Deposits Geology". CAMBRIDGE UNIVESITY PRESS</i> • <i>Walter L. Pohl (2011). "Economic Geology Principles and Practice". WILLEY-BLACKWELL, 695pp.</i> <p>- <i>Related academic journals:</i></p> <ul style="list-style-type: none"> • <i>Economic Geology, GeoScience world</i> • <i>Journal of Economic Geology, Ferdowsi University of Mashhad</i> • <i>Mineral economics, Springer</i> • <i>Mineralium Deposita, Springer</i> • <i>Ore Geology Reviews, Elsevier</i>
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