

COURSE OUTLINE

(1) GENERAL

SCHOOL	SCHOOL OF ENGINEERING		
ACADEMIC UNIT	DEPARTMENT OF MINERAL RESOURCES ENGINEERING		
LEVEL OF STUDIES	UNDERGRADUATE		
COURSE CODE	MRE602	SEMESTER	6 ^o
COURSE TITLE	MINING SAFETY, HEALTH, AND LAW		
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		3	4
Labs		1	1
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>	Required, general background		
PREREQUISITE COURSES:	There are no prerequisite courses		
LANGUAGE OF INSTRUCTION and EXAMINATIONS:	Greek		
IS THE COURSE OFFERED TO ERASMUS STUDENTS	No		
COURSE WEBSITE (URL)	https://eclass.uowm.gr/modules/document/?course=MRE602		

(2) LEARNING OUTCOMES

<p>Learning outcomes <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>The aim of this course is to provide students with the rules of mining safety and health and to develop a preventative safety and health culture in order to avoid or reduce workplace accidents. Also, it is important the mining law applicable to mining projects.</p> <p>For the successful completion of this course, students should be able to:</p> <ul style="list-style-type: none"> • understand the value of protection, safety and health, human well-being and risks in the workplace. • understand the need to improve working conditions and reduce accidents at work and occupational diseases. • assess the risk to the welfare of persons at work in underground and outdoor workspaces. • deepen in accident prevention by planning and taking all necessary measures in companies, for the analysis or reduction of occupational risks. • distinguish and access the occupational risk. • use Personal Protective Equipment (PPE) for each appropriate situation. • know the occupational safety and health regulations in mining and underground projects.

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

(3) SYLLABUS

<p>Basic concepts and definitions of safety and health, Risk and uncertainty, risk perception, risk analysis for the welfare of persons at work (dust, chemicals, noise, vibration, microclimate, lighting, radiation).</p> <p>Hazard analysis for the safety of persons at work (mechanical equipment, electricity, cargo handling, excavations, explosives).</p> <p>1st and 2nd generation models of human error. Accident analysis models (sequential, epidemiological, systemic). Safety and health legislation. Mining hazards against USBM. Design of safe facilities. Outdoor and underground construction sites. Code of Mining and Quarrying, KMLE. Elements of mining law, Greek mining legislation and EU framework.</p> <p>Laboratory exercises: a) instrumental measurements of dust and fibers in the working environment, b) workplace noise and radiation measurements, c) measurements of harmful gases, liquids, solids, electromagnetic radiation and lighting, d) analysis of accidents using decision - tree models, e) software for harmful agents, f) acquisition of mining license.</p>

(4) TEACHING and LEARNING METHODS - EVALUATION

DELIVERY <i>Face-to-face, Distance learning, etc.</i>	Face-to-face, Distance learning, Lectures, Lab demonstration.	
USE OF INFORMATION AND COMMUNICATIONS TECHNOLOGY <i>Use of ICT in teaching, laboratory education, communication with students</i>	Use of ICT (projector), Support for teaching through the electronic platforms e-class, ZOOM and Moodle. Utilization of e-learning and internet (electronic communication, video demonstrations).	
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	40
	Lab	40
	Educational trips / small individual assignments	10
	Self-study	10
	Course total	100
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>	I. Final exam (50%), II. Lab exercise (40%) III. Small individual assignments (10%).	

(5) SUGGESTED BIBLIOGRAPHY

<p><i>- Suggested bibliography:</i></p> <p><u>Greek bibliography</u></p> <ol style="list-style-type: none"> 1. Stranks, J., 2016. Αδάμ, Κ., Ναθαναήλ, Δ. (επιστημονική επιμ). Μάνατζμεντ ασφάλεια και υγείας των εργαζομένων. Εκδόσεις Rossili Αθήνα, 2016 2. Ανδρεάδης Π., και Παπαϊωάννου Γ., «Υγιεινή και ασφάλεια εργαζομένου: Οδηγός τεχνικού ασφαλείας», Εκδόσεις Ίων, 3η εκδ., 2004. 3. Μουτσοπούλου Α., «Συστηματική διαχείριση υγιεινής και ασφάλειας στα τεχνικά έργα», Εκδόσεις Τζιόλα, 2007. 4. Ζευγώλης Ν.Ε., «Ασφάλεια στη βιομηχανία», Εκδόσεις Ίων, 2017. <p><u>International bibliography</u></p> <ol style="list-style-type: none"> 1. Hartman H. "Introductory Mining Engineering" New York 2nd Edition 2002. 2. Ridley J., Channing J., "Safety at work", 3rd edition, pub. Elsevier, 1999.

Online Resources:

1. www.latomet.gr Γενική Διεύθυνση Ορυκτών πρώτων υλών του Υπουργείου Περιβάλλοντος και Ενέργειας (ΥΠΕΝ).
2. www.elinyae.gr Ταργουτζίδης Α., Βαγιόκας Ν., «Τεχνικά έργα: Βασικοί κίνδυνοι και μέτρα προφύλαξης», Ελληνικό Ινστιτούτο Υγιεινής και Ασφάλειας της Εργασίας, 1η εκδ., Αθήνα, 2004.
3. www.elinyae.gr Κανονισμός Μεταλλευτικών και Λατομικών Εργασιών (Κ.Μ.Λ.Ε.) <https://www.elinyae.gr/ethniki-nomothesia/ya-d7aoik-1205022232011-fek-1227b-1462011>

- *Related academic journals:*

Journal of Safety Research (<https://www.sciencedirect.com/journal/journal-of-safety-research>)

Policy and Practice in Health and Safety

(<https://www.tandfonline.com/journals/tphs20>)