

COURSE OUTLINE

(1) GENERAL

SCHOOL	ENGINEERING		
ACADEMIC UNIT	DEPARTMENT OF MINERAL RESOURCES ENGINEERING		
LEVEL OF STUDIES	UNDERGRADUATE		
COURSE CODE	MRE935	SEMESTER	9/3 rd orientation
COURSE TITLE	Quality Management – Certification		
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>	special 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)			

(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>Students should be able to:</p> <ul style="list-style-type: none"> • understand the design and implementation of a systems in order to ensure that the Quality requirements has been completed. • Know the Quality Management System with design examination or Quality Assurance Management System. • Distinguish the role of linternational and National standardization of products and services, • Understand the role of certification and accredited laboratories • Comprehend the concepts of Quality and reliability
<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>Search for, analysis and synthesis of data and information, Project planning and management with the use of the necessary technology Respect for difference and multiculturalism Adapting to new situations Respect for the natural environment</p>

Decision-making Working independently Team work Working in an international environment Working in an interdisciplinary environment Production of new research ideas	Showing social, professional and ethical responsibility and sensitivity to gender issues Criticism and self-criticism Production of free, creative and inductive thinking Others...
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- Know that the purpose of the inspections that concerns the Quality Management System (QMS) is to determine whether the activities related to quality, are effective and in accordance with the Quality policy of each Company.

(3) SYLLABUS

Introduction.

Part A. Quality Control. Historical development and general concepts for the subjects of quality (assurance, certification, ISO, total quality). Statistics and probability theory for quality control. Sampling for variables and quality characteristics. Methods for determining single, double, multiple and continuous sampling designs. Statistical process control. \bar{x} -R, \bar{x} -S, simple, cumulative, moving and control diagrams acceptance. Hotelling multiple quality control charts. Examples and applications from the field of mineral production and processing (Mining, quarries, cement, Industries, etc.).

Part B. Equipment reliability. Basic concepts, definitions and mathematics for equipment reliability. Reliability models (systems in series, in parallel, in mixed layout, systems with backup elements). Reliability calculation of mining systems with continuous and discontinuous operation.

TEACHING and LEARNING METHODS - EVALUATION

DELIVERY <i>Face-to-face, Distance learning, etc.</i>	Face-to-face, Distance learning, Lectures, Lab demonstration, Tutorials	
USE OF INFORMATION AND COMMUNICATIONS TECHNOLOGY <i>Use of ICT in teaching, laboratory education, communication with students</i>	E-Class, electronic communication, video demonstrations, intermediate exams via e-Class tools	
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>	Activity	Semester workload
	Lectures	36
	Lab	12
	Tutorials	32
	Self-study	20

<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>		
	Course total	100
<p align="center">STUDENT PERFORMANCE EVALUATION</p> <p><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>Final exam (60%, minimum required grade = 4/10), Multiple choice intermediate exam (20%), Homework (20%)</p>	

(4) SUGGESTED BIBLIOGRAPHY

<p><i>- Suggested bibliography:</i></p> <ol style="list-style-type: none"> 1. Διαχείριση Ποιότητας και Οργανωσιακή Αριστεία, 8η Έκδοση, Goetsch L. David - Stanley B. Davis, Γεώργιος Μποχώρης (επιμέλεια), ISBN: 978-960-418-690-7, ΕΚΔΟΣΕΙΣ Α. ΤΖΙΟΛΑ & ΥΙΟΙ Α.Ε. (in Greek). 2. ISO 9000:2000, Αρβανιτογιάννης Ιωάννης Σ., Κούρτης Λάζαρος, ISBN: 960-351-436-5, ΕΚΔΟΣΕΙΣ ΣΤΑΜΟΥΛΗ ΑΕ) (in Greek). 3. ΜΠΑΛΤΟΣ Χ. Γ, ΒΙΔΑΚΗΣ Γ. Ι. 2015. ΔΙΑΧΕΙΡΙΣΗ ΚΑΙ ΔΙΑΣΦΑΛΙΣΗ ΠΟΙΟΤΗΤΑΣ. ISBN: 9789609363570 <p><i>- Related academic journals:</i></p> <p>International Journal of Quality and Reliability Management International Journal of Productivity and Quality Management International Journal of Operations and Production Management, International Journal of Productivity and Performance Management, Quality Management Journal The TQM Journal Total Quality Management and Business Excellence, ΕΛΟΤ- Ελληνικός Οργανισμός τυποποίησης, http://www.elot.gr/ Τυποποίηση και ποιότητα στη σύγχρονη κοινωνία ΜΕ-ΤΠΔΠ ΤΕΕ, 2008 CEN- European Committee for Standardization, http://www.cenorm.be/ ISO- International Organization for Standardization, http://www.iso.org</p>
