

COURSE OUTLINE

(1) GENERAL

SCHOOL	SCHOOL OF ENGINEERING		
ACADEMIC UNIT	DEPARTMENT OF MINERAL RESOURCES ENGINEERING		
LEVEL OF STUDIES	UNDERGRADUATE		
COURSE CODE	MRE404	SEMESTER	4
COURSE TITLE	Geodesy		
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	
Theory - lectures	2	5	
Exercises	2		
Total (hours)	4		
<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:	-		
LANGUAGE OF INSTRUCTION and EXAMINATIONS:	Greek		
IS THE COURSE OFFERED TO ERASMUS STUDENTS	Yes		
COURSE WEBSITE (URL)	https://eclass.uowm.gr/courses/MRE207/		

(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>Upon successful completion of the course, the students should:</p> <p>Have sufficient knowledge of the basic principles of the science of Geodesy by listing the main concepts - definitions,</p> <p>Have been trained in the most important topographic problems (fundamental, frontal, posterior, paths, lines, areas, volumes),</p> <p>Have sufficient knowledge of the practice - laboratory practice in the methods and errors of calculating angles - distances - altitude differences with the respective topographic instruments (theodolichos, chorovatis, gps) and the necessary operating settings.</p>		
<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> <table style="width: 100%; border: none;"> <tr> <td style="width: 50%; border: none;"> <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> </td> <td style="width: 50%; border: none;"> <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> </td> </tr> </table>	<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>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>
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<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>
<i>Search for, analysis and synthesis of data and information</i>	
<i>Working independently</i>	
<i>Team work</i>	

(3) SYLLABUS

<p>Generally.</p> <p>Introduction to Topography.</p> <p>Fundamental problems and their solution.</p> <p>Capture methods (tape measure, rectangle, and speedometer).</p> <p>Capture of the field.</p> <p>Applications.</p> <p>Polygonometry.</p> <p>Routes.</p> <p>Solving and errors of polygonometric paths.</p> <p>Spatial planning.</p> <p>Instruments and spatial accuracy.</p> <p>Engravings.</p> <p>Applications of imprints and engravings related to the science of mre.</p> <p>Calculations.</p>

(4) TEACHING and LEARNING METHODS - EVALUATION

DELIVERY <i>Face-to-face, Distance learning, etc.</i>	<i>Face-to-face, Distance learning</i>	
USE OF INFORMATION AND COMMUNICATIONS TECHNOLOGY <i>Use of ICT in teaching, laboratory education, communication with students</i>	<ul style="list-style-type: none"> • Projector/pc presenting all lectures, • COURSE RELATED NOTES SITED AT THE COURSE' e-class WEBSITE 	
TEACHING METHODS <i>The manner and methods of teaching are described in detail.</i> <i>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> <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>	Activity	Semester workload
	lectures	13
	Exercises	26
	Group work	-
	Educational visit to industries	-
	Atomic avocation	-
	Personal study	13
	Total (ects credits * 25)	125
Course total	125	
STUDENT PERFORMANCE EVALUATION <i>Description of the evaluation procedure</i> <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> <i>Specifically-defined evaluation criteria are given, and if and where they are accessible to students.</i>	Students at the exams only have to solve topographic problems / exercises.	

(5) SUGGESTED BIBLIOGRAPHY

<p>- Suggested bibliography:</p> <ul style="list-style-type: none"> • Book [86054829]: <i>Geoinformatics Topography, 2nd Edition, Hatzopoulos Ioannis N.</i> • Book [14844]: <i>Topography Courses, Kofitsas Ioannis D.</i> • Book [50662654]: <i>Geodesy II: Topographic Impressions - Engravings, Savvaidis Paraskevas, Yfantis Ioannis, Doukas Ioannis</i> <p>- Related academic journals:</p>
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