

## COURSE OUTLINE

### (1) GENERAL

<b>SCHOOL</b>	SCHOOL OF ENGINEERING		
<b>ACADEMIC UNIT</b>	DEPARTMENT OF MINERAL RESOURCES ENGINEERING		
<b>LEVEL OF STUDIES</b>	UNDERGRADUATE		
<b>COURSE CODE</b>	MRE894	<b>SEMESTER</b>	8
<b>COURSE TITLE</b>	Road Planning		
<b>INDEPENDENT TEACHING ACTIVITIES</b> <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>	<b>WEEKLY TEACHING HOURS</b>	<b>CREDITS</b>	
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>			
<b>COURSE TYPE</b> <i>general background, special background, specialised general knowledge, skills development</i>	general background		
<b>PREREQUISITE COURSES:</b>	-		
<b>LANGUAGE OF INSTRUCTION and EXAMINATIONS:</b>	Greek		
<b>IS THE COURSE OFFERED TO ERASMUS STUDENTS</b>	Yes		
<b>COURSE WEBSITE (URL)</b>	<a href="https://eclass.uowm.gr/courses/MRE209/">https://eclass.uowm.gr/courses/MRE209/</a>		

### (2) LEARNING OUTCOMES

<p><b>Learning outcomes</b></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"> <li>• Description of the level of learning outcomes for each qualifications cycle, according to the Qualifications Framework of the European Higher Education Area</li> <li>• Descriptors for Levels 6, 7 &amp; 8 of the European Qualifications Framework for Lifelong Learning and Appendix B</li> <li>• Guidelines for writing Learning Outcomes</li> </ul>								
<p>The course is the main introductory course in the concepts of design and construction and operation of roads.</p> <p>The centre of the course aims to introduce students to the basic concepts of Road Design and Construction.</p> <p>The aim of the course is for students to understand the introductory concepts of Road Construction applications.</p> <p>Upon successful completion of the course, the student should have sufficient knowledge of the basic principles of the science of Road Design / Construction through the presentation of the main concepts - definitions.</p>								
<p><b>General Competences</b></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;"> <i>Search for, analysis and synthesis of data and information, with the use of the necessary technology</i> </td> <td style="width: 50%; border: none;"> <i>Project planning and management</i> </td> </tr> <tr> <td style="border: none;"> <i>Adapting to new situations</i> </td> <td style="border: none;"> <i>Respect for difference and multiculturalism</i> </td> </tr> <tr> <td style="border: none;"> <i>Decision-making</i> </td> <td style="border: none;"> <i>Respect for the natural environment</i> </td> </tr> <tr> <td style="border: none;"> <i>Working independently</i> </td> <td style="border: none;"> <i>Showing social, professional and ethical responsibility and sensitivity to gender issues</i> </td> </tr> </table>	<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>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>Working in an international environment</i> <i>Working in an interdisciplinary environment</i> <i>Production of new research ideas</i>	<i>Criticism and self-criticism</i> <i>Production of free, creative and inductive thinking</i> ..... <i>Others...</i> .....
<i>Search for, analysis and synthesis of data and information</i> <i>Working independently</i> <i>Team work</i>	

### **(3) SYLLABUS**

<p>Introduction.</p> <p>Laying flat ground. Along a country road slope.</p> <p>Regulations.</p> <p>Road width slope.</p> <p>Landscape design.</p> <p>Longitudinal sections and road sections.</p> <p>Longitudinal and cross-sectional drawing from topographic elements or from map elements.</p> <p>Sloping ditches and embankments.</p> <p>Slope configuration.</p> <p>Drainage.</p> <p>Red road construction.</p> <p>Slope calculation.</p> <p>Calculation of vertical and horizontal joints.</p> <p>Special issues of construction road construction.</p> <p>Calculation of earthworks.</p> <p>Medium surface method.</p> <p>Method of applicable lengths.</p> <p>Financial street data.</p>
--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------

#### (4) TEACHING and LEARNING METHODS - EVALUATION

<p style="text-align: center;"><b>DELIVERY</b> <i>Face-to-face, Distance learning, etc.</i></p>	<p><i>Face-to-face, Distance learning</i></p>		
<p style="text-align: center;"><b>USE OF INFORMATION AND COMMUNICATIONS TECHNOLOGY</b> <i>Use of ICT in teaching, laboratory education, communication with students</i></p>	<ul style="list-style-type: none"> <li>• Projector/pc presenting all lectures,</li> <li>• <b>COURSE RELATED NOTES AND ALSO UNSOLVED EXERCISES DATABASE SITED AT THE COURSE' e-class WEBSITE</b></li> </ul>		
<p style="text-align: center;"><b>TEACHING METHODS</b> <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></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>	<b>Activity</b>	<b>Semester workload</b>	
	lectures	13	
	<i>Exercises</i>	13	
	<i>Group work</i>	-	
	<i>Educational visit to industries</i>	-	
	<i>Atomic avocation</i>	OPTIONAL ATOMIC WORK (SEVERAL INCREASED DIFFICULTY UNSOLVED EXERCISES) FOR ALL STUDENTS	
	<i>Personal study</i>	13	
Total (ects credits * 25)	125		
Course total	125		
<p style="text-align: center;"><b>STUDENT PERFORMANCE EVALUATION</b> <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>Students at the exams only have to solve exercises.</p> <p>Optional work 10% is taken into account and the students are finally graded.</p> <p><b>THE FINAL GRADE OF EACH STUDENT, COMES OUT FROM THE SUMMARY OF:</b></p> <ul style="list-style-type: none"> <li>• THE EXAMINATION GRADE AND</li> <li>• THE OPTIONAL ATOMIC WORK</li> </ul>		

#### (5) SUGGESTED BIBLIOGRAPHY

- Suggested bibliography:
- Book [14710]: *Elements of Road Construction, Kofitsas Ioannis D.*
  - Book [33154221]: *ROAD CONSTRUCTION: DESIGN AND CONSTRUCTION, HENNING NATZSCHKA*
  - Book [68369418]: *ROAD CONSTRUCTION I - DRAWINGS AND CALCULATION OF EARTH, Anastasios K. Apostoleris*
- Related academic journals: