

## 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>	MRE992	<b>SEMESTER</b>	9
<b>COURSE TITLE</b>	Concrete – Structural Constructions		
<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	4
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/MRE212/">https://eclass.uowm.gr/courses/MRE212/</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 basic introductory course at the basic concepts related to concrete structures. The material of the course aims to introduce the basic principles of students related to concrete structures.</p> <p>The aim of the course is the understanding by the students of the introductions related to concrete constructions</p> <p>Upon successful completion of the course, the student should have sufficient knowledge of the basic principles of concreting, reinforcement and measurements related to concrete structures.</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;">                 Search for, analysis and synthesis of data and information, with the use of the necessary technology                  Adapting to new situations                  Decision-making                  Working independently                  Team work                  Working in an international environment                  Working in an interdisciplinary environment             </td> <td style="width: 50%; border: none;">                 Project planning and management                  Respect for difference and multiculturalism                  Respect for the natural environment                  Showing social, professional and ethical responsibility and sensitivity to gender issues                  Criticism and self-criticism                  Production of free, creative and inductive thinking                  .....             </td> </tr> </table>	Search for, analysis and synthesis of data and information, with the use of the necessary technology Adapting to new situations Decision-making Working independently Team work Working in an international environment Working in an interdisciplinary environment	Project planning and management Respect for difference and multiculturalism Respect for the natural environment Showing social, professional and ethical responsibility and sensitivity to gender issues Criticism and self-criticism Production of free, creative and inductive thinking .....
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<i>Production of new research ideas</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**

Concrete technology, concrete materials, composition properties.  
 Visit to concrete factories.  
 Steel, Properties, Dimensioning of bodies.  
 Applications. Concrete constructions, Slabs, Beams, Columns, Sandals. Applications. Measurements of reinforced concrete elements. Applications. Wooden constructions. Reinforced concrete regulation.  
 Legislation and regulation of anti-seismic technology.  
 Damage and troubleshooting of reinforced concrete.  
 Damage and treatment of earthquake damage.  
 Reinforced concrete structures - reinforced concrete structures related to Mineral Resources Engineering.

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

<p><b>DELIVERY</b> <i>Face-to-face, Distance learning, etc.</i></p>	<p><i>Face-to-face, Distance learning</i></p>	
<p><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>• <b>Projector/pc presenting all lectures,</b></li> <li>• <b>COURSE RELATED NOTES AND ALSO UNSOLVED EXERCISES DATABASE SITED AT THE COURSE' e-class WEBSITE</b></li> </ul>	
<p><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>	<p><b>Activity</b></p>	<p><b>Semester workload</b></p>
	<p>lectures</p>	<p>13</p>
	<p>Exercises</p>	<p>13</p>
	<p>Group work</p>	<p>-</p>
	<p>Educational visit to industries</p>	<p>-</p>
	<p>Atomic avocation</p>	<p>OPTIONAL ATOMIC WORK (SEVERAL UNSOLVED INCREASED DIFFICULTY EXERCISES) FOR ALL STUDENTS</p>
	<p></p>	<p></p>
	<p>Personal study</p>	<p>13</p>
<p>Total (ects credits * 25)</p>	<p>100</p>	
<p>Course total</p>	<p>100</p>	
<p><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>THE FINAL GRADE OF EACH STUDENT, COMES OUT FROM THE SUMMARY OF:</p> <ul style="list-style-type: none"> <li>• THE EXAMINATION GRADE AND</li> <li>• THE OPTIONAL WORK</li> </ul>	

#### (5) SUGGESTED BIBLIOGRAPHY

- Suggested bibliography:

- Book [45372]: *Constructions and Reinforced Concrete Foundations, Tassios Theodosios P.*
- Book [12441]: *European reinforced concrete structures, Avak Ralf*

- Related academic journals: