

1.1.1 Steel Structures II

GENERAL

SCHOOL	Engineering		
ACADEMIC UNIT	CIVIL ENGINEERING		
LEVEL OF STUDIES	Undergraduate		
COURSE CODE	ΔOM017	SEMESTER	7th
COURSE TITLE	Steel Structures II		
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	
	4	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>	Scientific Field		
PREREQUISITE COURSES:			
LANGUAGE OF INSTRUCTION and EXAMINATIONS:	Greek		
IS THE COURSE OFFERED TO ERASMUS STUDENTS	No		
COURSE WEBSITE (URL)	https://elearning.cm.ihu.gr/course/view.php?id=945		

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 the successful completion of the course the students are anticipated to:</p> <ul style="list-style-type: none"> - Understand, analyse and evaluate the mechanical behaviour of typical steel connections; - Identify the possible failure mechanisms of typical steel connections; - Analyse, evaluate and design typical connections in steel structures; - Understand and evaluate the seismic actions that are imposed in steel structures; - Develop the structural system of typical steel structures (including their connections) for resisting static and seismic actions; - Understand the consequences of accidental or unexpected actions in steel structures; - Select appropriate surface protection measures for steel structures.
<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</i> <i>Project planning and management</i></p>

<i>information, with the use of the necessary technology</i> <i>Adapting to new situations</i> <i>Decision-making</i> <i>Working independently</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>Respect for difference and multiculturalism</i> <i>Respect for the natural environment</i> <i>Showing social, professional and ethical responsibility and sensitivity to gender issues</i> <i>Criticism and self-criticism</i> <i>Production of free, creative and inductive thinking</i> <i>.....</i> <i>Others...</i> <i>.....</i>
<ul style="list-style-type: none"> - Search, analysis and synthesis of information and data using the appropriate technology - Decision making - Student individual project - Project planning and management - Criticism and self-criticism - Production of free, creative and inductive thinking 	

SYLLABUS

Steel connections with mechanical fasteners (bolts, pins, rivets) and welds. Joints in truss and frame structures (classification, modelling and analysis methods). Design of steel connections in accordance with the provisions of Eurocode 3. Shear and tension connections. Design of steel structures against seismic actions according to the provisions of Eurocode 8. Construction aspects of steel structures. Class 4 cross-sections. Design against corrosion and fire. Overhead crane runway beams.

TEACHING and LEARNING METHODS - EVALUATION

DELIVERY <i>Face-to-face, Distance learning, etc.</i>	Face to face.	
USE OF INFORMATION AND COMMUNICATIONS TECHNOLOGY <i>Use of ICT in teaching, laboratory education, communication with students</i>		
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	42
	Individual study	62
	Course total (26 hours workload per ECTS credit)	104
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>	Formative evaluation consisting of: <ul style="list-style-type: none"> - Non-compulsory homework exercises focusing on problem solving - Final written exams comprising problem-solving questions 	

ATTACHED BIBLIOGRAPHY

- Sofianopoulos S.D. 2006. Elements in metal structures. Publisher: Παπασωτηρίου, ISBN: 9789607530745 (in Greek)
- Baniotopoulos, C.K. 2003. Connections of metal structures. Publisher: Ζήτη, ISBN: 9789604318926 (in Greek)