

1.1.1 Building Construction I

GENERAL

SCHOOL	Engineering		
ACADEMIC UNIT	CIVIL ENGINEERING		
LEVEL OF STUDIES	Undergraduate		
COURSE CODE	ΔOM007	SEMESTER	3rd
COURSE TITLE	Building Construction I		
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	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>	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		

LEARNING OUTCOMES

<p>Learning outcomes <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><i>Consult Appendix A</i></p> <ul style="list-style-type: none"> • <i>Description of the level of learning outcomes for each qualifications cycle, according to the Qualifications Framework of the European Higher Education Area</i> • <i>Descriptors for Levels 6, 7 & 8 of the European Qualifications Framework for Lifelong Learning and Appendix B</i> • <i>Guidelines for writing Learning Outcomes</i>
<p>Upon successful completion of the course, the student will be able to:</p> <ul style="list-style-type: none"> • understand the principal parts of a building construction: excavations, foundations, bearing structure of buildings, masonry, thermal and moisture protection, roofs, stairs, floors • read and create construction drawings • search relevant information over building construction issues in a variety of sources (books, scientific papers, internet sites) • implement the aforementioned information for solving building construction issues in a documented way (detailed drawings, technical reports) • perceive the knowledge received as a part of the whole building construction planning and utilize it construction
<p>General Competences <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>

<i>Search for, analysis and synthesis of data and 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>Project planning and management</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>Others...</i>
<ul style="list-style-type: none"> • Research, analysis and combination of information • Adaptation to new situations • Decision making • Autonomous and team work • Project planning and performing • Respect to natural environment • Critical mindset • Promotion of creative and inductive thinking 	

SYLLABUS

<p>The course is an introduction to Building Construction and aims to develop the logic of solving construction problems in a building project. Introduces theoretical and technical knowledge on issues of insulation, building materials as well as the relationship between design and construction. An introduction is also made to the concept of the energy performance of the building, its energy footprint and the regulations governing them.</p> <p>Students work on a project, both individually and in groups. For this project they are given drafts of a building and are asked to proceed with the design of the basic construction plans (wooden formwork, joints and details of structural elements, drawing of stairs, roofs), incorporating the insulation required in every element. Moreover, they are invited to cultivate the logic of searching for construction solutions through the combination of knowledge and information received from a variety of sources: books, technical brochures, examples of constructed buildings on the Internet. Their proposal should be substantiated theoretically and design-wise.</p>

TEACHING and LEARNING METHODS - EVALUATION

<p style="text-align: center;">DELIVERY</p> <p style="text-align: center;"><i>Face-to-face, Distance learning, etc.</i></p>	Face to face.	
<p style="text-align: center;">USE OF INFORMATION AND COMMUNICATIONS TECHNOLOGY</p> <p style="text-align: center;"><i>Use of ICT in teaching, laboratory education, communication with students</i></p>	<ul style="list-style-type: none"> • Powerpoint presentation of lectures • Support of the learning process (educational material) through the E-learning platform and a video conference platform. 	
<p style="text-align: center;">TEACHING METHODS</p> <p><i>The manner and methods of teaching are described in detail.</i></p> <p><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>	Activity	Semester workload
	Lectures	25
	Practice/exercises	25
	Individual study	30
	Project(s)	30
	Project(s)	20
	Course total (26 hours workload per ECTS credit)	130
<p style="text-align: center;">STUDENT PERFORMANCE EVALUATION</p> <p style="text-align: center;"><i>Description of the evaluation procedure</i></p>	Final written exams on theory and design, with questions of short development on construction issues, as well as solving	

<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>a small design project (50%) Delivery of group project (mandatory), which is processed during the semester, with supervision of each group throughout the whole semester (50%)</p>
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ATTACHED BIBLIOGRAPHY

- [IN GREEK] Αθανασόπουλος Χ., “Κατασκευή κτιρίων: Σύνθεση και Τεχνολογία”, Αθήνα 1991
- [IN GREEK] Ζαχαριάδης Α., “Οικοδομική Τεχνολογία” University Studio Press, Θεσσαλονίκη, 2004.
- [IN GREEK] Καλογεράς Ν., Κιρπότην Χ., Μακρής Γ., Παπαϊωάννου Ι., Ραυτόπουλος Σ., Τζιτζας Μ.,
- [IN GREEK] Τουλιάτος Π. “Θέματα Οικοδομικής”, Ε.Μ.Π., εκδόσεις Συμμετρία, Αθήνα, 1999.
- [IN GREEK] Schmitt H., Heene A. “Κτιριακές κατασκευές : τα δομικά στοιχεία και η συναρμογή τους : βασικές αρχές της σύγχρονης δόμησης” μετάφραση Δ. Μαλασπίνας, εκδ. Μ. Γκιούρδας , Αθήνα 1994.
- Ching, F., Building Construction Illustrated , Wiley, 5th edition, 2014.
- Ching, F., Onouye, B., Zuberbuler, D., Building Structures Illustrated , Wiley, 5th edition, 2013.
- [IN GREEK] Τ.Ο.Τ.Ε.Ε. 20701-2/2010. Θερμοφυσικές ιδιότητες δομικών υλικών και έλεγχος της θερμομονωτικής επάρκειας των κτιρίων. EN ISO 13790.
- ΚΤΙΠΙΟ [<http://www.ktirio.gr/>]