

COURSE OUTLINE

(1) GENERAL

SCHOOL	Architecture		
ACADEMIC UNIT	Architecture		
LEVEL OF STUDIES	Diploma		
COURSE CODE	APY 104	SEMESTER	2 nd
COURSE TITLE	Building Arts, Technics & Engineering 2 (Integration & Project Documentation)		
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
Lectures and technical experimentation		6	6
<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, special background, specialised general knowledge and skills development.		
PREREQUISITE COURSES:	N/A		
LANGUAGE OF INSTRUCTION and EXAMINATIONS:	Greek		
IS THE COURSE OFFERED TO ERASMUS STUDENTS	Yes (in English)		
COURSE WEBSITE (URL)	-		

(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><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>The course, along with Building Arts, Technics & Engineering 1, is the introductory course on building techniques, their conception and practice.</p> <p>The students, through the course's curriculum, will practice on structural knowledge gained through the previous semester and will be introduced to notions such as the building envelope and the combination and connections of construction materials.</p> <p>Like in Building Arts, Technics & Engineering 1 the goal is for the students to discover the basics of building technologies, the links between construction, architectural design and its technological/economic basis through the understanding of the architectural product as a whole along with its technical requirements.</p> <p>Furthermore, the course introduces the students to construction methodologies and their outcome on the lifecycle of the building, in order for them to get a general idea on the process of construction.</p> <p>By completing the course, the student should:</p> <ul style="list-style-type: none"> • be able to understand the basic and critical characteristics of construction and its connection to the technological and natural aspects affecting it,

- have a basic perception of the tools and techniques required for construction and their use in order to achieve completion of construction,
- be able to distinguish the basic roles during construction and evaluate each one's involvement in the process (engineers, contractors, etc.),
- be able to evaluate the importance of the construction methodology in conjunction to problem-solving,
- be able to perceive some basic construction elements and their connection to time planning,

General Competences

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?

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
Production of new research ideas

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
.....
Others...
.....

- Search for, analysis and synthesis of data and information, with the use of the necessary technology
- Decision-making
- Working independently
- Team work
- Production of new research ideas
- Planning and construction of a full-scale structure
- Exercise on reviewing and self-criticism
- Promotion of free, creative and inductive reasoning

(3) SYLLABUS

- I. Basic knowledge – The stages of the architectural Project
- II. Foundations
- III. Walls
- IV. Floors
- V. Ceilings
- VI. Roofs
- VII. Windows/Openings
- VIII. Staircases
- IX. Bathrooms
- X. Kitchens
- XI. Fireplaces
- XII. Details-Implementation drawings

(4) TEACHING and LEARNING METHODS - EVALUATION

DELIVERY <i>Face-to-face, Distance learning, etc.</i>	Lectures and technical experimentation
USE OF INFORMATION AND COMMUNICATIONS TECHNOLOGY <i>Use of ICT in teaching, laboratory education,</i>	YES

<i>communication with students</i>																							
<p>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>	<table border="1"> <thead> <tr> <th>Activity</th> <th>Semester workload</th> </tr> </thead> <tbody> <tr> <td>Lectures</td> <td>15</td> </tr> <tr> <td>Practical exercises on specific methodologies and analysis in smaller groups</td> <td>45</td> </tr> <tr> <td>Small individual exercises</td> <td>15</td> </tr> <tr> <td>Group project</td> <td>20</td> </tr> <tr> <td></td> <td></td> </tr> <tr> <td>Educational visit</td> <td>10</td> </tr> <tr> <td></td> <td></td> </tr> <tr> <td>Individual study</td> <td>45</td> </tr> <tr> <td></td> <td></td> </tr> <tr> <td>Course total</td> <td>150</td> </tr> </tbody> </table>	Activity	Semester workload	Lectures	15	Practical exercises on specific methodologies and analysis in smaller groups	45	Small individual exercises	15	Group project	20			Educational visit	10			Individual study	45			Course total	150
	Activity	Semester workload																					
	Lectures	15																					
	Practical exercises on specific methodologies and analysis in smaller groups	45																					
	Small individual exercises	15																					
	Group project	20																					
	Educational visit	10																					
	Individual study	45																					
Course total	150																						
<p>STUDENT PERFORMANCE EVALUATION</p> <p><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>	<ol style="list-style-type: none"> 1. Presentation of individual portfolio (60%) comprising of: <ul style="list-style-type: none"> • Design of a small-scale building • Critical selection of the structural system • Design of the structural system • Selection of envelope materials and windows/openings • Implementation drawings • Problem solving on material choices. • Comparative evaluation of the practical exercises 2. Presentation of group project (40%) 																						

(5) ATTACHED BIBLIOGRAPHY

<p>- <i>Basic bibliography:</i></p> <ul style="list-style-type: none"> - Τσινίκας Νίκος, Αρχιτεκτονική Τεχνολογία, University Studio Press, 2010 - Εθνικό Μετσόβιο Πολυτεχνείο, Θέματα Οικοδομικής, Εκδόσεις Συμμετρία 1999 <p>- <i>Suggested bibliography:</i></p> <ul style="list-style-type: none"> - Meyer-Bohe, Οικοδομικές Λεπτομέρειες, 1000 Τυπικές επιλύσεις κτιριακών κατασκευών, Μ. Γκιούρδας, 1987 - Κουκής, Σ., Δομική Τεχνολογία. Αθήνα 2001 - Αθανασόπουλος, Χ. . Κατασκευή Κτιρίων. Σύθεση και Τεχνολογία. Αθήνα 2000 - Watts, Andrew, Modern Construction Handbook. Springer-Verlag Wien New York 2001 - Ching, D. K., Francis, Building Construction Illustrated, J. Wiley & Sons (4th edition) 2008 - Charleson, W. Andrew, Structure as Architecture. Architectural Press – Elsevier, 2001 - Macdonald, J. Angus, Structure and Architecture. Architectural Press – Elsevier, 2001 - Daniels, K., Low Tech, Light Tech, High Tech: Building in the Information Age, Birkhauser, 2000 - Hall, Andrew (Ed). Details in Architecture. Creative Detailing by Leading Architects. Images Publishing, 2009 - Garrison, P. Basic Structures for Engineers and Architects. Blackwell Publications, 2005 - Schultz, H.C., Sobek W., Habermann, K. Steel Construction Manual, Birkhäuser, 2000 - Herzog, T. Timber Construction Manual, Birkhäuser, 2004 <p>- <i>Related scientific journals:</i></p> <ul style="list-style-type: none"> - Detail Magazine, Detail Publishers
--