

## COURSE OUTLINE

### (1) GENERAL

<b>SCHOOL</b>	Architecture		
<b>ACADEMIC UNIT</b>	Architecture		
<b>LEVEL OF STUDIES</b>	Diploma		
<b>COURSE CODE</b>	<b>APY 104</b>	<b>SEMESTER</b>	<b>1<sup>st</sup></b>
<b>COURSE TITLE</b>	Building Arts, Technics & Engineering 1(Introduction to Tectonics)		
<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>
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>			
<b>COURSE TYPE</b> <i>general background, special background, specialised general knowledge, skills development</i>	General background, special background, specialised general knowledge and skills development.		
<b>PREREQUISITE COURSES:</b>	N/A		
<b>LANGUAGE OF INSTRUCTION and EXAMINATIONS:</b>	Greek		
<b>IS THE COURSE OFFERED TO ERASMUS STUDENTS</b>	Yes (in English)		
<b>COURSE WEBSITE (URL)</b>	-		

### (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><i>Consult Appendix A</i></p> <ul style="list-style-type: none"> <li>• <i>Description of the level of learning outcomes for each qualifications cycle, according to the Qualifications Framework of the European Higher Education Area</i></li> <li>• <i>Descriptors for Levels 6, 7 &amp; 8 of the European Qualifications Framework for Lifelong Learning and Appendix B</i></li> <li>• <i>Guidelines for writing Learning Outcomes</i></li> </ul>
<p>The course is the basic introductory course on building techniques, their conception and practice.</p> <p>The course curriculum introduces the students to 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. In that sense, the course is the basic one, on which the building and construction technologies of the next three (3) semesters will be developed in detail.</p> <p>Finally, the aim of the course is to point out, the necessity of the conception of building practices in contemporary architectural construction, for it to evolve in a separate scientific field/profession.</p> <p>By completing the course, the student should:</p> <ul style="list-style-type: none"> <li>• be able to understand the basic and critical characteristics of construction and its connection to the technological and natural aspects affecting it,</li> <li>• have a basic perception of the tools and techniques required for construction and their use in order to achieve completion of construction,</li> </ul>

- 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,
- be able to draw and produce a small-scale construction in collaboration with other students. The project comprises of a specific construction methodology, evaluation of the importance of each part, role assigning and basic construction drawing (orthographic projections, axonometric and perspective drawing, construction details).

### 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, distinction between structure and form
- II. Structural physics, forces and loads
- III. Tools and construction techniques
- IV. Materials and analysis of their properties
- V. Structural elements (bearing walls, columns, foundations etc.)
- VI. Bearing elements (beams and slabs)
- VII. Connections
- VIII. Construction sequence and logic, structures' analysis
- IX. Light structures and advanced building techniques.

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

<b>DELIVERY</b> <i>Face-to-face, Distance learning, etc.</i>	Lectures and technical experimentation	
<b>USE OF INFORMATION AND COMMUNICATIONS TECHNOLOGY</b> <i>Use of ICT in teaching, laboratory education, communication with students</i>	YES	
<b>TEACHING METHODS</b> <i>The manner and methods of teaching are described in detail.</i>	<b>Activity</b>	<b>Semester workload</b>
	Lectures	15

<p>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.</p> <p>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</p>	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	<b>150</b>
	<p><b>STUDENT PERFORMANCE EVALUATION</b></p> <p>Description of the evaluation procedure</p> <p>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</p> <p>Specifically-defined evaluation criteria are given, and if and where they are accessible to students.</p>	
<ol style="list-style-type: none"> <li>1. Presentation of individual portfolio (60%) comprising of: <ul style="list-style-type: none"> <li>• Practical exercises</li> <li>• Methodological analysis of construction methods</li> <li>• Problem solving on specific structural models.</li> <li>• Comparative evaluation of the practical exercises</li> </ul> </li> <li>2. Presentation of group project (40%)</li> </ol>		

## (5) ATTACHED BIBLIOGRAPHY

<p>- Basic bibliography:</p> <p>Pete Silver/Will McLean, Introduction to Architectural Technology, Laurence King Editions, 2013  Mario Salvadori, Why Buildings Stand Up, W.W.Norton &amp; Company Editions, 1980  Building Construction Before Mechanization, John Fitchen, The MIT Press, 1989</p> <p>- Suggested bibliography:</p> <p>Vitruvius ,Ten books on on Architecture, Dover Publications, NY  Peter Neufert,Ernst Neufert, Architect's Data, Wiley-Blackwell publishing</p> <p>- Related scientific journals:  Detail Magazine, Detail Publishers</p>
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