

Course unit title:	Architectural Technology IV		
Course unit code:	APX233		
Type of course unit:	Compulsory		
Level of course unit:	Diploma Degree of Architect - Engineer		
Year of study:	2		
Semester when the unit is delivered:	4 (Spring)		
Number of ECTS credits allocated :	5		
Name of lecturer(s):	Prof. Panayiotis Touliatos, Marios Pelekanos		
Learning outcomes of the course unit:	<ol style="list-style-type: none"> 1. Review the analysis of construction techniques and the correlation between the laws of Nature and design. Identify the properties of the various structural materials and constructural systems and the basic principles of design methodology. 2. Relate the effects of dynamic loads to the main types of bearing systems. Distinguish between durability and stiffness of structures. 3. Analyze decision principles on elements and systems, according to the special needs for resistance to the dynamic loading (earthquakes). 4. Compare techniques adopted in traditional structures and historical monuments, to the techniques proposed for contemporary structures. Identify the basic rules and principles for design, based on complex needs. 5. Implement the synthesis process through drafting construction plans, sections, elevations and details of a small building with a mixed load bearing system. Develop architectural representation and construction drawings. 		
Mode of delivery:	Face-to-face		
Prerequisites:	APX131, APX133, APX231	Co-requisites:	None
Recommended optional program components:	None		
Course contents:	Techniques adopted in traditional structures and historical monuments, compared to the techniques proposed for contemporary structures, usually stress the importance of a systematic analysis of the design guidelines that achieve resistance to dynamic loads, mainly earthquakes. The course deals with the correlation between the laws of Nature and design with emphasis on the durability and stiffness of the structures and the relation between dynamic loads and the behavior of the main types of bearing systems.		
Recommended and/or required reading:	Prof. P. Touliatos, N. Andrieliou, Earthquake and contemporary structures , Fire Brigade Academy of Greece, 2009.		
Textbooks:	<p>N.Kalogeras, Ch.Kirpotin, G.Makris, I.Papaioannou, S.Rautopoulos, M.Tzitzas, P.Touliatos, Architectural Technology, Symmetria Editions, Athens, 1999.</p> <p>Hristos Athanasopoulos, Building construction, design and technology, Hristos Athanasopoulos Edition, 2003.</p>		
References:	<p>Prof. P. Touliatos, Architecture and Earthquakes, National Technical University Athens, 2004.</p> <p>Prof. P.Touliatos, Research on the antiseismic behavior of traditional</p>		

	structures in Greece , National Technical University Athens, Antiseismic Protection Organisation Greece, 2001.
Planned learning activities and teaching methods:	<p>The taught part of the course is delivered to the students by means of lectures and computer-aided presentations. Lecture notes and presentations are available through the web for students to use in combination with the relevant textbooks.</p> <p>Lectures are supplemented with project work carried out on an individual basis. Students are requested to design and produce construction details for a small unit, for example a 70 square meters workshop, with a mixed load bearing structural system. During the semester, course instructors are making comments and corrections on the students' proposals, at every stage of the process.</p>
Assessment methods and criteria:	<ul style="list-style-type: none"> • Project 45% • Final Examination 55%
Language of instruction:	Greek English offered for Erasmus Students
Work placement(s):	