

Course unit title:	Architectural Technology I		
Course unit code:	APX131		
Type of course unit:	Compulsory		
Level of course unit:	Diploma Degree of Architect - Engineer		
Year of study:	1		
Semester when the unit is delivered:	1 (Fall)		
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. Identify the basic principles of architectural technology. Relate architectural technology with the stages of study. Differentiate art and construction principles in architecture and determine similarities and contrasts. 2. Recognize the basic laws of nature and the deformation of bearing components under load. Identify the basic actions and stresses: Compression, Tension, Bending, Buckling, Shear and Cut. Differentiate the durability and the stiffness of structures. Outline communication and collaboration with the civil engineer through design. 3. Identify the basic building materials and systems. Distinguish actions and stresses of structural components according to their material. Define the basic building systems, i.e. reinforced concrete structures and light structures (steel and wood). 4. Identify structural elements and the basic members of structure: Roofing, External walls, Internal partitioning, Floors and Foundation. Design of bearing members based on function, form, bioclimatic behaviour and economic limitations. Recognize the main types of bearing systems: Frame, Three-point connected arch or frame, post and beam system. Recognize the main types of joints: Fixed, Pin, Rolling. Identify primary and secondary bearing members. 5. Develop architectural representation and construction drawings. Create construction plans, sections, elevations, formwork plans, details and 3d representations. Implement the study by constructing a small light structure in actual size. 		
Mode of delivery:	Face-to-face		
Prerequisites:	None	Co-requisites:	None
Recommended optional program components:	None		
Course contents:	<p>The course is an introduction to architectural technology and it attempts an initial general review of the basic principles and knowledge of the laws of nature concerning structures. In particular, this course deals with the identification of basic building materials and construction systems, the actions and stresses of the structural components and also the deformation, durability and stiffness of the basic components and types of structures.</p>		

Recommended and/or required reading:	<p>W.Huntington-R. Mickadelt, Building Construction Materials and Types of Construction, J. Viley and Sons, 1981</p> <p>Mario Salvadori, Why Buildings stand up- The strength of Architecture, Norton and Co, 1990</p>
Textbooks:	<p>N.Kalogeras, Ch.Kirpotin, G.Makris, I.Papaioannou, S.Rautopoulos, M.Tzitzas, P.Touliatos, Architectural Technology, Symmetria Editions, Athens, 1999.</p>
References:	<p>Hristos Athanasopoulos, Building construction, design and technology, Hristos Athanasopoulos Edition, 2003.</p> <p>S.Koukis, Building Technology, Grafikes Technes Edition, Athens, 2001</p> <p>Mario Salvadori, The bearing structure in architecture, Themeli Editions, Athens, 1981</p> <p>Alexandros Zanos, Architectural Form and Bearing Function, Alexandros Zanos Edition, Athens, 1983.</p>
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 light structure. During the semester, course instructors are making comments and corrections on the students' proposals, at every stage of the process. Two to three final studies are selected to be implemented by working teams of ten to twelve students each.</p>
Assessment methods and criteria:	<ul style="list-style-type: none"> • Project 35% • Final Examination 65%
Language of instruction:	<p>Greek English offered for Erasmus Students</p>
Work placement(s):	