

Course unit title:	Structures in Architecture III		
Course unit code:	APX232		
Type of course unit:	Compulsory		
Level of course unit:	Diploma Degree of Architect - Engineer		
Year of study:	2		
Semester when the unit is delivered:	3 (Fall)		
Number of ECTS credits allocated :	3		
Name of lecturer(s):	Professor Dr. Milton Demosthenous		
Learning outcomes of the course unit:	<ol style="list-style-type: none"> <li>1. To be able to recognize the structural system of Metallic and Wood structures.</li> <li>2. To realize that the main structural system of such structures is consisted by precast two types of structural elements, beams and trusses connected at the place of the structure.</li> <li>3. To know the typical sections of metallic and wood beams and the different between these typical forms.</li> <li>4. To understand the structural behaviour of the beam and the truss and the support conditions of such structural elements.</li> <li>5. To know the techniques and the typical procedure to create the connection joints of two structural elements.</li> <li>6. To understand the whole structural behaviour of a Metallic or Wood structural system and to be able to use various techniques to increase their strength and especially their stiffness.</li> <li>7. To be able to design complicated Metallic and Wood structural systems using the benefits of the previous described structural elements.</li> <li>8. To be able to make simple calculations and to complete the design of simple isostatic structural systems, including estimation of external loadings and the selection of the dimensions of structural elements.</li> </ol>		
Mode of delivery:	Face-to-face		
Prerequisites:	APX134	Co-requisites:	None
Recommended optional program components:	None		
Course contents:	<p>This course focuses on the study of the structural behavior of metallic and wood structures. The types of sections of structural members and the details of connection and supporting of them is examined also. The cases of application of these structures, both in Cyprus and in other countries are presented. Final, the design of simple metallic and wood structures with numerical investigation of the stressing and deformation of structural members under loading is examined.</p>		
Recommended and/or required reading:	M. Demosthenous "Static of Metallic and Wood structures" – Lecture Notes		
Textbooks:	<ol style="list-style-type: none"> <li>1. Beton Kalender 1984, Vol. 1</li> <li>2. Beton Kalender 1984, Vol. 2</li> </ol>		

	<p><b>3.</b> Beton Kalender 1984, Vol. 3</p> <p><b>4.</b> Beton Kalender 1984, Vol. 4</p>
References:	
Planned learning activities and teaching methods:	<p>The taught part of the course is delivered to the students by means of lectures and a number of numerical exercises. Lecture notes are available through the class for students to use in combination with the relevant textbooks and other notes.</p> <p>Lectures are supplemented with two project works (assignments) carried out on an individual basis. In the first project, students are requested to investigate possible cases for the connection of metallic and wood structural elements, to check the possible failures of an existing structure due the overloading and to design a simple wood bridge using sections of wood beams offered by the market. At the second project, at the first stage the students make a market investigation to find the steel sections of structural elements offered by the market. At the second stage the students design the structural system of a metallic structure, such supermarket, parking place e.t.c., giving all the drawings, including details for the connections and descriptions about the stiffness of structure and the loading transferring form the roof to the foundation.</p>
Assessment methods and criteria:	<ul style="list-style-type: none"> <li>• Assignment 1                      10%</li> <li>• Assignment 2                      30%</li> <li>• Final Exam                         60%</li> </ul>
Language of instruction:	<p>Greek</p> <p>English offered for Erasmus Students</p>
Work placement(s):	