Course unit title:	Passive Climatic Design I		
Course unit code:	APX331		
Type of course unit:	Compulsory		
Level of course unit:	Diploma Degree of Architect - Engineer		
Year of study:	3		
Semester when the unit is delivered:	5 (Fall)		
Number of ECTS credits allocated :	5		
Name of lecturer(s):	Nicos Georgiou		
Learning outcomes of the course unit:	•to understand the essential requirements during the design process in issues such as health, comfort and security • to develop knowledge on building physics and the terminology associated with energy issues, lighting, heating, cooling and ventilation. • to evaluate the interaction of climate, energy and sustainability. • to understand the principles of sunlight and the effects of location, organization of space, form and volume of a design proposal • to understand the principles of thermal behavior of a building, ventilation and humidity • to develop the ability to calculate the heat loss of a building with a variety of building materials.		
Mode of delivery:	Face-to-face		
Prerequisites:	None	Co-requisites:	None
Recommended optional program components:	None		
Course contents:	The objective of his course is an analysis of the impact of the environment - positive or negative- on buildings. The ultimate aim is the ability to articulate strategies, regarding the building design, the choice of materials and the application of adequate technologies and construction methods, so as to achieve and safeguard the building's functional value. Environmental parameters and the building' response to them constitute a crucial factor in the building's design and management. In addition, it assumes a great importance, as it is not only related to economics but also to the availability of energy and natural resources, the environment and the well being of current and future generations. The knowledge acquired is an effective tool in the process of design, in order to best adapt a building to its natural environment. The architect needs to study and understand the building physics as a framework of rules governing the architectural decisions in both building's design and building's choice of materials and structural system so as to deliver the best possible building in terms of functionality, aesthetics and energy consumption.		

Recommended and/or required reading:	• **Energy Planning, Introduction to Architects**, Malliaris Education for the European Commission • **Guide of Thermal Insulation of Buildings**, second edition, 2010, September, Energy Service, Ministry of Commerce, Industry and Tourism • **Energy Design Guide**, 2011, Thessaloniki, Building Publishing Ltd. • **Guide of Thermal Insulation & Waterproofing**, 2011, Thessaloniki, Building Publishing Ltd. • Andreadaki - Chronaki E., **Passive Bioclimatic Architecture – Solar Energy Systems**, 1985, Thessaloniki, University Studio Press
Textbooks:	
References:	
Planned learning activities and teaching methods:	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. Lectures are supplemented with project work carried out on an individual basis. Students are requested to design and produce construction details for a demanding light structure such as bridge etc. During the semester, course instructors are making comments and corrections on the students' proposals, at every stage of the process.
Assessment methods and criteria:	• Class Participation 10% • A' project 10% • B' project 30% • Final Exams 50%
Language of instruction:	Greek English offered for Erasmus Students
Work placement(s):	