

Course unit title:	PASSIVE CLIMATIC DESIGN IV		
Course unit code:	APXE 33		
Type of course unit:	Elective		
Level of course unit:	Diploma Degree of Architect - Engineer		
Year of study:	4		
Semester when the unit is delivered:	From 7 semester		
Number of ECTS credits allocated :	3		
Name of lecturer(s):	Nicos G. Georgiou		
Learning outcomes of the course unit:	<ol style="list-style-type: none"> 1. Identify architectural design parameters that have a direct or indirect effect on energy requirements for the construction and use of buildings. 2. Interpret the design principles for sunlight and the effects of location, organization of space, form and volume of a design proposal 3. Analyze the interaction between built and natural environment in the course of time, utilizing the understanding of the past for dealing with the future. 4. Recognize the laws of building physics and understand the terminology associated with energy issues, lighting, heating, cooling and ventilation 5. Interpret and critically appraise the sustainable aspects of the materiality and layout of buildings and settlements 		
Mode of delivery:	Face-to-face		
Prerequisites:	APXE 331, APXE 333	Co-requisites:	None
Recommended optional program components:	None		
Course contents:	<p>The course enhances previous knowledge of students on architectural environmental design.</p> <p>It includes a review of various topics of energy design -from building physics to construction details- supported by case studies as examples of the sustainable issues involved in architecture.</p> <p>Special emphasis is given to the material dimension of architectural space and its interaction with the immediate and wider environment of today, also drawing lessons from the past.</p> <p>Environmental aspects of sustainability are appraised with focus on energy and on the basis of current practices and trends.</p> <p>Theoretical analysis is combined with an applied project on refurbishing a specific building.</p>		
Recommended and/or required reading:	<ul style="list-style-type: none"> • Goulding J R, Lewis J O, Steemers T C (ed.), Energy in Architecture- The European Passive Solar Handbook, Batsford 1992/1993 • Guide of Thermal Insulation of Buildings, second edition, 2010, September, Energy Service, Ministry of Commerce, Industry and Tourism • 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 		

	<ul style="list-style-type: none"> • 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:	Course notes via e-learning
References:	Web referenceS: RIBA Sustainability Hub , The Story of Stuff , The tectonics of the double skin , Initial Green Roof Research & Design Information , Autodesk Sustainability Workshop , PDEC report , etc.
Planned learning activities and teaching methods:	<p>The taught part of the course is based on oral presentations with numerous illustrations. Lecture notes and additional material are available through the web for students to use in combination with the relevant textbooks.</p> <p>Lectures are supplemented by project work in groups of four. Students explore the energy parameters and performance of the school building, and then make detailed architectural proposals to address major issues from their findings. Comments and corrections on their work are made by the instructor at preset steps during the semester.</p>
Assessment methods and criteria:	<ul style="list-style-type: none"> • Semester Project: 80% • Final Presentation 20%
Language of instruction:	Greek English offered for Erasmus Students
Work placement(s):	