

## Course/Subject/Unit Description

1. General Information			
School		School of Design Studies	
Department		INTERIOR ARCHITECTURE	
STUDY LEVEL		Undergraduate	
CODE OF SUBJECT	<b>EA705</b>	SEMESTER	<b>7</b>
SUBJECT TITLE		<b>Sustainable design</b>	
Teaching Content	Weekly ( Hrs)	Credis	
Lectures, Essays, Design Workshops/Excercises, Design Project – Portfolio of work.	3	3	
Type of Subject	Mandatory		
PREREQUIRED COURSES	No		
Teaching and Exams Language	Greek		
THE COURSE IS OFFERED TO ERASMUS STUDENTS	Yes		
Course website (URL)	ia.ihu.gr/ea705		

2. Aims and Objectives – Methods – Skills
<b>a. Learning Outcomes</b>
Familiarity with modern energy data related to buildings. "Green" architecture and its application in the design of interior spaces of old or new buildings. Creative application of modern bioclimatic building energy data in contemporary interior architecture.
<b>b. Skills</b>
<ul style="list-style-type: none"> <li>• Application of knowledge in practice</li> <li>• Application of digital technologies</li> <li>• Respect for the natural environment</li> <li>• Implementation of sustainability</li> <li>• Implementation of the bioclimatic function of the buildings</li> <li>• Work in an interdisciplinary environment</li> <li>• Respect for diversity</li> <li>• Individual and group work, self-criticism exercise</li> </ul>

3. Subject Context
<p>Comfort conditions of people inside buildings.</p> <p>Energy behavior of buildings, bioclimatic buildings, sustainable design. Energy design of the outer shell of buildings. Passive solar and thermal energy systems. Energy consumption inside the building (inner climate control systems, lighting, air conditioning, ventilation).</p> <p>"Green" Buildings. Energy interventions in existing buildings. Architecture, functional structure, morphology, materials and methods of structure of environmentally friendly buildings.</p> <p>Design of interior architecture, furnishing and decorative elements, and building's energy behavior in a single teaching unit. In the laboratory part, students (individually or in small groups) practice on interior architecture design exercises, focusing on alternative energy-saving systems and sustainability.</p>

4. Teaching and learning methods – Evaluation and assessment

<ul style="list-style-type: none"> <li>- Theory and Design Workshops – Main Project Brief/ Site visits</li> <li>- Group Appraisal /Site Analysis</li> <li>- Theory Essay and Design Exercises</li> <li>- Interim Reviews</li> <li>- Project Final Pin Up</li> <li>- Portfolio Hand In.</li> </ul>		
<i>Use of Information and Communication Technologies</i>	Digital design of bioclimatic characteristics of indoor spaces	
<i>Teaching organization</i>	<i>Activity</i>	<i>Semester Credits</i>
	Lectures	20
	Theory Essay	
	Design Workshop and Exercises	40
	Main Design Project	15
	Research and Analysis of Bibliography	
	Total	75
<i>Student assesment</i>	Written examination Laboratory Work Evaluation of Progress assignments	

### 5. Recommended/ Bibliography

- Ανδρεαδάκη-Χρονάκη Ε., Βιοκλιματικός Σχεδιασμός: Κλιματική αλλαγή, Περιβάλλον, Βιωσιμότητα, 2<sup>η</sup> έκδοση, Εκδόσεις University Studio Press, Θεσσαλονίκη 2017
- Ανδρεαδάκη-Χρονάκη Ε., Βιοκλιματική Αρχιτεκτονική, Εκδόσεις University Studio Press, Θεσσαλονίκη 2003
- Γεωργιάδου Ε (εκδ), Βιοκλιματικός Σχεδιασμός & Καθαρές Τεχνολογίες Δόμησης, Παρατηρητής, Θεσσαλονίκη 1996
- Κοσμόπουλος Π., Περιβολάρης Α., Κτίρια μηδενικής κατανάλωσης ενέργειας, University Studio Press, Θεσσαλονίκη 2017
- Κοσμόπουλος Π., Μιχαλοπούλου Κ., συνθήκες άνεσης και μικροκλίμα σε υπαίθριους αστικούς χώρους, University Studio Press, Θεσσαλονίκη 2017
- Κωνσταντινίδου Χ., Βιοκλιματική Αρχιτεκτονική & Ενεργειακός Σχεδιασμός, Τεκδοτική, 2008
- Παπαδόπουλος Μ., Αξαρχή Κ., Ενεργειακός σχεδιασμός και παθητικά ηλιακά συστήματα κτιρίων, εκδ. Κυριακίδη, 2015
- Τομπάζης Α., Οικολογική σκέψη και αρχιτεκτονική, Εκδοτικός οίκος Μέλισσα, 2010
- Τσίγκας Ε. (επιμ.), Ενέργεια στην αρχιτεκτονική. Το Ευρωπαϊκό εγχειρίδιο για τα Παθητικά Ηλιακά Κτίρια, Εκδ. Μαλλιάρης παιδεία, 1996
- Olgyay A., Olgyay V, Solar Control and Shading Devices, Princeton University Press, Princeton
- Raymond C., Richard L., (ed) Buildings, Culture and Environment, Blackwell, Oxford 2003
- Roaf S., Fuentes M., Thomas S., ECOΔΟΜΕΙΝ - Βιοκλιματικός Σχεδιασμός Κτιρίων και Εφαρμογές Ανανεώσιμων Πηγών Ενέργειας, εκδ. ΨΥΧΑΛΟΣ, 2009

Related scientific Journals

