

COURSE OUTLINE

1. GENERAL

SCHOOL	POLYTECHNIC		
DEPARTMENT	ARCHITECTURE		
LEVEL OF COURSE	UNDERGRADUATE		
COURSE CODE	ARC_ES-117 (ARCH 486)	SEMESTER OF STUDIES	SEVENTH
COURSE TITLE	ELECTIVE STUDIO OF BUILDING DESIGN (SPECIAL WORKSHOP)		
INDEPENDENT TEACHING ACTIVITIES	TEACHING HOURS PER WEEK	ECTS CREDITS	
Lectures, seminars	1		
Studio Work & Assignments	5		
		8	
COURSE TYPE	Field of Science (Architectural Design) and Skills Development		
PREREQUISITE COURSES:	-		
TEACHING AND ASSESSMENT LANGUAGE:	Greek. Teaching may be however performed in English in case foreign students attend the course.		
THE COURSE IS OFFERED TO ERASMUS STUDENTS	Yes		
COURSE WEBPAGE (URL)	https://eclass.upatras.gr/courses/ARCH486/		

2. LEARNING OUTCOMES

The Building Design Studio aims to deepen students in the relationship between Architectural Design and Building Technology. The transition from the concept to the drafting of the application study is always a complex and difficult process, especially when an effort is made not to alter the character of the original architectural proposal. Thus, based on the knowledge gained from the four semesters of teaching building technology, students are invited to prepare plans for the implementation of a design topic that they have completed in the previous academic year.

COURSE OBJECTIVES

- Students' involvement with Design simultaneously at all scales: from the scale of the object to the scale of an entirely new construction, from detail to the overall characteristic intersection of the facades. Recognition of theoretical importance of the relationship between the unit and the whole.
- Recognition of the theoretical significance of the relationship of scales.
- Investigation of the value of the Section and its relationship with the Facade.

On successful completion of the module, students will be able to:

- Address complex design problems.
- Craft architectural proposals simultaneously in different scales moving from both near and far, without necessarily following hierarchies.
- Use and manage a set of techniques and methods for reading of space such as: sketches, photography, video, animations and diagrams of spaces, models, diagrammatic syntax of space (space syntax) etc.
- Challenge or to consider new programs that relate to the needs of a particular design, and object-dependent potential or present the specific situation (spatial – cultural).

General Abilities

Generally, by the end of this course the student will, furthermore, have developed the following general abilities:

- *Searching, analysis and synthesis of facts and information, as well as using the necessary technologies*
- *Autonomous work*
- *Working in an international environment*
- *Decision making*
- *Group work*
- *Exercise of criticism and self-criticism*
- *Promotion of free, creative and inductive thinking*
- *Respect to natural environment*
- *Respect for diversity and multiculturalism*
- *Demonstration of social, professional and ethical responsibility.*
- *Work design and management*

3. COURSE CONTENT

The act of Design is not a sequential process in the sense of the sequence of operations (idea, processing, application study, details) It is an iterative process in which abstract ideas are developed, examined, tested and constantly revised with the aim of producing a body of information from which a building or other structures will be constructed. On the one hand, the choices for the construction system, operating systems, materials and building elements are influenced by the initial design decisions while on the other hand, the initial design ideas will be influenced by the details and ways of construction. It's a two-way, iterative continuous effort. When we think about the original ideas, at the same time we look at the initial ideas for the details. We start with this observation, because the initial design at the level of detail (The Synthesis of Detail) is vital for the successful end result, its maintenance and disassembly and must be included in the initial ideas of the design sequence and especially in the cases of approaching the completed life-cycle to the designed environment. The Studio has a research character. We will analyze and design characteristic sections of well-known buildings and record the ways of composing details and their relationship to purpose, simplicity and complexity. We will seek to investigate the evolution of the process of composing the details and the series of decisions selected and finally we will design our own series of corresponding incisions and aspects.

During the semester students are required to work almost simultaneously on two levels:

- Critical reading and description of the existing situation (historical, cultural, from information that will be collected from the Internet).
- Suggestions and edited alternative proposals and ideas for the new design.

4. TEACHING AND LEARNING METHODS - ASSESSMENT

TEACHING METHODS	Lectures, seminars and Studio Work Face to Face. The course will be taught through lectures on specific subjects of Design and case studies.	
USE OF INFORMATION AND COMMUNICATION TECHNOLOGIES	Use of Information and Communication Technologies (ICTs) (e.g. powerpoint) in teaching providing information on the theory and practice of the laboratory assignments and the methodology for multi-step syntheses. The lectures content of the course for each chapter are uploaded on the internet, in the form of a series of .pdf files, where from the students can freely download them.	
TEACHING ORGANIZATION	Activity	Work Load per Semester
	Lectures (1 conduct hour per week x 13 weeks)	13
	Studio Work (5 hours per week x 13 weeks)	65

	Hours for private study of the student and preparation of assignments	90
	Final Presentation preparation	32
	Total number of hours for the Course (25 hours of work-load per ECTS credit)	200 hours (total student work-load)
STUDENT ASSESSMENT	<p>The evaluation of students will be based on the degree of development of analytical thinking, understanding and assimilating the concepts, creativity, synthetic and design capability, as well as their participation in the educational process. There is no written exam in the course.</p> <ul style="list-style-type: none"> • Interim Presentations Topic: (30% of the total grade) • Final Presentation: (70% of the total grade) <p>The criteria of assessment are listed in the course syllabus (outline and timeline of course) posted on the e-class platform. The criteria listed are the following: “the evaluation of students will be based on the degree of development, the ability of analytical thinking, understanding and assimilating the concepts, on creativity, on synthetic and design capability, as well as on participation in the educational process”</p>	

5. RECOMMENDED LITERATURE (incl. Books in Greek)

Books:

1. Αντωνίου, Δ., Δημόπουλος, Γ., Κονταξάκης, Δ., Συμεωνίδου, Ι., Τσινίκας, Ν., «Ελαφριές Κατασκευές – Βιομημητικές – Εφημέρες – Ψηφιακές» (2020), University Studio Press, Θεσσαλονίκη.
2. Τσινίκας, Νίκος, Π. (2016) *Αρχιτεκτονική Τεχνολογία*. Γ΄ Έκδοση. University Studio Press A.E.
3. Καλογεράς, Ν., και άλλοι (1999) *Θέματα Οικοδομικής*, Εκδόσεις Συμμετρία, Αθήνα.
4. Charleson, W. Andrew (2005) *Structure as Architecture*. Architectural Press – Elsevier
5. Ching, D. K., Francis (2008) *Building Construction Illustrated*, J. Wiley & Sons (4th edition)
6. Ching, D. K., Francis (2009) *Building Structures Illustrated. Patterns, Systems & Design*. J. Wiley & Sons
7. Daniels, K. (2000), *Low Tech, Light Tech, High Tech: Building in the Information Age*, Birkhauser
8. Daniels, K. (2000). *Advanced Building Systems: A technical Guide for Architects and Engineers*. Birkhauser
9. Deplages, Andrea (2005) *Constructing Architecture. Materials, Processes, Structures. A Handbook*. Birkhauser.
10. Lyons, Arthur (2007), *Materials for Architects and Builders*. Butterworh-Heinemann (3rd ed.)
11. Garrison, P. (2005) *Basic Structures for Engineers and Architects*. Blackwell Publications
12. Hall, Andrew (Ed) (2009). *Details in Architecture. Creative Detailing by Leading Architects*. Images Publishing.
13. Macdonald, J. Angus (2001) *Structure and Architecture*. Architectural Press – Elsevier
14. Schodek, D.L. (2000), *Structures*, Prentice-Hall (4th edition)
15. Smith, Bryan S., Coull, Alex (1991), *Tall Building Structures: Analysis and Design*, Wiley & Sons.
16. Schierle, G., G. (2006) *Architectural Structures*, USC Custom Publishing.
17. Watts, Andrew, (2001) *Modern Construction Handbook*. Springer-Verlag Wien New York
18. Weston, Richard (2003), *Materials, Form and Architecture*, Laurence King.

Magazines:

Detail