

Course/Subject/Unit Description

1. General Information			
School		School of Design Studies	
Department		INTERIOR ARCHITECTURE	
STUDY LEVEL		Undergraduate	
CODE OF SUBJECT	EA502	SEMESTER	5
SUBJECT TITLE		Structural Art IV	
Teaching Content		Weekly (Hrs)	Credits
Lectures, Essays, Design Workshops/Exercises, Design Project – Portfolio of work.		4	4
Type of Subject		Compulsory	
PREREQUIRED COURSES		No	
Teaching and Exams Language		Greek	
THE COURSE IS OFFERED TO ERASMUS STUDENTS		Yes	
Course website (URL)		ia.ihu.gr/ea502	

2. Aims and Objectives – Methods – Skills

a. Learning Outcomes

Development of special repetitive structural elements that present variability and can be assembled and disassembled (modular design).
Personal understanding of standardisation in construction, using a repeating structural grid.
Design of lightweight, transportable, variable and ephemeral structures of small scale in the interior & exterior space.
Research on application details to demonstrate that construction provides a link between functionality and aesthetics in both small- and large-scale objects, - it is not just a process of composing materials and engineering.

β. Skills

- Research, analysis and synthesis of data and information, with the use of appropriate technologies
- Standardisation in three-dimensional space
- Composition of repeated building elements
- Use of contemporary lightweight structures
- Autonomous project
- Production of new research ideas
- Evaluation, assessment and self-assessment
- Application of knowledge in practice.

3. Subject Context

The module is an introduction to the principles of contemporary construction in terms of standardisation and application of lightweight structural systems, while contemporary morphologic approaches in relation to the possibilities offered by evolving technologies are examined.

It discusses methodologies of construction standardisation, three-dimensional construction grids, reusable structural components, assembled and disassembled elements.

The basic principles and characteristics of special lightweight structures are analysed,

which can be easily transformed, providing a separate chapter of knowledge and exercise in the context of both large-scale and small-scale architectural construction and interior. Considering this, applications of small-scale structures located either indoors (kiosks inside large exhibition spaces, installations etc.) or in urban space (pavilions, parasites, minimum residences etc.) are presented.

Material properties, construction and connections are analysed. Basic means of infrastructure (electricity, plumbing, mechanical installations) are discussed. Particular reference is made to easy assemblage / disassemblage and storage of the structure's elements, the study of nodes and the typologies that provide the possibility of the addition or removal of parts to allow for multiple uses.

Regarding the design/synthetic part of the module and more specifically the design of lightweight structures and building elements, the students are invited to elaborate on design issues related to small-scale structures, located either outdoors or indoors, as well as their interior space and equipment.

4. Teaching and learning methods – Evaluation and assessment

<ul style="list-style-type: none"> - Theory and Design Workshops – Main Project Brief/ Site visits - Group Appraisal /Site Analysis - Theory Essay and Design Exercises - Interim Reviews - Project Final Pin Up - Portfolio Hand In. 	The module combines teaching and learning methods described in this section, allowing for a comprehensive approach that integrates theory and design.	
Use of Information and Communication Technologies	Powerpoint presentations & video projections, use of CAAD, online research	
Teaching organisation	Activity	Semester Credits
	Lectures	20
	Design Workshop and Exercises	20
	Main Design Project	50
	Portfolio	10
	Total	100
<i>Student assessment</i>	Precedent Presentation Design Project Portfolio assessment	

5. Recommended/ Bibliography

Athanasopoulos Ch. (2003) Building construction: Synthesis and technology (6th edition). Athens, Papatotiriou Publications [in Greek].

Bardzinska-Bonenberg, T. (2018) Parasitic Architecture: Theory and Practice of the Postmodern Era, International Conference on Applied Human Factors and Ergonomics.

Berger, H. (1996) *Light Structures, Structures of Light: The Art and Engineering of Tensile Architecture*. Laurence King Publishing.

Michaltsos, G. (2009) *Lightweight metal structures: Theory and applications*. Symeon Publications [in Greek].

Neufert, E. (2003) *Neufert, architects' data (36th German edition 2000)*. Giourdas Publications [in Greek].

Newman, M. (1993) *Standard handbook of structural details for building construction*. McGraw-Hill.

Ouggrinis, K. A. (2012) *Variable architecture: Movement, adjustment, Κίνηση, προσαρμογή, ευελιξία, versatility*. Ion Publications [in Greek].

Tsinikas, N. (2001) *Architecture against gravity: Metal, suspended, inflatable structures*. Thessaloniki, University Studio Press [in Greek].

Tsinikas, N. (2016) *Architectural Technology*. Thessaloniki, University Studio Press [in Greek].

Vavili, F., Dova, E. [ed] (2007) *Transparency and architecture: Challenging the limits*. Ziti Publications [in Greek].

Vizoviti, S. (2017) *Small residence: Atlas for architects*. Thessaloniki, University Studio Press [in Greek].