

Course/Subject/Unit Description

1. General Information			
School		School of Design Studies	
Department		INTERIOR ARCHITECTURE	
STUDY LEVEL		Undergraduate	
CODE OF SUBJECT	EA504	SEMESTER	
SUBJECT TITLE		Architectural Conception with Computers II	
Teaching Content	Weekly (Hrs)	Credis	
Lectures, Essays, Design Workshops/Excercises, Design Project – Portfolio of work.	1 3	4	
Type of Subject	Mandatory - Specialty Course		
PREREQUIRED COURSES	No		
Teaching and Exams Language	Greek		
THE COURSE IS OFFERED TO ERASMUS STUDENTS	Yes		
Course website (URL)	ia.ihu.gr/ea504		

2. Aims and Objectives – Methods – Skills	
a. Learning Outcomes	
General context The course delves into digital design issues in architectural composition with a realistic representation approach through photorealistic and motion processes.	
Aims and objectives The main objectives of the course are the students' deepening in concepts and techniques of creation and processing of materials, photorealism and movement techniques in different design environments as well as the critical use and selection of appropriate photorealistic representations that offer the possibility of a more complete spatial perception and promotion. functions and structural elements of the architectural space.	
Method - learning outcomes The course consists of both theoretical and laboratory content. In the theoretical part, a series of injectable theoretical presentations are made, which are analyzed and discussed with the active participation of the students, either in multiple computer design applications, or on blackboard or with the use of multimedia or visual material. In the laboratory part, a series of laboratory exercises for the application of theoretical presentations are performed. Students first complete individual laboratory exercises and then an individual or collective integrated digital design study. Upon successful completion of the course the student will:	
<ul style="list-style-type: none"> • has knowledge of techniques for creating and processing digital materials, • has knowledge of photorealism and movement techniques, • has knowledge of lighting models and color models, • can adapt digital materials or pixel maps to 3D surfaces, • perceives and communicates more fully the space and will highlight all its components in a realistic way, • can involve and connect different methods of digital representation of an architectural project. 	
β. Skills	
<ul style="list-style-type: none"> • Knowledge of theoretical and practical 3D digital design • Architectural Design • Synthesis of design data and information, • Autonomous work • Spatial perception • Criticism of both the use and synthesis of digital tools in the service of the synthetic process architecture 	

3. Subject Context

It is the evolution of the course "Architectural Conception with Computers I". It is developed in parallel at a theoretical and laboratory level. It deepens in digital design issues in the architectural composition with a realistic representation approach.

Specifically, at a theoretical level, the concepts and techniques of creating and processing materials, lighting models, color models, adapting pixel-tiles to 3D surfaces, photorealization and movement techniques in different design environments are developed.

At the laboratory level, the digital design of an architectural composition is developed that incorporates, selects and critically uses the appropriate photorealistic representations that highlight the architectural space. At the same time, the production of autonomous or interactive drawing models (animation) in photorealistic models offers the possibility of a more complete spatial perception and highlighting of the forms, functions and structural elements of the architectural space.

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 	<p>Theory and Design Workshops Theory Essay and Design Exercises Final Project Portfolio</p>														
Use of Information and Communication Technologies	Use of computer software Multimedia and conventional presentations via PC Video projection														
Teaching organization	<table border="1"> <thead> <tr> <th>Activity</th> <th>Semester Credits</th> </tr> </thead> <tbody> <tr> <td>Lectures</td> <td>20</td> </tr> <tr> <td>Theory Essay</td> <td>30</td> </tr> <tr> <td>Design Workshop and Exercises</td> <td>30</td> </tr> <tr> <td>Main Design Project</td> <td>10</td> </tr> <tr> <td>Research and Analysis of Bibliography</td> <td>10</td> </tr> <tr> <td>Total</td> <td>100</td> </tr> </tbody> </table>	Activity	Semester Credits	Lectures	20	Theory Essay	30	Design Workshop and Exercises	30	Main Design Project	10	Research and Analysis of Bibliography	10	Total	100
Activity	Semester Credits														
Lectures	20														
Theory Essay	30														
Design Workshop and Exercises	30														
Main Design Project	10														
Research and Analysis of Bibliography	10														
Total	100														
<i>Student assesment</i>	Project design and presentation Architectural composition - project via PC Laboratory examination via PC Digital portfolio organization														

5. Recommended/ Bibliography

Indicative suggested bibliography:

- Demiri, K., Lahana, N., Louizidis, M., (2002), Introduction to the architectural composition I. University Publications NTUA, ISBN 9789602546116, Athens 2002
- Kapopoulos A., (2006), Architectural composition. Polytropon Publications, ISBN 9789608354562, Athens 2006
- Neufert E., (2010), Building and architectural composition. Giourdas Publications, ISBN 9789605126131, Germany, translated edition Athens 2010
- Littlefield D., (2014), Architectural composition. Publisher Key Number, ISBN 9789604614516, England, translated edition Athens 2014

- Papaioannou T. 2015, Thoughts on Architectural Composition, Indictos Publications, Athens
- Βρυχέα Α. 2003, Housing and residence / Exploring the limits of architecture, Hellenic Letters Publications, Athens
- Dally W., & Harging, C., (2017), Digital design, from the systems side. University Publications of Crete, ISBN 978-960-524-445-3, England, translated edition Crete 2017
- Mano, M., Cilleti, M., (2017), Digital design. Papasotiriou Publications, ISBN 978-960-491-084-7, USA, translated edition Athens, 2017
- Wakerly, J., (2004), Digital Design, Principles and Practices. Key Number Publications, ISBN 960-209-728-0, USA, translated edition Athens, 2017
- Autodesk inc, (2017), AUTODESK 3DS MAX. Papasotiriou Publications. ISBN 960-718-265-0, USA, translated into Greek, Athens 2017
- NIKITA M., (2011), 3DS MAX 2012 Photorealism quickly and simply. Key Number Publications, ISBN 978-960-461-450-9, Athens 2011
- MacFarland, J., Simon, G., (2006), 3ds MAX 8 Driver with Pictures. Giourdas Publications, ISBN 960512508-0, England, translated into Greek, Athens 2006
- Matossian, M., (2005), Introduction to STO 3DS MAX 6 for windows. Key Number Publications, ISBN 960-209-826-0, USA translated into Greek 2005
- Kappos, I., (2017), Work with Autocad 2017. Key Number Publications, ISBN 978-960-461-730-2, Athens 2017
- Kappos, I., (2006), PHOTORALISM AND MOVEMENT WITH AUTOCAD. Key Number Publications, ISBN 960-209-959-3, Athens 2006
- Omura .G., Benton B., (2016), Mastering AutoCAD 2017 and AutoCAD LT 2017. John Wiley & Sons Inc Publications, ISBN 9781119240051, USA 2016
- Tal D., (2013), Rendering in SketchUp. Publisher: John Wiley and Sons Ltd, ISBN 9780470642191, USA 2013
- Dedousis, V., Giannatsis, I., Kanellidis, V., (2015), CAD Systems. SEAB Publications, KALLIPOS, ISBN: 978-960-603-460-2, Athens 2015
- Anthymidis, K., David, K., (2015), Computer Aided Design, Autocad in practice. Dissigma Publications 2nd edition, ISBN 978-960-9495-54-7, Athens 2015
- Kouzeleas, S., (2021), Electronic notes on Render tools