Course/Subject/Unit Description

1. General Information			
School		School of Design Studies	
Department		INTERIOR ARCHITECTURE	
STUDY LEVEL		Undergraduate	
CODE OF SUBJECT	**EA713**	SEMESTER	
SUBJECT TITLE		**Innovative Interactive Digital Applications**	
Teaching Content	Weekly (Hrs)	Credis	
Lectures, Essays, Design Workshops/Excercises, Design Project – Portfolio of work.	1 2	3	
Type of Subject		Mandatory Selection: Specialty Course	
PREREQUIRED COURSES		No	
Teaching and Exams Language		Greek	
THE COURSE IS OFFERED TO ERASMUS STUDENTS		Yes	
Course website (URL)		ia.ihu.gr/ea713	

2. Aims and Objectives – Methods – Skills

a. Learning Outcomes

General context

Conception, design and development of innovative interactive digital applications that meet and complement multiple needs of spatial, architectural or other related integrated studies.

Aims and objectives

The main objectives of the course, except the obvious provision of knowledge and techniques, are mainly the awareness and the constant updating of the students in technology issues related to space, its components and its properties. The awareness of students consists in the relationship and influence of innovative digital tools development with the spatial perception and the architectural conception process.

Contribution of modern interactive digital representations in all scientific approaches and processes of the architectural space (spatial perception, conception, analysis, composition, etc).

Method - learning outcomes

The course consists mainly of laboratory content with injectable theoretical presentations that are analyzed and discussed with the active participation of students either in sofware application, on the blackboard or with the use of multimedia / visual material and the the use of special digital equipment. In the laboratory part, a series of small laboratory exercises for the application of theoretical presentations are performed. Students then develop an individual or group integrated digital interactive application.

Upon successful completion of the course the student will:

- has knowledge of the basic theoretical concepts and tools of digital design,
- adapts and personalizes (customizing) digital interactive applications to specific needs (architecture, educational, computing, etc.) in all digital media (PCs, smartphones, tablets, etc)
- can develop applications of virtual tour and virtual reality (VR) with or without the use of special digital equipment (special glasses, smartphones, computer interfaces, etc)
- Browse real-time architectures in VRML virtual reality environments across all digital media
- can independently monitor and update the development of the respective technology
- can manage and communicate the components and properties of an architectural space in a more interactive, intimate and holistic way.

β. Skills

- Knowledge of digital and multimedia design
- Synthesis of design data and information, using digital applications
- Needs analysis and information coding
- Ability to synthesize different types of knowledge and information

- Team spirit and adaptability
- Creativity imagination
- Autonomous work
- Spatial perception
- Critical implementation and application development approach as a tool to address specific needs and not as a tool to highlight technological capabilities.

3. Subject Context

Modern and innovative digital technological applications create and process spatial components in a way that affects both the spatial perception and the architectural conception process itself.
The purpose of the course, in addition to the obvious provision of knowledge and techniques is mainly to raise awareness and constantly update students on technology issues related to space, its components and properties.
The theoretical approach of the course consists mainly a) in the presentation of the possibilities and technology options as tools for adaptation and solution of specific architectural or related needs and b) in the presentation of the advantages and the contribution of the new innovative spatial digital applications in all scientific approaches and processes of architectural space (spatial perception, conception, analysis, composition, etc.) mainly through modern interactive digital representations.
The laboratory approach of the course consists of a critical presentation of innovative interactive digital applications both in terms of usability and in terms of customization. Digital applications relate to integrated spatial studies that are sometimes governed by custom interactive virtual tours, VR spaces using special glasses, interactive representations and real-time architectural browsing in VRML environments and in all media (PCs, Tablets, smartphones), etc. The continuous evolution of the respective technology in combination with the constant updating of the subject will allow in the future the use of digital sensors which will contribute to a holistic digital management of the components and properties of an architectural space.

4. Teaching and learning methods – Evaluation and assessment

- Theory and Design Workshops – Main Project Brief/ Site visits - Group Appraisal /Site Analysis - Theory Essay and Design Exercices - Interim Reviews - Project Final Pin Up - Portfolio Hand In.	Theory and Design Workshops Theory Essay and Design Exercices Final Project Portfolio	
Use of Information and Communication Technologies	Use of computer sofware Multimedia and conventional presentations via PC Video projection	
Teaching organization	Activity	Semester Credits
	Lectures	20
	Theory Essay	20
	Design Workshop and Excersices	30
	Main Design Project	20
	Research and Analysis of Bibliography	10
	Total	100
Student assesment	Theoretical written examination Multimedia Architectural project developement	

	Laboratory examination via PC Digital portfolio organization

5. Recommended/ Bibliography

Suggested indicative bibliography

• Virtual tour software manuals
• VRML visualization software manuals
• 360 photos panoramas software manuals
• 360 videos software manuals
• 3D stereoscopic images software manuals
• Cadoz, C., (1997), Virtual Reality. Travlos Publications, ISBN: 9789607122810, France, translated into Greek, Athens 1997
• Graham, I., (2004), Artificial Intelligence, Savvalas Publications, ISBN: 9789604232338, England, translated into Greek, Athens 2004
• Kappos, I., (2017), Work with Autocad 2017. Key Number Publications, ISBN 978-960-461-730-2, Athens 2017
• Omura .G., Benton B., (2016), Mastering AutoCAD 2017 and AutoCAD LT 2017. John Wiley & Sons Inc Publications, ISBN 9781119240051, USA 2016
• 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 Image Guide. 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., (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
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• Brightman M., (2013), The SketchUp Workflow for Architecture. John Wiley & Sons Inc Publications, ISBN 9781118290149, USA 2013
• Chopra A., (2014), Sketchup 2014 For Dummies. John Wiley & Sons Inc Publications, ISBN 9781118822661, USA 2014

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