

Course Title	COMPUTER AIDED ARCHITECTURAL DRAWING II				
Course Code	CAD 202				
Course Type	Compulsory				
Level	Undergraduate				
Year / Semester	Year 2 / Semester 4				
Teacher's Name	Antonios Papagelopoulos				
ECTS	6	Lectures / week	3	Laboratories / week	
Course Purpose and Objectives	<p>The course is an advanced course in the conceptual framework of digital architectural design and in particular the methodologies and procedures of three-dimensional modeling and space design.</p> <p>The course material aims to:</p> <ul style="list-style-type: none"> - Introducing learners to the complex concepts of 3D digital space design, as a means of understanding and capturing the properties of complex spaces - In connecting the design ethics & aesthetics requirements and objectives regarding space with specialized digital design environments based on geometric and semantic entities. -Familiarising students with advanced digital design tools that appear within the framework of a wide array of cad platforms 				
Learning Outcomes	<p>On the completion of the course, students will be able to:</p> <ul style="list-style-type: none"> - Be familiar with the general operating principles of digital design in any of the current software, - Analyze and calculate qualitative and quantitative characteristics of future attributes, function and behavior of the digital model, - Present their personal design ideas in a digital made environment and in an accurate and comprehensible way, - Select and use appropriate digital media for the ontological modeling of space features, - Design a digital environment for purposes of hosting 3D design models, - Be on the making of the tools and techniques of 3D digital design and how they are used to ensure the successful completion of such studies. 				

	<ul style="list-style-type: none"> - Acquiring basic knowledge of BIM tools and processes. - Understand advanced functions common to various cad platforms, enabling a broader understanding of their potentials and limitations. - Incorporate advanced cad knowledge in design and representation projects. - Acquire a general overview and basic command of digital tools applied throughout consequent stages of a design process 		
Prerequisites	-	Required	-
Course Content	<p>Lectures on advanced digital architectural theory, methodologies and computer aided design processes.</p> <p>Analysis of the principles and procedures of digital representational methods in 3D.</p> <p>Presentation of advanced digital representational methods, in the cognitive contexts of space design.</p> <p>Development on the effects of digital technology in relation to the conceptual categories of design methodology.</p> <p>Investigation of a series of digital environments in the context of the possibility of digital models to be an active link between architectural environments and implementation from the conceptual design phase.</p> <p>Interaction with 3D digital models of CAD environments and introduction to architectural design environments based on an integrated information model.</p> <p>Application of specialized software through laboratory topics of scalable complexity.</p> <p>Application of cad software in design problems across various scales</p>		
Teaching Methodology	<ul style="list-style-type: none"> •Reading and resolving problems •Working on problem-solving •Attendance and participation in class •Monitor discussions •Writing and reply on objective type questions •Solving unstructured questions and case studies •Brief oral presentation before starting a new chapter and reply to queries from students •Homework for revision purposes •Interaction and collaborative learning •Simulation game 		
Bibliography	<p>Oxford Dictionary of Architecture. Oxford, United Kingdom: Oxford University Press, 2015.</p> <p>Burry, M., Digital Architecture. London: Routledge, 2020.</p> <p>Johnson, J., Vermillion, J., Digital Exercises for Architecture Students. London: Routledge, 2016.</p>		

	<p>The Visual Dictionary of Buildings, London; New York: Dorling Kindersley, c1992.</p> <p>Who's who in architecture: from 1400 to present. New York: Holt, Rinehart and Winston, 1977.</p> <p>C. Eastman, P. Teicholz, R. Sacks, K. Liston. BIM Handbook: A Guide to Building Information Modeling for Owners, Managers, Designers, Engineers and Contractors. Wiley Publications, 2011.</p> <p>Oxman. R., 'Theory and design in the first digital age', Design Studies,27 (3), 229-65. 2006.</p> <p>Oxman. R., Digital architecture as a challenge for design pedagogy: theory, knowledge, models and medium', Design Studies, 2008.</p>								
Assessment	<table> <tr> <td>Participation</td> <td>10%</td> </tr> <tr> <td>Midterm Exam</td> <td>30%</td> </tr> <tr> <td>Quizzes</td> <td>20%</td> </tr> <tr> <td>Final Exam</td> <td>40%</td> </tr> </table>	Participation	10%	Midterm Exam	30%	Quizzes	20%	Final Exam	40%
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