AMERICAN UNIVERSITY
OF CYPRUS

Course Code	Course Name	ECTS Credit
CAD 202	Computer-Aided Architectural Drawing II	6
Pre-Requisite	**Course Type**	**Language of Instruction**
-	Compulsory	English
Year of Study	**Level of Course**	**Mode of Delivery**
2nd	4th Semester	On Campus

Course Objectives:

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.

The course material aims to:

- 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.
- Familiarizing students with advanced digital design tools that appear within the framework of a wide array of CAD platforms

Learning Outcomes:

- 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 design ideas in a digital 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.
- 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

Teaching Methodology:

- Reading and resolving problems
- Working on problem-solving
- Attendance and participation in class
- Monitor discussions
- Writing and replying to 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

Course Content:

- Lectures on advanced digital architectural theory, methodologies, and computer-aided design processes.
- Analysis of the principles and procedures of digital representational methods in 3D.
- Presentation of advanced digital representational methods, in the cognitive contexts of space design.
- Development of the effects of digital technology on the conceptual categories of design methodology.
- 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.
- Interaction with 3D digital models of CAD environments and introduction to architectural design environments based on an integrated information model.
- Application of specialized software through laboratory topics of scalable complexity.
- Application of CAD software in design problems across various scales

Assessment Methods:

Participation, Midterm Exam, Quizzes, Final Exam

Required Textbooks/Reading:

Title	**Author(s)**	**Publisher**	**Year**
Oxford Dictionary of Architecture		Oxford University Press	2015
Digital Architecture	Burry, M.,	Routledge	2020
Digital Exercises for Architecture Students	Johnson, J., Vermillion, J.,	Routledge	2016
The Visual Dictionary of Buildings		Dorling Kindersley,	1992
Who's who in architecture: from 1400 to present		New York: Holt, Rinehart and Winston,	1977
BIM Handbook: A Guide to Building Information Modeling for Owners, Managers, Designers, Engineers and Contractors	C. Eastman, P. Teicholz, R. Sacks, K. Liston	Wiley Publications	2011
Theory and design in the first digital age'	Oxman. R.,		2006
Digital architecture as a challenge for design pedagogy: theory, knowledge, models and medium'	Oxman. R.,		2008