COURSE SYLLABUS						
Course Title	**Course Code**	**Semester**	**Course Hour/Week**		**Credit**	**ECTS**
Digital tools in design 2	INAD 212	2	**Theory** 2	**Practice** 2	3	3
Course Type	Compulsory Courses	Department Elective	Faculty Elective	University Elective	CoHE (YÖK) Compulsory	Other
	X					
Level of Course	Associate Degree (Short Cycle)		Undergraduate (First Cycle)		Graduate/ Doctoral (Second /Third Cycle)	
			X			

Language of Instruction	English

Course Instructor(s)	Asst. Prof. Dr. Olgica Grcheva	E-mail: olgica.grcheva@arucad.edu.tr **Office**: TI OFF 20
Course Objectives	This course aims to introduce students to the capabilities of computer-aided design technologies and digital software used in architecture, interior architecture, urban design, and industrial design. It explores the evolution of digital technologies and their impact on contemporary design processes. Students will develop an understanding of the creative potential of digital tools by integrating open-source software into the design process. The course examines the progression from fundamental digital design concepts and tools to advanced digital workflows, including hybrid design approaches, digital fabrication, and the application of digital technologies to materials, structures, and spatial design. Students will develop the following knowledge and skills: • Understand the role of digital communication, software, tools, and techniques in architecture, interior architecture, urban design, and industrial design. • Communicate design ideas effectively through digital graphic representation and visualization techniques. • Develop and refine design concepts using digital design and production methods. • Produce technical drawings, renderings, and hybrid digital representations to communicate design proposals effectively.	

	Students will be able to:	**Teaching Methods**	**Evaluation Methods**
Course Learning Outcomes	**Explain** the role of digital communication, tools, and presentation techniques in	Direct instruction technique, Demonstration	Midterm Project, Class Participation

	interior/ urban/ interior design.	method	
	Describe the evolution of digital tools and their impact on design processes, materials, structure, and space.	Direct instruction technique, Discussion	Midterm Project
	Apply AutoCAD / Sketchup software to **produce** technical drawings including plans, sections, elevations, and detailed construction drawings and three dimensional visualizations	Hands-on software training	Midterm Project, Final Project
	Apply Photoshop software to create graphic presentations and visualizations of designed spaces and products	Hands-on software training	Portfolio Submission, Final Project
	Organize hybrid digital representations by integrating technical drawings, renderings, and graphic visualizations to communicate design concepts effectively.	Studio sessions, Critique rounds	Portfolio Submission, Final Project
	Design representations using digital production methods and express design ideas through digital graphical techniques.	Project-based learning	Final Project
Course Content	This course introduces the fundamentals of digital design and examines the impact of digital technologies on architectural and interior architectural design. It explores digital design language, computational design principles, and the integration of digital technologies, electronics, and the Internet into contemporary design processes. The course is designed to equip students with the skills required to transform hand-drawn design concepts into professional digital drawings and visualizations. Through a combination of theoretical instruction and practical exercises, students learn the principles of digital representation, computer-aided drafting, three-dimensional modeling, and digital rendering. Using industry-standard software, including AutoCAD, SketchUp, and Adobe Photoshop for post-production, students develop the ability to produce technical drawings,		

	three-dimensional models, and high-quality visual presentations that effectively communicate design proposals.

Week	Topic	Implementation (theory/practice)	Required Reading, Preliminary preparation
1	Introduction / an overview of the course.	T	No need for preliminary preparation.
2	Discussion and showing samples of successful and well-designed projects/posters. History of digital drawing and design. Evolution from hand sketch to digital drawing and digital design.	T	No need for preliminary preparation.
3	Creating sections and elevations in AutoCAD from a given plan (discussing and reviewing proper layers, line weights, thicknesses)	T-P	Preparation is required.
4	Creating sections and elevations in AutoCAD from a given plan (section line, furniture, fixtures, stairs, different scales, hatching types, monochromatic approach)	T - P	Preparation is required.
5	Basics of architectural presentation of plans, sections, and elevations (taking printouts, monochromatic approach)	T-P	Preparation is required.
6	Preparation for post-production and poster arrangements	T - P	Preparation is required.
7	Review session	T - P	Preparation is required.
8	Midterm submissions	T	Preparation is required.
9	Discussions on midterm submissions	T	No need of preliminary preparation.
10	Development of the project via sketch-up programs in 2D and 3D.	T-P	No need of preliminary preparation.
11	Importing of the 2D and 3D models in Photoshop and designing the sheets (layers).	T-P	Preparation is required.

12	Development of architectural presentation sheets via Photoshop (post-production)	P	Preparation is required.
13	Development of architectural presentation sheets via Photoshop (post-production)	P	Preparation is required.
14	Development of architectural presentation sheets via Photoshop (post-production)	P	Preparation is required.
15	Poster Preparations	P	Preparation is required.
16	Review session	P	Preparation is required.
17	**Final Exam period**		

Required Course Material(s) / Reading(s) / Text Book(s)	Rabiee, S. (2019). *Design visualization*. ORO Editions. **Call number:** NC730. R335 2019 Mitton, M. (2018). *Interior design visual presentation*. Wiley. **Call number:** NK2113.5 .M58 2018 Dernie, D. (2014). *Architectural drawing*. Laurence King Publishing. **Call number:** NA2700. D47 2014 Agkathidis, A. (2012). *Computational architecture*. BIS Publishers. **Call number:** NA2728. A43 2012
Recommended Course Material(s) / Reading(s) / Other	Nichols, R. (2020). *Mastering Adobe Photoshop Elements 2021*. Packt Publishing. Laskevitch, S., & Safari, A. O. M. C. (2020). *Adobe Photoshop*. Rocky Nook. Mitton, M. (2018). *Interior design visual presentation*. Wiley. Schewe, J. (2014). *The digital print*. Peachpit Press. **Suggested open source references:** • https://postproduction.org/ • https://www.autodesk.com/autodesk-university/class/AutoCAD-Tips-Tricks-and-More-Delightful-Drafting-Techniques-2019?linkId=78576460 • https://www.youtube.com/watch?v=2QUYqPriE2k • https://www.thesketchupessentials.com/9-ways-create-presentations-sketchup-models-sketchup-essentials-57/ • https://www.photoshopessentials.com/ • https://www.rayon.design/app/auth/signup

ASSESSMENT		
Learning Activities	**NUMBER**	**WEIGHT (%)**
Mid-Term	1	40
Quiz	-	-
Assignment	-	-
Project	-	-

Field Study	-	-
Presentation / Seminar	-	-
Studio Practice	-	-
Other (class participation)	-	-
Contribution of Final Examination/Final Project/ Dissertation to the Final Grade	1	60
TOTAL		10 0

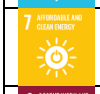
CONTRIBUTION OF COURSE LEARNING OUTCOMES TO PROGRAMME LEARNING OUTCOMES							
No	**PROGRAMME LEARNING OUTCOMES**	Level of Contribution (1-lowest/ 5- highest)				
		1	2	3	4	5
KNOWLEDGE *Understanding and knowing — theoretical, historical, and conceptual foundations*						
1	Demonstrate comprehensive knowledge of visual and spatial design language, encompassing fundamental principles of form, function, space, material, ergonomics, ecology, and society, as well as technical knowledge, in the production of human-centered interior environments.			x		
2	Critically engage the history of interior architecture, art, and design, drawing on research methodologies to inform culturally sensitive and contextually grounded design practice.	x				
3	Understand interior architecture as a holistic and interdisciplinary profession, articulating the relationship between spatial design, architecture, art, and environmental stewardship.					x
4	Understanding of theoretical, historical, cultural, ecological, and universal accessibility dimensions of interior design to inform responsible, inclusive, and environmentally conscious spatial decision-making.				x	
SKILLS *Doing and making — technical, creative, and methodological abilities*						
5	Develop and communicate design concepts through diverse visualization tools — including hand drawing, and digital modeling — demonstrating competency in contemporary representational technologies for professional design communication.					x
6	Produce technically proficient sketches, technical drawings, and documentation according to professional standards, applying both analog and digital tools in spatial problem-solving.					x
7	Apply systematic, research-based critical thinking in design processes and problem-solving, addressing contemporary spatial and ergonomic demands with research-driven design strategies.				x	
8	Produce design models, cost estimations, and technical documentation for project realization, incorporating sustainable design strategies and adaptive reuse methodologies for heritage and contemporary environments.			x		

COMPETENCIES *Professional behavior and attitude — ethical, creative, and lifelong practice*						
9	Articulate a personal creative vision and present design proposals verbally, visually, and textually across a range of media, upholding the high standards of creative excellence, considering legal and ethical practices.				x	
10	Demonstrate commitment to continuous self-development, lifelong learning, and professional ethics, contributing to the cultural and intellectual enrichment of local, regional, and global communities.			x		
11	Demonstrate proficiency in innovative design tools and emerging technologies, integrating traditional craftsmanship with contemporary digital methods to expand the boundaries of interior spatial design.					x
12	Collaborate effectively in interdisciplinary and intercultural teams, demonstrating leadership, communication, and project management competencies in design and professional contexts.		x			

ECTS / STUDENT WORKLOAD				
ACTIVITIES	**NUMBER**	**UNIT**	**HOUR**	**TOTAL (WORKLOAD)**
Course Teaching / Practice Hour (weeks/total course hours)	16 weeks	1	4	64
Preliminary Preparation and Self-study				
Midterm Project	1	1	10	10
Field Study / Project				
Final Project	1	1	10	10
TOTAL WORKLOAD				84
TOTAL WORKLOAD / 25				3,36
ECTS				3

ETHICAL RULES WITH REGARD TO THE COURSE
Plagiarism Disclaimer Detected and undetected plagiarism is a serious offense at any time and can have devastating effects on your degree results and future professional life. Plagiarism is easy to avoid if you ensure that you properly identify and acknowledge your sources and do not copy directly from visual examples, designs, or notes that have themselves been taken word-for-word from your sources.

	SDG 1: No Poverty	
	SDG 2: Zero Hunger	
	SDG 3: Good Health and Well-Being	
	SDG 4: Quality Education	x

	SDG 5: Gender Equality	
	SDG 6: Clean Water and Sanitation	
	SDG 7: Affordable and Clean Energy	
	SDG 8: Decent Work and Economic Growth	
	SDG 9: Industry, Innovation and Infrastructure	
	SDG 10: Reduced Inequalities	x
	SDG 11: Sustainable Cities and Communities	
	SDG 12: Responsible Consumption and Production	x
	SDG 13: Climate Action	
	SDG 14: Life Below Water	
	SDG 15: Life on Land	
	SDG 16:Peace, Justice and Strong Institutions	
	SDG 17:Partnership for the Goals	

ASSESSMENT DETAILS AND EVALUATION CRITERIA	
Final grades will be determined based on the course learning activities and the assessment details for the final examination or project, as outlined below, in accordance with the University's Education and Examination Regulations. Students are required to attend at least 70% of the classes. The maximum allowable absenteeism is 30%. **Midterm 40%** **Final 60%**	
PREPARED BY	Asst. Prof. Dr. Olgica Grcheva (02.04.26)
UPDATED	
APPROVED	