COURSE SYLLABUS						
Course Title	**Course Code**	**Semester**	**Course Hour/Week**		**Credit**	**ECTS**
Digital tools in design I	INAD 203	1	**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	INAD 203 aims to introduce students to the capabilities of computer-aided design and digital software in interior architecture, while providing an understanding of the evolution of computers and the emergence of digital technologies. Students will develop an awareness of the design opportunities offered by digital tools. The course explores the progression from fundamental digital concepts and tools to the creation of interactive designs that engage the human senses, while examining how digital and mixed technologies have transformed the use of materials, structures, and space in architecture and interior architecture.		
Course Learning Outcomes	**Students will be able to:**	**Teaching Methods**	**Evaluation Methods**
	Explain the role of digital communication, tools, and techniques in interior architecture design and representation.	Direct instruction technique, Demonstration method	Midterm Project, Class Participation
	Describe the evolution of digital tools and their impact on architectural design processes, materials, structure, and space.	Direct instruction technique, Discussion	Midterm Project
	Apply AutoCAD software to **produce** technical drawings including plans, sections, elevations, and detailed construction drawings.	Hands-on software training	Midterm Project, Final Project
	Apply SketchUp software to create three-dimensional models and visualizations of	Hands-on software training	Portfolio Submission, Final Project

	interior architectural spaces.		
	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 architectural representations using digital production methods and express design ideas through digital graphical techniques.	Project-based learning	Final Project
Course Content	The course focuses on the fundamental role of digital tools in the evolution of design, exploring topics such as digital language, computational design, and the integration of electronics and the Internet into the design process. Throughout the course, students will develop practical skills using digital design software, including AutoCAD and SketchUp.		

Week	**Top ic**	**Implementation (theory/practice)**	**Required Reading, Preliminary preparation**
1	Introduction / an overview of the course.	T	No preliminary preparation needed.
2	**AutoCAD Basics:** Interface & Navigation (Units): How software works and possibilities for designers	T-P	Preparation is required.
3	**AutoCAD Layers:** creating, naming, and organizing; line types, colors, thicknesses, etc. Importing images. Assignment: draw a simple plan by applying basic commands.	T-P	Preparation is required.
4	**AutoCAD 2D Drawing Tools:** line, polyline, rectangle, circle, arc. Object snaps (endpoint, midpoint, intersection). Adding blocks.	T-P	Preparation is required.
5	**AutoCAD Modifying, Editing & Annotation Tools:** Modify commands: move, copy, rotate, scale, offset, trim, extend. Fillet & chamfer; dimensions and text annotations.	T-P	Preparation is required.
6	**AutoCAD Layouts & Printing:** Model space vs. paper space, creating viewports; plotting at correct scale (1:50 or 1:100). Practice plotting.	T-P	Preparation is required.

7	**Review Session**	T-P	Preparation is required.
8	**Mid-term Review and Project**	T-P	Preparation is required.
9	**Discussions on Submissions**	T	No preliminary preparation needed.
10	**SketchUp Basics:** Interface & Navigation. Introduction to 3D modeling with SketchUp. Workspace overview, toolbars, axes, measuring tool. Importing .dwg files (midterm assignment). Navigation: orbit, pan, zoom, views (applying essential tools via the ribbon).	T-P	Preparation is required.
11	**SketchUp Drawing & Push/Pull Tools:** Line and rectangle tools, erase, inference system (axes-based). Push/Pull, move, rotate, scale in 3D.	T-P	Preparation is required.
12	**SketchUp Materials & Styles:** Applying and editing materials. Using colors and textures for walls, floors, and objects. Basic styles: edges, shadows, and hidden geometry.	T-P	Preparation is required.
13	**SketchUp Warehouse (3D Library):** Importing ready-made models.	P	Preparation is required.
14	**SketchUp Presentation:** Exporting 3D models for final presentations.	P	Preparation is required.
15	**Review Session**	P	Preparation is required.
16	**Final Exams**		

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	Autodesk AutoCAD software (2023 or later) SketchUp Pro software (2023 or later)

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		100

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**				

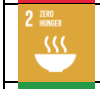
ECTS / STUDENT WORKLOAD				
ACTIVITIS	**NUMBER**	**UNIT**	**HOUR**	**TOTAL (WORKLOAD)**
Course Teaching / Practice Hour (weeks/total course hours)	15 weeks	1	4	60
Preliminary Preparation and Self-study				
Midterm Project	1	1	5	5
Field Study / Project				
Final Project	1	1	15	15
TOTAL WORKLOAD				80
TOTAL WORKLOAD / 25				3.2
ECTS				3

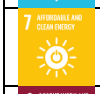
ETHICAL RULES WITH REGARD TO THE COURSE

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%. **Mid-term project 40%** **Final Project 60%**	
PREPARED BY	Asst. Prof. Dr. Olgica Grcheva (20.10.25)
UPDATED	
APPROVED	