

**School of Fine Arts Design and Architecture / Architecture**

**2023 - 2024 Academic Year**

**DIGITAL DESIGN TOOLS I**

**Syllabus**

<b>Course Description</b>					
<b>Name</b>	<b>Code</b>	<b>Semester</b>	<b>T+A Hour</b>	<b>Credit</b>	<b>ECTS</b>
DIGITAL DESIGN TOOLS I	MIM2110317	Fall Semester	2+0	2	2
<b>Prerequisites Courses</b>					
<b>Recommended Elective Courses</b>					
<b>Language of Instruction</b>	Turkish				
<b>Course Level</b>	First Cycle (Bachelor's Degree)				
<b>Course Type</b>	Elective				
<b>Course Coordinator</b>	Assist.Prof. Mustafa Adil KASAPSEÇKİN				
<b>Name of Lecturer(s)</b>	Assist.Prof. Mustafa Adil KASAPSEÇKİN, Lect. Fatma Tuğba VERDİL, Lect. Yavuz ÇENGİZ				
<b>Assistant(s)</b>	Res. Asst. Nursena Coşkun				
<b>Aim</b>	The aim of this course is to provide necessary theoretical knowledge for the realization of design, planning and construction management issues in the digital environment				
<b>Course Content</b>	This course contains; Rhino Grasshopper: The concept of parametric drawing, Introduction to parametric design and algorithmic ways of thinking; Rhinoceros: The Interface, coordinate systems, toolbars,Rhino Grasshopper: The concept of vector, point coordinates input; Rhinoceros: The creation of two-dimensional geometric elements, selection and object snapping,Rhino Grasshopper: Surface creation; Rhinoceros: two-dimensional geometric elements and modification,Rhino Grasshopper: Random distribution algorithms; Rhinoceros: The creation of three-dimensional elements,Rhino Grasshopper: Introduction to 3D algorithms; Rhinoceros: three-dimensional elements and their modifications,Rhino Grasshopper: Methodes for producing verona; Rhinoceros: Gumball, layers and blocks,Rhino Grasshopper: Methodes for producing verona; Rhinoceros: Gumball, layers and blocks,Rhino Grasshopper: Introduction to architectural geometry; VRay: Interface and preparing the 3D model for rendering,Rhino Grasshopper: advanced architectural geometry; VRay: Material settings,Rhino Grasshopper: the creation of the geometry of math equation; VRay: Light settings,Rhino Grasshopper: introduction to optimisation; VRay: Render settings,Rhino Grasshopper: Introduction to digital manufacturing; Photoshop: Interface, layer concept, selection tools,Rhino Grasshopper: Analysis tools;Photoshop: Post production after renderin in photoshop 1,Rhino Grasshopper: Environmental control tools; Photoshop: Post production after rendering in photoshop 2.				
<b>Course Learning Outcomes</b>			<b>Teaching Methods</b>	<b>Assessment Methods</b>	
1. Understanding of design methodes in digital environment			16, 37, 8, 9	E, F	
2. Gaining digital representation skills in architecture			16, 37, 8, 9	E, F	
3. Gaining the ability for simulating the estimated behaviour of natural and artificial environmental systems			16, 37, 8, 9	E, F	
4. The usage of digital technologies in production			16, 37, 8, 9	E, F	
<b>Teaching Methods</b>	16: Question - Answer Technique, 37: Computer-Internet Supported Instruction, 8: Flipped Classroom Learning, 9: Lecture Method				
<b>Assessment Methods</b>	E: Homework, F: Project Task				
<b>Lecture Schedule</b>					
<b>Sequenc e</b>	<b>Topics</b>	<b>Preliminary Preparation</b>			
1	Rhino Grasshopper: The concept of parametric drawing, Introduction to parametric design and algorithmic ways of thinking; Rhinoceros: The Interface, coordinate systems, toolbars				
2	Rhino Grasshopper: The concept of vector, point coordinates input; Rhinoceros: The creation of two-dimensional geometric elements, selection and object snapping				
3	Rhino Grasshopper: Surface creation; Rhinoceros: two-dimensional geometric elements and modification				
4	Rhino Grasshopper: Random distribution algorithms; Rhinoceros: The creation of three-dimensional elements				
5	Rhino Grasshopper: Introduction to 3D algorithms; Rhinoceros: three-dimensional elements and their modifications				
6	Rhino Grasshopper: Methodes for producing verona; Rhinoceros: Gumball, layers and blocks				
7	Rhino Grasshopper: Methodes for producing verona; Rhinoceros: Gumball, layers and blocks				
8	Rhino Grasshopper: Introduction to architectural geometry; VRay: Interface and preparing the 3D model for rendering				
9	Rhino Grasshopper: advanced architectural geometry; VRay: Material settings				
10	Rhino Grasshopper: the creation of the geometry of math equation; VRay: Light settings				
11	Rhino Grasshopper: introduction to optimisation; VRay: Render settings				
12	Rhino Grasshopper: Introduction to digital manufacturing; Photoshop: Interface, layer concept, selection tools				
13	Rhino Grasshopper: Analysis tools;Photoshop: Post production after renderin in photoshop 1				
14	Rhino Grasshopper: Environmental control tools; Photoshop: Post production after rendering in photoshop 2				
<b>Evaluation Methods</b>			<b>Weight(%)</b>		
Midterm Exam			50		
General Exam			50		

<b>Resources</b>
To be distributed by the lecturer.1. KANBUR, N, 2012, 3D Studio Max Görseleştirme ve Modelleme 2. TURHAN, B Y, 2012, 3D Studio Max Modelleme ve 3D Studio 3. YARWOOD, A., 2007, Introduction to AutoCAD 2008 electronic resource: 2D and 3D design, Amsterdam; Boston; London: Newness. 4. BAYKAL, B., Öğütlü, M., 2010, AutoCAD 2010, Alfa Yayınları, İstanbul