

School of Fine Arts Design and Architecture / Architecture (English)

2023 - 2024 Academic Year

DIGITAL DESIGN TOOLS I

Syllabus

Course Description					
Name	Code	Semester	T+A Hour	Credit	ECTS
DIGITAL DESIGN TOOLS I	ARC2110322	Fall Semester	2+0	2	2
Prerequisites Courses					
Recommended Elective Courses					
Language of Instruction	English				
Course Level	First Cycle (Bachelor's Degree)				
Course Type	Elective				
Course Coordinator	Assist.Prof. Mustafa Adil KASAPSEÇKİN				
Name of Lecturer(s)	Assist.Prof. Mustafa Adil KASAPSEÇKİN, Lect. Fatma Tuğba VERDİL, Lect. Erenalp SALTİK				
Assistant(s)	Res. Asst. Nursena Coşkun				
Aim	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				
Course Content	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,Midterm exam,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.				
Course Learning Outcomes			Teaching Methods	Assessment Methods	
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	
Teaching Methods	16: Question - Answer Technique, 37: Computer-Internet Supported Instruction, 8: Flipped Classroom Learning, 9: Lecture Method				
Assessment Methods	E: Homework, F: Project Task				
Lecture Schedule					
Sequenc e	Topics	Preliminary Preparation			
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	Midterm exam				
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				
Evaluation Methods		Weight(%)			
Midterm Exam		50			
General Exam		50			

Resources
To be distributed by the lecturer.1. KANBUR, N, 2012, 3D Studio Max Görselleştirme 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., Öğütü, M., 2010, AutoCAD 2010, Alfa Yayınları, İstanbul