School of Fine Arts Design and Architecture / Urban Design and Landscape Architecture

2023 - 2024 Academic Year

DIGITAL DESIGN TOOLS I

Syllabus

Course Description					
Name	**Code**	**Semester**	**T+A Hour**	**Credit**	**ECTS**
DIGITAL DESIGN TOOLS I	KTP2110317	Fall Semester	2+0	2	2

Prerequisites Courses	
Recommended Elective Courses	
Language of Instruction	Turkish
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. Yavuz CENGİZ, Lect. Fatma Tuğba VERDİL
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,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.

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

Sequence	**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	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	

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., Öğütlü, M., 2010, AutoCAD 2010, Alfa Yayınları, İstanbul