

School of Fine Arts Design and Architecture / Industrial Design
2023 - 2024 Academic Year
DIGITAL DESIGN TOOLS II
Syllabus

Course Description					
Name	Code	Semester	T+A Hour	Credit	ECTS
DIGITAL DESIGN TOOLS II	EUT2241080	Spring Semester	2+2	3	3
Prerequisites Courses					
Recommended Elective Courses					
Language of Instruction	Turkish				
Course Level	First Cycle (Bachelor's Degree)				
Course Type	Required				
Course Coordinator	Assist.Prof. Mustafa Adil KASAPSEÇKİN				
Name of Lecturer(s)	Lect. Ozan KAYIKCI, Lect. Enes CİNER				
Assistant(s)					
Aim	The aim of this course is to provide necessary theoretical and practical knowledge for the realisation and presentation of design in the digital environment				
Course Content	This course contains; The emergence, definition and development process of BIM concept The construction industry needs BIM? Why use BIM? What is BIM?, How does BIM change the construction industry?,Basic features of BIM technology Overview of BIM-based software, basic concepts related to BIM, ND BIM, conflict control, interoperability, virtual reality, energy simulations,Introduction to BIM Autodesk Revit interface and introduction of the program,Parametric modeling concept, "family" concept in Revit Modeling and detailing of architectural building elements 1: Wall, door, window,Modeling and detailing of architectural building elements 2: Stairs, stair parts (riser, step, landing), upholstery,Modeling and detailing of architectural building elements 3: Roofs, ceilings, ramps,Modeling and detailing of architectural building elements 3: Roofs, ceilings, ramps,Section box, sheet creation, shop drawing creation, detail drawing,"BIM examples from the world" group presentations,"BIM examples from the world" group presentations,Material selection and assignment to building elements, use of 2D, 3D camera,Term project evaluation 1,Parametric and original modeling technique using "Revit family",Term project evaluation 2.				
Course Learning Outcomes			Teaching Methods	Assessment Methods	
1. Designs the designs made in digital environment ready for presentation to be visualized			16, 37, 8, 9	E, F	
2. Improves digital representation skills in design			16, 37, 8, 9	E, F	
3. Improves the ability to simulate the predicted behavior of various design systems			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	The emergence, definition and development process of BIM concept The construction industry needs BIM? Why use BIM? What is BIM?, How does BIM change the construction industry?				
2	Basic features of BIM technology Overview of BIM-based software, basic concepts related to BIM, ND BIM, conflict control, interoperability, virtual reality, energy simulations				
3	Introduction to BIM Autodesk Revit interface and introduction of the program				
4	Parametric modeling concept, "family" concept in Revit Modeling and detailing of architectural building elements 1: Wall, door, window				
5	Modeling and detailing of architectural building elements 2: Stairs, stair parts (riser, step, landing), upholstery				
6	Modeling and detailing of architectural building elements 3: Roofs, ceilings, ramps				
7	Modeling and detailing of architectural building elements 3: Roofs, ceilings, ramps				
8	Section box, sheet creation, shop drawing creation, detail drawing				
9	"BIM examples from the world" group presentations				
10	"BIM examples from the world" group presentations				
11	Material selection and assignment to building elements, use of 2D, 3D camera				
12	Term project evaluation 1				
13	Parametric and original modeling technique using "Revit family"				
14	Term project evaluation 2				
Evaluation Methods		Weight(%)			
Midterm Exam		50			
General Exam		50			

School of Fine Arts Design and Architecture / Industrial Design
2023 - 2024 Academic Year
DIGITAL DESIGN TOOLS II
Syllabus

Resources

to be distributed by lecturerTürkmenoğlu Berkan, Saliha; Rhinoceros 4 ile Modelleme.
BIM Handbook: A Guide to Building Information Modeling for Owners, Managers, Designers, Engineers and Contractors, Chuck Eastman, Paul Teicholz, Rafael Sacks, Kathleen Liston (2011-second edition)
The Impact of Building Information Modelling, Ray Crotty (2011)
BIM Project execution planning, John Messner (2008)
Mastering Revit
Revit Suite
McGraw-Hill, 2008. Building Information Modelling (BIM). Transforming Design and Construction to Achieve Greater Industry Productivity.
McGraw-Hill, 2009. The Business Value Of BIM. Getting Building InformationModeling to the Bottom Line.
BIM Content Development: Standards, Strategies, and Best Practices, Robert S. Weygant (2011)
<https://redshift.autodesk.com/>
<https://academy.autodesk.com/curriculum>
<http://bimnewworld.blogspot.com.tr/>
<http://www.bimjournal.com/>
<http://www.asce.org/>
<http://www.riba.co.uk/>

- <http://www.buildingsmart.org>