

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

**2023 - 2024 Academic Year**

**DIGITAL DESIGN TOOLS II**

**Syllabus**

Course Description					
Name	Code	Semester	T+A Hour	Credit	ECTS
DIGITAL DESIGN TOOLS II	ARC2210323	Spring Semester	2+0	2	2
<b>Prerequisites Courses</b>	DİJİTAL TASARIM ARAÇLARI I				
<b>Recommended Elective Courses</b>					
<b>Language of Instruction</b>	English				
<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				
<b>Assistant(s)</b>	Res. Asst. Nursena Coşkun				
<b>Aim</b>	The aim of this course is to provide necessary theoretical knowledge for the realisation and presentation of design in the digital environment				
<b>Course Content</b>	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,Midterm exam,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.				
<b>Course Learning Outcomes</b>		<b>Teaching Methods</b>	<b>Assessment Methods</b>		
Understanding of design and visual presentation techniques in digital environment		16, 37, 8, 9	F		
Gaining digital representation skills in architecture		16, 37, 8, 9	E, F		
Gaining the ability for simulating the estimated behaviour of natural and artificial environmental systems		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>Sequence</b>	<b>Topics</b>	<b>Preliminary Preparation</b>			
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	Midterm exam				
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				
<b>Evaluation Methods</b>		<b>Weight(%)</b>			
Midterm Exam		50			
General Exam		50			

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, 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 Information Modeling to the Bottom Line. BIM Content Development: Standards, Strategies, and Best Practices, Robert S. Weygant (2011) <a href="https://redshift.autodesk.com/">https://redshift.autodesk.com/</a> <a href="https://academy.autodesk.com/curriculum">https://academy.autodesk.com/curriculum</a> <a href="http://bimnewworld.blogspot.com.tr/">http://bimnewworld.blogspot.com.tr/</a> <a href="http://www.bimjournal.com/">http://www.bimjournal.com/</a> <a href="http://www.asce.org/">http://www.asce.org/</a> <a href="http://www.riba.co.uk/">http://www.riba.co.uk/</a> • <a href="http://www.buildingsmart.org">http://www.buildingsmart.org</a>	