



## COURSE INFORMATION FORM

Course Name	Course Code
Computer Aided Design II	141114003

Semester	Number of Course Hours per Week		Credit	ECTS
	Theory	Practice		
4	2	1	3	5

Course Category (Credit)				
Basic Sciences	Engineering Sciences	Design	General Education	Social
	3	2		

Course Language	Course Level	Course Type
Turkish	Undergraduate	Compulsory

<b>Prerequisite(s) if any</b>	-
<b>Objectives of the Course</b>	It is aimed that students will be able to use computers in the design phase and improve their modeling skills in the computer they acquired in the previous period.
<b>Short Course Content</b>	By designing the products in the industrial design process in electronic environment, it is aimed to transfer the form, texture, colour and product-environment relationship, which are the components of the product, in digital environment. The working process, which started in 2 dimensions, is moved to the 3rd dimension, and for this purpose, applications are made specifically for the Autodesk Fusion 360 program.

Learning Outcomes of the Course	Contributed PO(s)	Teaching Methods *	Measuring Methods **
1 Can edit files in Autodesk Fusion 360 program.	3, 4, 5, 6, 10	1, 5, 6, 11, 14	A, D
2 Explains the Autodesk Fusion 360 program's necessary representation tools for project presentation in industrial design.	3, 4, 5, 6, 10	1, 5, 6, 11, 14	A, D
3 Explains Autodesk Fusion 360's representation tools for two-dimensional (2D) and three-dimensional (3D) drawing.	3, 4, 5, 6, 10	1, 5, 6, 11, 14	A, D
4			
5			
6			
7			
8			

\*Teaching Methods 1:Expression, 2:Discussion, 3:Experiment, 4:Simulation, 5:Question-Answer, 6:Tutorial, 7:Observation, 8:Case Study, 9:Technical Visit, 10:Trouble/Problem Solving, 11:Individual Work, 12:Team/Group Work, 13:Brain Storm, 14:Project Design / Management, 15:Report Preparation and/or Presentation

\*\*Measuring Methods A:Exam, B:Quiz, C:Oral Exam, D:Homework, E:Report, F:Article Examination, G:Presentation, I:Experimental Skill, J:Project Observation, K:Class Attendance; L:Jury Exam

<b>Main Textbook</b>	- Autodesk Fusion 360 manual
<b>Supporting References</b>	- 3DS Max manual for 2022 - Vray manual for 3DS Max
<b>Necessary Course Material</b>	- Desktop or laptop computer, Autodesk Fusion 360 and Keyshot modeling softwares

<b>Course Schedule</b>	
1	Installation, presentation and registration of Autodesk Fusion 360 program to the cloud system
2	Creation of 2D drawings and line associations
3	Transition from 2D to 3D solid modeling: Parametric modeling
4	3D solid modeling (subject and progress tracking)
5	Assembled 3D solid model creation and associating assembly parts
6	T-Splines: Creating 3D models with flexible strips and curves
7	Joint use of solid modeling and T-Splines module
8	Mid-Term Exam
9	Advanced T-Splines modeling techniques
10	Advanced T-Splines modeling techniques: Organic surfaces
11	Testing 3D product designs with analysis module and simulations
12	Visualization of 3D models with 3D Rendering and Animation
13	Visualization of 3D models with 3D Rendering and Animation
14	Visualization of 3D models with 3D Rendering and Animation
15	Visualization of 3D models with 3D Rendering and Animation
16,17	Final Exam

<b>Calculation of Course Workload</b>			
<b>Activities</b>	<b>Number</b>	<b>Time (Hour)</b>	<b>Total Workload (Hour)</b>
Course Time (number of course hours per week)	14	3	42
Classroom Studying Time (review, reinforcing, prestudy,...)			
Homework	6	6	36
Quiz Exam			
Studying for Quiz Exam			
Oral exam			
Studying for Oral Exam			
Report (Preparation and presentation time included)			
Project (Preparation and presentation time included)			
Presentation (Preparation time included)			
Mid-Term Exam	1	3	3
Studying for Mid-Term Exam	7	4	28
Final Exam	1	3	3
Studying for Final Exam	7	4	28
<b>Total workload</b>			<b>140</b>
<b>Total workload / 30</b>			<b>4,66</b>
<b>Course ECTS Credit</b>			<b>5</b>

Evaluation	
Activity Type	%
Mid-term	30
Homework	30
Final Exam	40
<b>Total</b>	<b>100</b>

RELATIONSHIP BETWEEN THE COURSE LEARNING OUTCOMES AND THE PROGRAM OUTCOMES (PO) (5: Very high, 4: High, 3: Middle, 2: Low, 1: Very low)		
NO	PROGRAM OUTCOME	Contribution
1	Within cultural, historical and artistic context the ability to integrate theoretical knowledge about production and consumption mechanisms into the design practice;	1
2	The ability to plan the design process, to choose and use appropriate methods and techniques;	1
3	The ability to identify design problems and related sub-problems and to produce creative solutions with a critical and dialectical approach;	3
4	The ability to design in terms of spatial thinking using design principles and elements;	5
5	The ability to make applications in the interaction of aesthetics and function using design elements and means and to evaluate these applications;	5
6	The ability to visualize and present using two and three dimensional design tools;	5
7	The ability to follow and apply technological developments, current design approaches, sustainable production methods, materials and innovations in the field of informatics in design projects;	1
8	The ability to use field knowledge in industrial design projects by considering the needs and interests of the society and target users within the scope of environmental awareness, professional ethics and the laws;	1
9	The ability to carry out the design process effectively individually or in a team;	1
10	The ability to take an active role in discipline-specific or interdisciplinary studies at the national and international levels.	3

LECTUTER(S)				
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Signature(s)				

Date:08.08.2024