ESOGU ELECTRICAL-ELECTRONICS ENGINEERING DEPARTMENT
COURSE INFORMATION FORM

Course Title	Course Code
Introduction to 3D Modeling & Animation	**151227656**

Semester in Program	Number of Course Hours per Week		ECTS Credit
	Theory	Practice	
7	3	0	3

Course ECTS Credit Distribution				
Basic Sciences	**Engineering Sciences**	**Design**	**General Education**	**Social**
				3

Language of Instruction	Course Level	Course Type
English	Undergraduate	Elective

Prerequisite	None
Objectives of the Course	A better understanding for 3D modeling and animation Awareness about what are the work steps and involvements of 3D modeling and animation. Having knowledge of how 3D may change their communication and presentation styles in their professional life after the graduation.
Brief Course Content	Course begins with explaining the importance of 3D modeling and Animation as communication and presentation tools. Then, it continues with what are involved and how in the process. Following chapters are about modeling, painting, rigging, animation, physics, rendering, compositing and other advanced techniques.

Learning Outcomes of the Course	Contributed POs	Teaching Methods *	Assessment Methods **
1 A basic knowledge about 3D modeling and animation applications.	1,2,3,4,7,8,10,12	1,2,7	A
2 Introductory level knowledge of 3D modeling tools and how to use them.	1,2,3,4	1,2,7	A,D
3 Being able to draw simple 3D models and realizing 3D printed parts.	1,2,3,4	1,2,7	A,D
4			
5			
6			
7			
8			

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

****Assessment 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

Main Textbook	Blender 3D User Manual
Supplementary Resources	Any book, or user guides can be helpful. Video tutorials strongly advised.
Necessary Course Material	Students may download and install Blender 3D software package into their personal computers. They may also benefit from department's computers the same way.

Course Weekly Schedule	
1	Introduction
2	Blender 3D, installing and user interface
3	Data System
4	Modeling Tools
5	Modeling By Editing Mesh Structures and Using Modifiers
6	3D Printing Basics in Additive Manufacturing Applications
7	3D Printing Examples
8	Mid-Term Exams
9	Painting and Sculpting
10	Rigging
11	Motion Capture
12	Physical Simulation
13	Compositing
14	Rendering
15	Advanced Design Techniques
16,17	Final Exams

Calculation of Course Workload			
Activities	**Count**	**Time (Hour)**	**Total Workload (Hour)**
Weekly classroom time	14	3	42
Weekly study time (review, reinforcing, preparation)	14	2	28
Homework	2	5	10
Taking a quiz			
Studying for a quiz			
Oral exam			
Studying for an oral exam			
Report writing (Preparation and presentation time included)			
Project (Preparation and presentation time included)			
Presentation (Preparation time included)			
Mid-Term Exam	1	1	1
Studying for Mid-Term Exam	1	4	4
Final Exam	1	1	1
Studying for Final Exam	1	4	4
		Total workload	**90**
		Total workload / 30	**3.0**
		Course ECTS Credit	**3**

Assessment	
Activity Type	**%**
Mid-term	30
Homework	40
Final Exam	30
Total	100

COURSE CONTRIBUTION TO THE PROGRAM OUTCOMES (5: Very high, 4: High, 3: Middle, 2: Low, 1: Very low)		
NO	**PROGRAM OUTCOMES**	**Contribution**
1	a. Sufficient knowledge of mathematics	1
	b. Sufficient knowledge of basic sciences	3
	c. Sufficient basic engineering and Electrical-Electronics engineering knowledge	3
	d. Skill of applying all these knowledge and experience to complicated Electrical-Electronics engineering problems	1
2	Skill of defining, identifying, formulating and solving the complicated problems in Electrical-Electronics engineering and related areas by applying appropriate analysis and modelling methods.	1
3	Skill of designing a complicated process, system, equipment or product by applying modern design methods under realistic constraints and conditions.	3
4	To analyze and solve the complicated engineering problems: a. skill of developing, selecting and applying the required techniques and devices	4
	b. skill of using information technologies effectively	3
5	To study the complicated Electrical-Electronics engineering problems and research subjects: a. skill of experimental design	
	b. skill of performing the experiments, collecting the data and analyzing and interpreting the results	
6	a. Skill of performing individual studies	
	b. Skill of performing intra and interdisciplinary and multidisciplinary teamwork and studies	
7	a. Skill of effective oral and writing communication in Turkish	
	b. Skill of improving and using foreign language knowledge	
	c. Skill of effective reporting, understanding the reports and preparing the design and production reports	
	d. Skill of effective presentation and giving and getting clear and understandable instructions.	3
8	Awareness of the necessity of life-long learning and skill of accessing to information and following the improvements in contemporary science and technology	3
9	a. Awareness of necessity of behaving in accordance with the ethical principles and awareness of the importance of having professional ethical responsibilities	
	b. Knowledge about legal regulations and standards of engineering	
10	a. Knowledge about project management, risk management and change management	2
	b. Awareness of the significance of entrepreneurship and innovation	2
	c. Knowledge about sustainable development	2
11	Knowledge about the effects of engineering applications and practices on the global and social health, ecology and safety, knowledge about the current problems in relation to the working areas of Electrical-Electronics engineering; and awareness of the legal issues resulting from engineering solutions	
12	Knowledge about modern problems in local and universal scale	3

INSTRUCTORS				
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Date:24.07.2024