



COURSE INFORMATION FORM

Course Name	Course Code
Advanced Modelling	141116004

Semester	Number of Course Hours per Week		Credit	ECTS
	Theory	Practice		
6	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	Elective

Prerequisite(s) if any	-
Objectives of the Course	In addition to providing students with the ability to use computers at the design stage at an advanced level, the primary aim of the course is to assign materials to the products modelled on the computer and render them with the right lighting and obtain photo-realistic images and produce animations.
Short Course Content	By designing the products in the industrial design process in electronic environment, it is aimed to transfer the form, texture, color 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, for this purpose, one or two of the 3DS Max, Solidworks, Alias, Vray programs are selected and applications are made specific to the strengths of the programs.

Learning Outcomes of the Course	Contributed PO(s)	Teaching Methods *	Measuring Methods **
1 Recognizes the programs to be used in the design process.	3, 4, 5, 6, 10	1, 5, 6, 11, 14	A, D
2 Recognizes and uses 3DS Max-Vray menus.	3, 4, 5, 6, 10	1, 5, 6, 11, 14	A, D
3 Develops photo-realistic visualization skills.	3, 4, 5, 6, 10	1, 5, 6, 11, 14	A, D
4 Develops the ability to produce animation.	3, 4, 5, 6, 10	1, 5, 6, 11, 14	A, D
5			
6			
7			
8			
9			
10			

*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

Main Textbook	- Vray manual for 3DS Max
Supporting References	- 3DS Max manual for 2022
Necessary Course Material	- Desktop or laptop computer, Autodesk Fusion 360, 3DS Max and Vray rendering softwares

Course Schedule	
1	Introduction and installation of 3D modeling and rendering programs
2	Introducing the interface of the modeling and rendering program, explaining the main titles and menus in the program
3	The concept of materials and the application of materials to products in Vray program
4	Vray light and lighting settings (spotlight, spotlight, etc.)
5	Vray light and lighting settings (spotlight, spotlight, etc.)
6	Vray camera and its settings (Depth of Field, MotionBlur, etc.)
7	Vray camera and its settings (Depth of Field, MotionBlur, etc.)
8	Mid-Term Exam
9	Concept of HDR, Scene design in virtual environment
10	Visualization settings
11	Taking images by adjusting the camera and light settings indoors
12	Taking images by adjusting the camera and light settings outdoors
13	Sample application via tutorial
14	Sample application via tutorial
15	Sample application via tutorial
16,17	Final Exam

Calculation of Course Workload			
Activities	Number	Time (Hour)	Total Workload (Hour)
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
Total workload			140
Total workload / 30			4,66
Course ECTS Credit			5

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

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)				
Prepared by	Assoc. Prof. Dr. Cemil YAVUZ			
Signature(s)				

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