COURSE SYLLABUS						
Course Title	**Course Code**	**Semester**	**Course Hour/Week**		**Credit**	**ECTS**
3D Modelling, Texturing & Lighting – I	GAME 301	V	**Theory** 1	**Practice** 4	3	5
Course Type	Compulsory Course	Department Elective	Faculty Elective	University Elective	CoHE (YÖK) Elective	Other
	Yes	-	-	-	-	-
Level of Course	Associate Degree (Short Cycle)		Undergraduate (First Cycle)		Graduate/ Doctoral (Second /Third Cycle)	
	-		Yes		-	

Language of Instruction	English

Course Instructor(s)	Assist. Prof. Dr. Yunus Luckinger	E-mail : yunus.luckinger@arucad.edu.tr Office : 1064
Course Objectives	This course is an introduction to 3D modeling using industry-standard software. Students will learn the basics of modeling, including creating 3D objects, textures, lighting, and rendering. The course will cover fundamental concepts in 3D modeling and provide students with the skills and knowledge to create 3D models for use in games, animations, and other applications.	
Course Learning Outcomes	**Students will able to:**	**Teaching Methods** / **Evalutation Methods**
	1.Students will be able to define 3D Modelling terminologies.	Direct instruction technique / **Midterm:** Project Submission
	2.Students will be able to explain the general terminology used in 3D modelling and animation being able	Direct instruction technique / **Midterm:** Project Submission

	to discuss the differences of terminologies in both industries.		
	3. Students will demonstrate and apply 3D modelling techniques to create basic shape models	Direct instruction technique	**Midterm:** Project Submission
	4.Students will criticize and examine 3D projects and identify correctly done works from wrongly done works	Direct instruction technique & Demonstration method	**Midterm:** Project Submission **Final:** Project Submission
	5. Students will produce 3D models in different format suitable for video game production pipeline and/or Animation pipelines	Direct instruction technique	**Midterm:** Project Submission **Final:** Project Submission
Course Content	At the end of this term, students will have the knowledge and understanding of the virtual 3D space and will be able to create different shapes and models using the related software. Thus, students will be able to; Make volumetric objects like vertices, splines, polygons an etc. Using these, then they will be able to create more complex objects and learn all the basic techniques for textures, light types, image mapping, camera settings in 3D environment as well as some rendering options. - The main elements of the interface. - Basics of two-dimensional forms modeling; - Basic methods of 3D modeling; - Modeling based on 3D primitives; Shapes; Primitives, polygons, and primary modeling - Adding color, glow. - Texture, and other materials. - Basic lighting concepts and using lights. - Camera's installation and setup. - Rendering options. - Understanding mental ray and HDRI.		

COURSE OUTLINE/SCHEDULE			
Week	**Topic**	**Implementation (theory/practice)**	**Required Reading, Preliminary preparation**

1	Introduction to the course. Overview of 3D modeling Types of 3D models Introduction to industry-standard software	T	(2020). Art fundamentals. Worcester, United Kingdom: 3dtotal Publishing. **LOC classification: ND1471 .A74 2020**
2	Navigation and viewpoints, Basic geometric shapes Extruding and beveling Modeling using polygons	T/P	3D Modeling For Beginners: Learn everything you need to know about 3D Modeling!
3	Basic transforms, Pivot points, Coordinate systems, Duplicating objects,	T/P	3D Modeling For Beginners: Learn everything you need to know about 3D Modeling!
4	Modifiers, Modeling tools, Polygon modelling part I	T/P	3D Modeling For Beginners: Learn everything you need to know about 3D Modeling!
5	Polygon Modeling part II	T/P	Teacher Notes
6	Materials and creating texture. Applying textures to 3D objects Creating and editing materials UV mapping	T/P	Lewis M., . (2021). Beginner's guide to sketching. Worcester, United Kingdom: 3dtotal Publishing. **LOC classification: NC730 .M47 2021** (2020). Art fundamentals. Worcester, United Kingdom: 3dtotal Publishing. **LOC classification: ND1471 .A74 2020**
7	**MIDTERM SUBMISSION** Prep Work & Asset Creation	T/P	Teacher Notes
8	Maps; Bump Maps, Unwrapping and Maps,		(2020). Art fundamentals. Worcester, United Kingdom: 3dtotal Publishing. **LOC classification: ND1471 .A74 2020**
9	Introduction to rendering. Lights	T/P	Lewis M., . (2021). Beginner's guide to sketching. Worcester, United Kingdom: 3dtotal Publishing. **LOC classification: NC730 .M47 2021**
10	Rendering Understanding render settings Creating different render types Optimizing render times	T/P	Teacher Notes
11	Environment Creation Creating terrain	T/P	Teacher Notes

12	Different types of modelling I	T/P	. Teacher Notes
13	Different types of modelling II	T/P	Teacher Notes
14	Lighting and Physics operations	T/P	Teacher Notes
15	Practice and Development Planning **FINAL SUBMISSION**	T/P	

Required Course Material(s) / Reading(s)/ Text Book(s)	Lewis M., . (2021). Beginner's guide to sketching. Worcester, United Kingdom: 3dtotal Publishing. **LOC classification: NC730 .M47 2021** (2020). Art fundamentals. Worcester, United Kingdom: 3dtotal Publishing. **LOC classification: ND1471 .A74 2020** Blender Documentation - The official documentation for Blender. It includes tutorials, user manuals, and technical information about Blender: https://docs.blender.org/manual/en/latest/
Recommended Course Material(s)/ Reading(s) /Other	Blender Documentation - The official documentation for Blender. It includes tutorials, user manuals, and technical information about Blender: https://docs.blender.org/manual/en/latest/ Blender Guru - A popular online resource for Blender tutorials, tips, and tricks: https://www.blenderguru.com/ CG Cookie - A website that offers a range of Blender courses and tutorials for both beginners and advanced users: https://cgcookie.com/ Blender Artists - A community of Blender users who share their work, tutorials, and resources: https://blenderartists.org/ BlenderNation - A news website that covers the latest Blender-related news, tutorials, and resources: https://www.blendernation.com/ Blender Cloud - A subscription-based platform that provides access to Blender training, assets, and tools: https://cloud.blender.org/

ASSESSMENT		
Learning Activities	**NUMBER**	**WEIGHT in %**
Mid-Term	1	40

Quiz	-	-
Assignment	-	-
Project	-	-
Field Study	-	-
Presentation / Seminar	-	-
Studio Practice	-	-
Other	-	-
Contribution of Final Examination/Final Project/ Dissertation to the Final Grade	1	60
TOTAL		100

CONTRIBUTION OF COURSE LEARNING OUTCOMES TO PROGRAMME LEARNING OUTCOMES							
No	PROGRAMME LEARNING OUTCOMES	Level of Contribution (1- lowest/ 5- highest)				
		1	2	3	4	5
1	Knows the historical development of the field of communication, basic concepts, theories.	X				
2	Knows the basic concepts and terminology related to the field of game design.				X	
3	Has knowledge about the history of computer and video games and developments in this field.		X			
4	Knows game design processes and related applications.					X
5	Has the ability to utilize various disciplines such as communication, art, music, psychology, mythology, cinema, etc. in the game design process.					X
6	Has the ability to analyse analog and digital game genres.	X				
7	Has the ability to use contemporary game engines and problem solving skills.		X			
8	Has the knowledge of questioning the game designs with an analytic and critical perspective.			X		
9	Has knowledge about media literacy.		X			

10	Has the competence to prepare projects based on ethical principles in game development processes.					X
11	Has the competence to evaluate games as an art form.			X		
12	Has the competence to use game design concepts and methods in related fields such as design, software development and media.				X	
13	Has the competence to take part and responsibility in game development teams.			X		
14	Has the competence to collect, analyze and interpret analytical data about games and players.		X			
15	Has the competence to develop and present a digital game project by using game design practices effectively.			X		
16	Evaluates artificial intelligence applications in their studies with a critical approach in terms of aesthetics and originality, and uses them in accordance with ethical rules.			X		

ECTS / STUDENT WORKLOAD				
ACTIVITIES	**NUMBER**	**UNIT**	**HOUR**	**TOTAL (WORKLOAD)**
Course Teaching Hour (X weeks * total course hours)	15	-	5	75
Preliminary Preparation and self- study	15	-	1	15
Mid-Term	1	-	15	15
Quiz	-	-	-	-
Assignment	-	-	-	-
Project	-	-	-	-
Field Study	-	-	-	-
Presentation / Seminar	-	-	-	-
Studio Practice	-	-	-	-
Final Examination/ Final Project/ Dissertation	1	-	20	20
Other	-	-	-	-
TOTAL WORKLOAD				125
TOTAL WORKLOAD / 25				5
ECTS				5

ETHICAL RULES WITH REGARD TO THE COURSE
Plagiarism Disclaimer Detected and undetected plagiarism is a serious offence at any time and it could have devastating effects on your degree result and future professional life. Plagiarism is easy to avoid if you make sure you thoroughly identify and recognize your sources and do not copy from visual examples, designs or notes taken directly from your sources word for word. The maximum citation limit cannot exceed 20%. Artificial intelligence citations are also considered within this scope. If proven otherwise, the student will fail the course.

	SDG 1: No Poverty	
	SDG 2: Zero Hunger	
	SDG 3: Good Health and Well-Being	
	SDG 4: Quality Education	X
	SDG 5: Gender Equality	
	SDG 6: Clean Water and Sanitation	
	SDG 7: Affordable and Clean Energy	
	SDG 8: Decent Work and Economic Growth	X
	SDG 9: Industry, Innovation and Infrastructure	X
	SDG 10: Reduced Inequalities	
	SDG 11: Sustainable Cities and Communities	
	SDG 12: Responsible Consumption and Production	X
	SDG 13: Climate Action	
	SDG 14: Life Below Water	
	SDG 15: Life on Land	
	SDG 16:Peace, Justice and Strong Institutions	

	SDG 17:Partnership for the Goals	X

ASSESSMENT DETAILS AND EVALUATION CRITERIA:
Final Grades will be determined according to the Course Learning Activities and Final Examination/ Project/ Dissertation Assessment Details as below, and comply with the Education and Examination Regulation set forth by the University. Throughout the course, students will learn the theoretical base of the topic and they will be able to equip themselves with the practical know-how skills of Advertisement production. Also, students are expected to design a creative advertisement piece with the knowledge they have gained in the course. During the class sessions, participation is a very important input for the learning process for the students. It is also vital to understand the effect of creativity input on the production process of advertisement. 70% attendance to courses is compulsory. Health reports belong to 30% absenteeism right. Please beware that the class uses teams. Thus, submissions have to be made Printed and digitally. Late work can only receive full credit in extreme circumstances and will be penalized otherwise as follows: • Over a day but less than two days late: **10% deducted** • Over two days but less than a week late: **20% deducted** • A week or more late: **Not accepted: 0%**

PREPARED BY	Assist.Prof.Dr. Yunus Luckinger
UPDATED	19.09.2024
APPROVED	