

Vocational School / Computer Programming

2023 - 2024 Academic Year

GAME PROGRAMMING

Syllabus

Course Description					
Name	Code	Semester	T+A Hour	Credit	ECTS
GAME PROGRAMMING	BPR2160370	Fall Semester	1+2	2	5
Prerequisites Courses					
Recommended Elective Courses					
Language of Instruction	Turkish				
Course Level	Short Cycle (Associate's Degree)				
Course Type	Elective				
Course Coordinator	Lect. Beyza KOYULMUŞ				
Name of Lecturer(s)	Lect. Muhammet ÇAĞATAY				
Assistant(s)					
Aim	Illustrate the fundamentals of Unity 3D, develop solutions by using Unity 3D game motor, its design principles and tools				
Course Content	This course contains; 1. Hafta: Introduction to User Interface,2. Hafta: Introduction to programming with Unity 3D,3. Hafta: Basic Level Design,4. Hafta: Basic Vectors,5. Hafta: Physics Materials,6. Hafta: Mass, Gravity, Force, Friction,7. Hafta: Constant Force,8. Hafta: Collision Detection Methods,9. Hafta: Material Usage,10. Hafta: Physics,11. Hafta: GUI (arayüz tasarımı ve programlaması),12. Hafta: Cameras and Lighting,13. Hafta: Character Animation,14. Hafta: Raycast and Virtual Reality.				
Course Learning Outcomes		Teaching Methods	Assessment Methods		
Identify Unity 3D game motor and use it.		2, 8, 9	A, E		
Use fundamentals of physics such as Vector, Gravitation, Force, Friction for game development.		6, 8, 9	A, E, F		
Identify User Interface		2, 6, 8, 9	A, E, F		
Identify Unity 3D related functions		6, 8, 9	A, E, F		
Develop entertaining and realistic games using Javascript in Unity 3D.		2, 6, 9	A, E, F		
Teaching Methods	2: Project Based Learning Model, 6: Experiential Learning, 8: Flipped Classroom Learning, 9: Lecture Method				
Assessment Methods	A: Traditional Written Exam, E: Homework, F: Project Task				
Lecture Schedule					
Sequence	Topics	Preliminary Preparation			
1	1. Hafta: Introduction to User Interface				
2	2. Hafta: Introduction to programming with Unity 3D				
3	3. Hafta: Basic Level Design				
4	4. Hafta: Basic Vectors				
5	5. Hafta: Physics Materials				
6	6. Hafta: Mass, Gravity, Force, Friction				
7	7. Hafta: Constant Force				
8	8. Hafta: Collision Detection Methods				
9	9. Hafta: Material Usage				
10	10. Hafta: Physics				
11	11. Hafta: GUI (arayüz tasarımı ve programlaması)				
12	12. Hafta: Cameras and Lighting				
13	13. Hafta: Character Animation				
14	14. Hafta: Raycast and Virtual Reality				
Evaluation Methods		Weight(%)			
Midterm Exam		40			
General Exam		60			

Resources
Slides and Unity 3D applications