

**Vocational School / Computer Programming**

**2024 - 2025 Academic Year**

**GAME PROGRAMMING**

**Syllabus**

<b>Course Description</b>					
<b>Name</b>	<b>Code</b>	<b>Semester</b>	<b>T+A Hour</b>	<b>Credit</b>	<b>ECTS</b>
GAME PROGRAMMING	BPR2260370	Spring Semester	1+2	2	5
<b>Prerequisites Courses</b>					
<b>Recommended Elective Courses</b>					
<b>Language of Instruction</b>	Turkish				
<b>Course Level</b>	Short Cycle (Associate's Degree)				
<b>Course Type</b>	Elective				
<b>Course Coordinator</b>	Lect. Beyza KOYULMUŞ				
<b>Name of Lecturer(s)</b>	Lect. Beyza KOYULMUŞ				
<b>Assistant(s)</b>					
<b>Aim</b>	Illustrate the fundamentals of Unity 3D, develop solutions by using Unity 3D game motor, its design principles and tools				
<b>Course Content</b>	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.				
<b>Course Learning Outcomes</b>		<b>Teaching Methods</b>	<b>Assessment Methods</b>		
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		
<b>Teaching Methods</b>	2: Project Based Learning Model, 6: Experiential Learning, 8: Flipped Classroom Learning, 9: Lecture Method				
<b>Assessment Methods</b>	A: Traditional Written Exam, E: Homework, F: Project Task				
<b>Lecture Schedule</b>					
<b>Sequence</b>	<b>Topics</b>	<b>Preliminary Preparation</b>			
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				
<b>Evaluation Methods</b>		<b>Weight(%)</b>			
Midterm Exam		40			
General Exam		60			
<b>Resources</b>					
Slides and Unity 3D applications					