

COURSE SYLLABUS

Course Title	Course Code	Semester	Course Hour/Week		Credit	ECTS
Introduction to Python coding	GAME320	6	Theory 2	Practice 2	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
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Course Instructor(s)	Dr. Masoud Moradi	E-mail : masoud.moradi@arucad.edu.tr	
		Office : TI-OFF18	
Course Objectives	This course aims to introduce students to the fundamentals of Python programming and its applications in game development. By the end of the course, students will gain a solid understanding of Python syntax, control structures, data structures, object-oriented programming, file handling, and libraries relevant to game design.		
Course Learning Outcomes	Students will able to:	Teaching Methods	
	Understand Python's basic syntax, variables, and data types. Remember (Remembers, repeats) - Identify Python's fundamental components and use them in code. - Explain the purpose of different data types.	- Lectures - In-class coding exercises	Evaluation Methods - Midterm Exam - Final Exam - Class Participation
	Utilize control structures such as loops and conditional statements.	- Lectures - Practice labs - Small projects	- Midterm Exam

	<ul style="list-style-type: none"> - Write if/else statements and various loop constructs. - Employ control structures to solve basic problems. 		<ul style="list-style-type: none"> - Final Exam - Project Work
	<ul style="list-style-type: none"> Implement functions and modular programming techniques. - Define and call functions. - Organize code into reusable modules. 	<ul style="list-style-type: none"> - Lectures - Lab sessions - Guided coding tasks 	<ul style="list-style-type: none"> - Midterm Exam - Final Exam
	<ul style="list-style-type: none"> Work with Python's built-in data structures (lists, dictionaries, tuples, sets). - Choose appropriate data structures for given tasks. - Manipulate and transform data effectively. 	<ul style="list-style-type: none"> - Lectures - Exercises 	<ul style="list-style-type: none"> - Midterm Exam - Class Assignments - Final Exam
	<ul style="list-style-type: none"> Understand and apply object-oriented programming (OOP) concepts. - Define classes and objects. - Implement inheritance and encapsulation. 	<ul style="list-style-type: none"> - Lectures - In-class demonstrations 	<ul style="list-style-type: none"> - Midterm Exam - Final Exam
	<ul style="list-style-type: none"> Use Python libraries for game development (e.g., Pygame). Install and configure Pygame. - Implement basic graphics and event handling. 	<ul style="list-style-type: none"> Lectures - Lab practice - Project work 	<ul style="list-style-type: none"> - Class Participation - Final Exam
Course Content	<ul style="list-style-type: none"> └ Introduction to Python and environment setup └ Variables, data types, and operators └ Control flow (if-else statements, loops) └ Functions and modular programming └ Data structures (lists, tuples, dictionaries, sets) └ Object-Oriented Programming (OOP) concepts └ File handling in Python └ Error handling and debugging └ Introduction to game development with Python └ Working with the Pygame library └ Developing simple games using Python 		

Week	Topic	Implementation (theory/practice)	Required Reading, Preliminary preparation
1	Course description and Introduction	T	Instructor Notes
2	Python syntax, variables, and data types	T/P	Python documentation https://docs.python.org/3/
3	Control structures: If-else statements	T	Python documentation https://docs.python.org/3/
4	Loops (for, while) and iteration techniques	T	Python documentation https://docs.python.org/3/
5	Functions and modular programming	T/P	Python documentation https://docs.python.org/3/
6	Lists, tuples, dictionaries, and sets	T/P	Instructor Notes
7	MIDTERM WEEK	Midterm	
8	MIDTERM WEEK	Midterm	
9	File handling in Python	T	Instructor Notes
10	Exception handling and debugging techniques	T	Python documentation https://docs.python.org/3/
11	Introduction to game development with Python	T/P	Python Game Development Tutorials
12	Introduction to Pygame library	T/P	Pygame Documentation
7	Object-Oriented Programming (OOP)	T/P	Python OOP Tutorials
14	Project development and debugging	T/P	Instructor Notes










15	Course Review	T/P	
17=6	FINAL EXAM WEEK		









Required Course Material(s) / Reading(s)/ Text Book(s)	
Recommended Course Material(s)/ Reading(s) /Other	Pyhon documentation https://docs.python.org/3/

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.	✓				
2	Knows the basic concepts and terminology related to the field of game design.			✓		
3	Has knowledge about the history of computer and video games and developments in this field.	✓				
4	Knows game design processes and related applications.				✓	
5	Has the ability to utilize various disciplines such as communication, art, music, psychology, mythology, cinema, etc. in the game design process.			✓		
6	Has the ability to analyze analog and digital game genres.					✓
7	Has the ability to use contemporary game engines and problem solving skills.					✓
8	Has the knowledge of questioning the game designs with an analytic and critical perspective.				✓	
9	Has knowledge about media literacy.	✓				
10	Has the competence to prepare projects based on ethical principles in game development processes.		✓			
11	Has the competence to evaluate games as an art form.	✓				
12	Has the competence to use game design concepts and methods in related fields such as design, software development and media.				✓	
13	Has the competence to take part and responsibility in game development teams.			✓		
14	Has the competence to collect, analyze and interpret analytical data about games and players.				✓	
15	Has the competence to develop and present a digital game project by using game design practices effectively.					✓
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.			✓		

ECTS / STUDENT WORKLOAD				
ACTIVITIES	NUMBER	UNIT	HOUR	TOTAL (WORKLOAD)
Course Teaching Hour (X weeks * total course hours)	16		3	48
Preliminary Preparation and self- study				
Mid-Term	1		40	40
Quiz				
Assignment				
Project				
Field Study				
Presentation / Seminar				
Studio Practice				
Final Examination/ Final Project/ Dissertation	1		50	138
Other				
TOTAL WORKLOAD				138
TOTAL WORKLOAD / 25				5.52
ECTS				5

	SDG 1: No Poverty	×
	SDG 2: Zero Hunger	×
	SDG 3: Good Health and Well-Being	×
	SDG 4: Quality Education	√
	SDG 5: Gender Equality	×
	SDG 6: Clean Water and Sanitation	×
	SDG 7: Affordable and Clean Energy	×
	SDG 8: Decent Work and Economic Growth	×
	SDG 9: Industry, Innovation and Infrastructure	√

	SDG 10: Reduced Inequalities	×
	SDG 11: Sustainable Cities and Communities	×
	SDG 12: Responsible Consumption and Production	×
	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	×

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.

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.

PREPARED BY	Dr. Masoud Moradi
UPDATED	28.03.2026
APPROVED	

