



T.C.

ESKİŞEHİR OSMANGAZİ ÜNİVERSİTESİ

FACULTY OF SCIENCES

MATHEMATICS AND COMPUTER SCIENCES DEPARTMENT



## COURSE INFORMATION FORM

Course Name	Course Code
Computer programming I	821611007

Semester	Number of Course Hours per Week		Credit	ECTS
	Theory	Practice		
1	3	0		4

Course Category (Credit)				
Basic Sciences	Engineering Sciences	Design	General Education	Social
	X			

Course Language	Course Level	Course Type
Turkish	Undergraduate	Compulsory

<b>Prerequisite(s) if any</b>	NONE
<b>Objectives of the Course</b>	Learning the basic concepts and elements of a computer programming language
<b>Short Course Content</b>	Introduction to programming languages (C++), conditional statements, loops, functions, arrays, pointers, characters, and strings.

Learning Outcomes of the Course		Contributed PO(s)	Teaching Methods *	Measuring Methods **
1	Acquisition of Basic Programming Knowledge: Students will learn the basic concepts and elements of the C++ programming language, enabling them to write simple programs.	1, 2	1, 6	A
2	2 Usage of Control Structures: Students will be able to create various algorithms and logical flows using condition statements and loops.	1, 2	1, 10	A
3	3 Program Modularity with Functions: Students will be able to make their programs modular using functions, reducing code repetition, and writing cleaner and more readable code.	2, 4	1, 10, 14	A
4	4 Data Management and Memory Pointers: Students will gain basic knowledge and skills in managing data effectively using arrays and pointers, and in memory management.	2, 3	1, 6, 10	A
5	5 Learning to Write Computer Programs for Algorithmically Defined Problems: Students will learn to analyze a specific problem and write computer programs using appropriate algorithms to produce a solution.	2, 3, 5, 9	1, 10, 12	A

\*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

<b>Main Textbook</b>	"Python ile Veri Analizi" - Wes McKinney (Türkçe çeviri)
<b>Supporting References</b>	"Python Cookbook" by David Beazley and Brian K. Jones
<b>Necessary Course Material</b>	Computer Laboratory

<b>Course Schedule</b>	
1	Introduction to Programming Language
2	Decision Statements
3	Loops
4	Loops
5	Functions
6	Problem Solving
7	Arrays
8	Midterm Exam
9	Arrays
10	Introduction to Classes
11	Pointers
12	Pointers
13	Characters and Strings
14	Problem Solving
15	End-of-Semester Exams
16	Final Exams
17	Final Exams

<b>Calculation of Course Workload</b>			
<b>Activities</b>	<b>Number</b>	<b>Time (Hour)</b>	<b>Total Workload (Hour)</b>
Course Time (number of course hours per week)	14	3	42
Classroom Studying Time (review, reinforcing, prestudy,...)	14	3	42
Homework			
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)			

\***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

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Mid-Term Exam	1	2	2
Studying for Mid-Term Exam	1	20	20
Final Exam	1	2	2
Studying for Final Exam	1	30	30
	<b>Total workload</b>		<b>138</b>
	<b>Total workload / 30</b>		<b>4,6</b>
	<b>Course ECTS Credit</b>		<b>4</b>

<b>Evaluation</b>	
<b>Activity Type</b>	
Mid-term	<b>%50</b>
Quiz	
Homework	
Bir öge seçin.	
Bir öge seçin.	
<b>Final Exam</b>	50
<b>Total</b>	100

\***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

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<b>RELATIONSHIP BETWEEN THE COURSE LEARNING OUTCOMES AND THE PROGRAM OUTCOMES (PO) (5: Very high, 4: High, 3: Middle, 2: Low, 1: Very low)</b>		
<b>NO</b>	<b>PROGRAM OUTCOME</b>	<b>Contribution</b>
1	The ability to apply knowledges of Mathematics and Computer Sciences,	3
2	To have sufficient theoretical and practical knowledge of Mathematics at international level,	2
3	The ability of describing, modelling and solving of mathematical problems at Mathematics and related subjects,	1
4	The skill to solve and design a problem process in accordance with a defined target,	2
5	Skills to analyze data, interpret and apply to other datum and using these data on computer,	3
6	The skill to use the modern techniques and computational tools needed for mathematical applications,	1
7	The skill to make team work within the discipline and interdisciplinary,	2
8	The ability to improve oneself by following the developments on other modern, scientific and technological subjects as well as Mathematics and Computer Sciences,	3
9	The skill to communicate orally and in written way, in a clear and concise manner by having individual work skills and ability to independently decide and analytical thinking,	2
10	The skill to have professional and ethical responsibility,	2
11	The skill to have consciousness for quality issues and scientific research,	2
12	The skill to be sensitive to environmental issues related with problems and development of living area and consistent in the social relations,	3
13	bility to solve problems in the working life faced to find an appropriate algoritms via mathematical modeling and to write computer programs,	3
14	The skill to developed design of software systems at different complex levels	3
15	The credence of necessity of life-long learning and ability to apply the formation long-life learning	3

<b>LECTUTER(S)</b>			
<b>Prepared by</b>	Doç. Dr. Özer Çelik		
<b>Signature(s)</b>			

**Date:**06.06.2024