

Course Description					
Name	Code	Semester	T+A Hour	Credit	ECTS
PROGRAMMING LANGUAGES I	MIS2110873	Fall Semester	3+0	3	7
Prerequisites Courses					
Recommended Elective Courses					
Language of Instruction	English				
Course Level	First Cycle (Bachelor's Degree)				
Course Type	Required				
Course Coordinator	Assist.Prof. Kevser ŞAHİNBAŞ				
Name of Lecturer(s)	Assist.Prof. Kevser ŞAHİNBAŞ				
Assistant(s)					
Aim	This course aims to cover basic programming fundamentals and operating on datasets, including data types, control structures, algorithm development and program design with functions, through the Python programming language. introduces. The course discusses basic principles of programming as well as dataset manipulation. Students will solve problems, explore real-world software development challenges, and create practical and contemporary applications.				
Course Content	This course contains; Computer and Programming Languages, Memory Concepts Operators, Problem Solving and Program Design Methods, Introduction to Python programming Language, Python basic data types, constants, variables, operators, Decision Making and Control Statements in Python, Flow control: Loop/repeat statements, for, while in Python, Flow control: Nested loops, break, continue in Python, Functions in Python, Midterm, String arrays, Lists and Dictionary, File: Input/output operations, numPy data analysis library, pandas library, Final Exam.				
Course Learning Outcomes			Teaching Methods	Assessment Methods	
1. Students will learn Python programming language.			6	F	
1.1. Will be able to develop programs with Python programming language.			6	A, F	
2. will be able to use basic problem solving techniques.			9	A, F	
2.1. Analyzes the problem.			6	A, F	
3. Defines operators.			6	A, F	
3.1 Uses Increment and Decrement Operators with Assignment Operators.			6	A, F	
4. will be able to use simple Decision-making expressions.			6	A, F	
4.1. Will be able to use flow control structures (decision and loop statements) in Python.			9	A	
5. will be able to use Loops and Array Data Structure.			9	A	
5.1. Uses "While, do while and for"			6	A, F	
5.2. Use foreach.					
6. Designs the problem in the form of algorithm, flow chart.			6	A, F	
6.1. Will be able to design functions in Python language.			6	A, F	
6.2. Calls Function with Reference.			6	A, F	
7. Will be able to use various data structures (arrays, lists, dictionaries) in Python.			2	F	
7.1. Uses arrays and lists.					
7.2. Uses tuples and dictionaries					
8. Will be able to execute file input/output operations using Python programming language.			2	F	
8.1 Uses Files and Streams.			2	F	
8.2. Writes and reads files.					
9. Have knowledge about data science.					
9.1. Operates on the dataset using the numpy library.			6	F	
9.2. Operates on the dataset using the numpy library.			6	F	
Teaching Methods	2: Project Based Learning Model, 6: Experiential Learning, 9: Lecture Method				
Assessment Methods	A: Traditional Written Exam, F: Project Task				
Lecture Schedule					
Sequence	Topics	Preliminary Preparation			
1	Computer and Programming Languages, Memory Concepts Operators, Problem Solving and Program Design Methods	Related chapter from the coursebook should be read			
2	Introduction to Python programming Language	Related chapter in the course book should be read.			
3	Python basic data types, constants, variables, operators	Related chapter in the course book should be read.			
4	Decision Making and Control Statements in Python	Related chapter in the course book should be read.			
5	Flow control: Loop/repeat statements, for, while in Python	Sample application to be prepared			
6	Flow control: Nested loops, break, continue in Python	Related chapter in the course book should be read.			
7	Functions in Python	Related chapter in the course book should be read.			
8	Midterm	Midterm exam			
9	String arrays	Related chapter in the course book should be read.			
10	Lists and Dictionary	-			
11	File: Input/output operations				
12	numPy data analysis library	Related chapter in the course book should be read.			
13	pandas library				
14	Final Exam	Related chapter in the course book should be read.			
Evaluation Methods		Weight(%)			
(Midterm Exam) Project for Midterm		40			

Syllabus

Midterm Exam	40
(General Exam) Project for General Exam	40
General Exam	60

Resources
Contemporary programming languages like Python enjoy rich online documentation. Indeed, they are built on the premise that programmers are continually in contact with such documentation, and are not expected to memorize any but a small fraction of it. Suggested book: Starting Out with Python plus MyProgrammingLab with Pearson eText --Access Card Package (3rd Edition) Tony Gaddis ISBN-13: 978-0133862256