ISTANBUL MEDIPOL UNIVERSITY
SYLLABUS

COE1113180, BME1113180, EEE1113180, IND1113180 & CEE1113180
Introduction to Programming

2020 Fall Semester

Course Code	Course Name	Course Type	Weekly Hours			Credits	ECTS	Weekly Class Schedule
			T	A	L			
COE1113180 **BME1113180** **EEE1113180** **IND1113180** **CEE1113180**	Introduction to Programming	Required	3	0	2	4	6	Mon 09:00 -12:00 & Mon 13:30-16:30

Prerequisite	None	**Prerequisite to**	Advanced Programming
Lecturer	Selim AKYOKUŞ	**Office Hours Schedule**	Tuesday 16:00
E-mail	sakyokus@medipol.edu.tr		
Phone	216 651 0000 x 5350	**Office / Room No**	C-320 North Campus

Assistants	-
E-mail	-
Course Objectives	This course introduces fundamentals of programming, problem solving and algorithm development for students with little or no prior programming experience using Pyhton programming language. The objective of this course is to prepare students for more advanced programming courses as well as providing an understanding of computation in problem solving and engineering as a self-contained course for those students who want to write programs for their studies and professional work. The course emphasizes structured programming, algorithmic and object thinking in a problem-driven way after teaching fundamental concepts and structures. Topics include an introduction to computers, programming languages and Pyhton; elementary programming, selections, data types, strings, iteration, functions, GUIs (graphical user interfaces), objects and classes, inheritance and polymorphism, lists (arrays) and multidimensional lists, sets and dictionaries, files, exceptions and recursion. Weekly laboratories and assignments with different problems, practice and coding exercises will improve student's capabilities and fluency in programming.
Textbook	- Y. Daniel Liang, Introduction to Programming Using Python, Pearson. - How to think like a computer scientist https://runestone.academy/runestone/books/published/thinkcspy/index.html http://openbookproject.net/thinkcs/python/english3e/index.html http://greenteapress.com/thinkpython/html/index.html - Richard L. Halterman, FundamentalsofProgramming http://python.cs.southern.edu/pythonbook/pythonbook.pdf - Python Practice Book https://anandology.com/python-practice-book/index.html - Python Programming https://en.wikibooks.org/wiki/Python_Programming
Learning Outcomes	After successful completion of the course, the student will be able to: 1 Understand programming concepts and techniques using Python Language. 2 Use control statements, loops, functions, and lists. 3 Understand the differences between procedural and object-oriented paradigms. 4 Develop custom classes using encapsulation, polymorphism, inheritance, and abstraction. 5 Learn how to use files, exceptions and build GUIs. 6 Analyze and design strategies for solving basic programming problems. 7 Write programs for a wide variety problems in math, science, engineering, financials, and games.
Teaching Methods	Class discussions with examples. Labs for the demonstration

WEEK	TOPIC	REFERENCE
Week 1	Introduction to Computers, Programming, and Python	Ch 1
Week 2	Elementary Programming	Ch 2
Week 3	Mathematical Functions, Strings, and Objects	Ch 3
Week 4	Selections	Ch 4
Week 5	Loops	Ch 5
Week 6	Functions	Ch 6
Week 7	Objects and Classes	Ch 7
Week 8	Exam Week	
Week 9	More on Strings and Special Methods	Ch 8
Week 10	GUI Programming Using Tkinter	Ch 9
Week 11	Lists, Multidimensional Lists, Tuples, Sets, and Dictionaries	Ch 10, 11 & 14
Week 12	Inheritance and Polymorphism	Ch 12
Week 13	Files and Exception Handling	Ch 13
Week 14	Recursion	Ch 15

	Evaluation Tool	**Quantity**	**Weight**
Assessment Methods and Criteria (*)	**Final Exam**	**1**	**40%**
	Quizzes **Midterm**	**-**	**38%**
	Lab Exercises	**10**	**12%**
	Programming Assignments	**8**	**10%**
	Total		**100%**

*** ECTS Credit Calculation ***				Language of Instruction: English			
Activity	**Hours**	**Weeks**	**Student Workload Hours**	**Activity**	**Hours**	**Weeks**	**Student Workload Hours**
Lecture hours	2	14	28.0	In-term exam study	10	3	30.0
Labs	2	10	20.0	Final exam study	13	1	13.0
HWs	6	10	60.0				
				Total Workload Hours =			151.0
				Recommended ECTS Credit =			6

(*) You may be asked to enter an oral examination after each examination or at the end of semester.

In such a case, your final grade will be determined by oral examination.