

COURSE IDENTIFICATION FORM

Course Code and Name: IM5076
PROGRAMMING WITH PYTHON

Department of : CIVIL ENGINEERING / MASTER
PROGRAMME

Semester	Theoretic Hour	Practice Hour	Total Hour	Credits	ECTS	Education Language	Type: Compulsory Elective
Atumn/Spring	3	0	3	3	5	Turkish	Optional
Prerequisite (s)							
Instructor						Mail : Web :	
Course Assistant						Mail : Web :	
Groups / Classes							
Course Aim		To provide students with the ability to code machine learning models using the Python programming language. To provide theoretical background for acquiring basic knowledge and skills in the field of machine learning. To provide skills for solving and analyzing real-world problems using machine learning methods.					
Course Goals		Introduction to Python Programming Problem-Solving and Algorithm Development Object-Oriented Programming (OOP) Data Structures and Manipulation Handling Files and Input/Output Error Handling and Debugging Introduction to Libraries and Frameworks					
Course Learning Outs and Proficiencies		<ul style="list-style-type: none">• Students learn the Python programming environment and can code basic problems.• They know the concept and techniques of machine learning.• They can code machine learning models in the Python programming environment.• They can create machine learning models for real-world problems.					
Course Basic and Auxiliary Contexts		<ul style="list-style-type: none">• Aurelien Geron, Hands-On Machine Learning with Scikit-Learn & TensorFlow: Concepts, Tools, and Techniques to Build Intelligent Systems					
Methods of Give a Lecture		Face to Face					

Assessment Criteria		If Available, to Sign (x)	General Average Percentage (%) Rate
	Midterm Exam	X	50
	1. Quiz		
	2. Quiz		
	3. Quiz		
	4. Quiz		
	Oral Examination		
	Practice Examination (Laboratory, Project etc.)		
	Final Exam	X	50
Semester Course Plan			
Week	Subjects		
1	Introduction; Programming Languages concepts		
2	Python Programming Language and Environments		
3	Basic operations in Python		
4	Basic operations in Python		
5	Machine learning concepts and concepts		
6	Basic machine learning approaches		
7	Introduction of various machine learning libraries in Python environment		
8	Implementation of basic machine learning algorithms with Python		
9	Performing basic analysis on datasets with Python		
10	Modeling complex problems		
11	Obtaining and analyzing results on datasets		
12	Obtaining and analyzing results on datasets		
13	Student project presentations		
14	Student project presentations		