

COURSE ID SHEET



Course No.	5063	NTUA							
Semester:	1	Core	X	Elective		Specialization			
Title:	COMPUTER PROGRAMMING								
Aim:	Bring students into contact with modern computers, with specific basic software tools and, mainly, with the basic principles of programming as they are implemented in the MATLAB environment and the python programming language.								
Content:	- Introduction to programming: the purpose of programming. - Algorithms: the program as an algorithm. - Algorithm components: assignment, sequence of commands, iteration, arithmetic and logical expressions, basic input and output. - Programming: the program flow, writing programs, functions, variable scope. - Floating point numbers: round-off errors. - Programming techniques: implementation, testing, debugging.								
Hours per semester:	LECTURES	78	EXERCISES	-	LABORATORY	39	HOME-WORK	33	TOTAL HOURS: 150
Methodology	The course is taught entirely in the Personal Computer Laboratory (PCLAB) of the School. Students are divided into 2 sections and are taught and practiced, "hands on". The course is divided into theory and computational exercises. In the theory session, students are guided to interact with the computers and implement what they are taught in real time. Any implementation problems are addressed with the cooperation of teaching staff present, for this purpose, at the PCLAB. In the session students are asked to develop, on their own, MATLAB or python codes of varying difficulty based on the theory part.								
Student performance/evaluation:	The grade in the course follows from the final hands-on examination in the PCLAB. The participation of the students in an optional intermediate examination, in the middle of the semester, contributes (positively) to the final grade by 40%.								
Textbooks	MATLAB: A PRACTICAL INTRODUCTION TO PROGRAMMING AND PROBLEM SOLVING (in Greek) Book Code in Eudoxus: 50656337 Edition: 3rd American/2015 Authors: STORMY ATTAWAY ISBN: 978-960-461-663-3 Type: Textbook Provider (Publisher): KLEIDARITHMOS PUBLICATIONS LTD https://service.eudoxus.gr/search/#a/id:50656337/0								

ALGORITHMIC PROGRAMMING IN MATLAB ENVIRONMENT (in Greek)

Book Code in Eudoxus: 59383654

Version: A/2016

Authors: Ioannis Kalatzis

ISBN: 978-960-08-0692-2

Type: Textbook

Provider (Publisher): ANDREAS SIDERIS-IOANNIS SIDERIS & CO

<https://service.eudoxus.gr/search/#a/id:59383654/0>

**MATLAB: A PRACTICAL INTRODUCTION TO PROGRAMMING AND
PROBLEM SOLVING (in English)**

Edition: 6th edition

Authors: Stormy Attaway

ISBN: 978-960-461-663-3

Type: Textbook

Provider (Publisher): Butterworth-Heinemann, 2022

ISBN: 9780323917506

Language: English

<https://uk.mathworks.com/academia/books/matlab-attaway.html>