

APPLIED MATHEMATICS

COURSE OUTLINE

1. GENERAL			
SCHOOL	School of Engineering		
ACADEMIC UNIT	Department of Electrical and Computer Engineering		
LEVEL OF STUDIES	Undergraduate		
COURSE CODE	ΜΠ100Α	SEMESTER	1st
COURSE TITLE	Applied Mathematics		

INDEPENDENT TEACHING ACTIVITIES if credits are awarded for separate components of the course	WEEKLY TEACHING HOURS	CREDITS
	5	
Total	5	7.5

COURSE TYPE general background, special background, specialised general knowledge, skills development	
PREREQUISITE COURSES	Basic Calculus and Basic Linear Algebra
LANGUAGE OF INSTRUCTION and EXAMINATIONS	English
OFFERED TO ERASMUS STUDENTS	Yes (in English)
COURSE WEBSITE (URL)	https://eclass.hmu.gr/courses/TP370/

2. LEARNING OUTCOMES
Learning outcomes
Ability to use mathematical tools that are necessary for signal analysis and for the study of the electrical circuit
General Competences
Abstract thinking

3. SYLLABUS
Elements of Linear Algebra: Vector Spaces and Linear Maps, Matrices over Real and Complex Numbers (Operations, Determinants, Eigenvalues and Eigenstates, Little Spectral Theorem, Gauss-Jordan Elimination Process. The Discrete Fourier Transform. Laplace and Fourier Transforms: The L1 and L2 Spaces. Definitions of the Laplace and Fourier Transforms as particular cases of Integral Transforms, and properties of them. Probability Theory: Basic Definitions. The concept of a Continuous Distribution. Some typical examples.

4. TEACHING and LEARNING METHODS - EVALUATION	
DELIVERY Face-to-face, Distance learning, etc.	On board
USE OF INFORMATION AND COMMUNICATIONS TECHNOLOGY Use of ICT in teaching, laboratory education, communication with students	Yes

TEACHING METHODS The manner and methods of teaching are described in detail.	Activity	Semester workload
	Four (4) hours per week (3 hours theory and 1 hour Exercises)	
	Course total	
STUDENT PERFORMANCE EVALUATION Description of the evaluation procedure	●A midterm project (on Linear Algebra and Laplace Transform) measuring 30% of the final grade and a final exam measuring 70% of the final grade	
5. ATTACHED BIBLIOGRAPHY		

DEPARTMENT OF ELECTRICAL AND COMPUTER ENGINEERING, HELLENIC MEDITERRANEAN UNIVERSITY

