

MODULE SPECIFICATION

(1) GENERAL

SCHOOL	SCHOOL OF BUSINESS ADMINISTRATION		
DEPARTMENT	ACCOUNTING AND FINANCE		
LEVEL OF STUDY	UNDERGRADUATE		
MODULE CODE	BAF003	SEMESTER	1st
MODULE TITLE	PRINCIPLES OF MATHEMATICS		
INDEPENDENT TEACHING ACTIVITIES		TOTAL TEACHING HOURS	ECTS CREDITS
<i>If credits are awarded on separate module components break-down the hours of teaching activity per component, e.g. lectures, laboratory exercises, etc. If the credits are awarded on the entire module, provide the weekly teaching hours and the total credits</i>			
Lectures, In-class exercises, Case studies		39	6
<i>Add rows as required. The organization of teaching and the teaching methods used are described in detail in (5).</i>			
MODULE TYPE <i>General background, special background, specialization, general knowledge, skills development</i>	General background		
PREREQUISITES:	None		
TEACHING AND ASSESSMENT LANGUAGE:	English		
THE COURSE IS AVAILABLE TO ERASMUS STUDENTS	YES		
COURSE WEBPAGE	Please visit https://openeclass.uom.gr/		

(2) SHORT DESCRIPTION

This module provides an introduction to mathematics relevant for students in accounting and finance. On completion of the module students will have competence in linear equations, simultaneous equations, nonlinear equations, differentiation, optimization, vectors and matrices. Case studies will be used to support learning.

(3) LEARNING OUTCOMES

<p>Learning Outcomes <i>The learning outcomes of the course are described, the specific knowledge, as well as the skills and abilities that students will acquire after the successful completion of the course at the appropriate level. Consult Appendix A</i></p> <ul style="list-style-type: none"> ■ Description of the Level of Learning Outcomes for each study cycle according to the European Higher Education Area Qualifications Framework (QF-EHEA) ■ Descriptors of Levels 6, 7 & 8 of the European Qualifications Framework for Lifelong Learning and Annex B ■ Summary Guide for writing Learning Outcomes 																	
<p>After successful completion of the course, students will be able to:</p> <ol style="list-style-type: none"> 1. Apply concepts of linear algebra in a given case 2. Engage with concepts related to algebraic operations 3. Apply principles of mathematical optimization 4. Use quantitative skills to solve a given economic problem. 																	
<p>General Competencies <i>Taking into consideration the general competences that the degree-holder must acquire (as these appear in the Diploma Supplement and appear below), chose the ones that the course is aiming at.</i></p> <table style="width: 100%; border: none;"> <tr> <td style="width: 50%; border: none;"><i>Search for, analysis and synthesis of data and information, with the use of the necessary technology</i></td> <td style="width: 50%; border: none;"><i>Project planning and management</i></td> </tr> <tr> <td style="border: none;"><i>Adapting to new situations</i></td> <td style="border: none;"><i>Respect for difference and multiculturalism</i></td> </tr> <tr> <td style="border: none;"><i>Decision-making</i></td> <td style="border: none;"><i>Respect for the natural environment</i></td> </tr> <tr> <td style="border: none;"><i>Working independently</i></td> <td style="border: none;"><i>Showing social, professional and ethical responsibility and sensitivity to gender issues</i></td> </tr> <tr> <td style="border: none;"><i>Team work</i></td> <td style="border: none;"><i>Criticism and self-criticism</i></td> </tr> <tr> <td style="border: none;"><i>Working in an international environment</i></td> <td style="border: none;"><i>Production of free, creative and inductive thinking</i></td> </tr> <tr> <td style="border: none;"><i>Working in an interdisciplinary environment</i></td> <td style="border: none;"><i>Others</i></td> </tr> <tr> <td style="border: none;"><i>Production of new research ideas</i></td> <td></td> </tr> </table>		<i>Search for, analysis and synthesis of data and information, with the use of the necessary technology</i>	<i>Project planning and management</i>	<i>Adapting to new situations</i>	<i>Respect for difference and multiculturalism</i>	<i>Decision-making</i>	<i>Respect for the natural environment</i>	<i>Working independently</i>	<i>Showing social, professional and ethical responsibility and sensitivity to gender issues</i>	<i>Team work</i>	<i>Criticism and self-criticism</i>	<i>Working in an international environment</i>	<i>Production of free, creative and inductive thinking</i>	<i>Working in an interdisciplinary environment</i>	<i>Others</i>	<i>Production of new research ideas</i>	
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<ul style="list-style-type: none"> • Demonstrate adequate self-management, learning, communication, and problem-solving skills • Decision-making • Working independently 																	

(4) MODULE OUTLINE

<p>The indicative module outline is as follows:</p> <ul style="list-style-type: none"> • Linear, non-linear and simultaneous equations • Differentiation • Vector operations • Matrix algebra operations (addition, subtraction, scalar multiplication, multiplication, transposition, inversion) • Matrix definiteness and convexity • Multivariate functions • Optimization
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(5) TEACHING AND LEARNING METHODS - ASSESSMENT

<p>DELIVERY MODE <i>Face-to-face, Distance Learning,</i></p>	Face-to-face, Distance learning																									
<p>USE OF INFORMATION AND COMMUNICATIONS TECHNOLOGY <i>Use of ICT in teaching, laboratory education, communication with students</i></p>	<ul style="list-style-type: none"> • Communication and content sharing via Open E-Class • Use of general software (e.g. Microsoft Office suite) 																									
<p>TEACHING <i>The way and methods of teaching are described in detail.</i></p> <p><i>Lectures, Seminars, Laboratory Exercise, Field Exercise, Bibliography Study & Analysis, Tutorial, Practice (Placement), Clinical Practice, Artistic Workshop, Interactive teaching, Educational visits, Project preparation, Writing of work / assignments, Artistic creation, etc.</i></p> <p><i>Indicate the student's study hours for each learning activity as well as the hours of self-study in accordance with ECTS principles.</i></p>	<table border="1"> <thead> <tr> <th>Activity</th> <th>Semester Workload [1 ECTS = 28 hours]</th> </tr> </thead> <tbody> <tr> <td>Lectures</td> <td>26 hours</td> </tr> <tr> <td>Tutorials / Seminars</td> <td>13 hours</td> </tr> <tr> <td>Laboratory / Clinical Practice</td> <td></td> </tr> <tr> <td>Coursework preparation</td> <td></td> </tr> <tr> <td>Bibliographic research</td> <td>9 hours</td> </tr> <tr> <td>Field trips / field work</td> <td></td> </tr> <tr> <td>Practice / placement</td> <td></td> </tr> <tr> <td>Self-study</td> <td>120 hours</td> </tr> <tr> <td></td> <td></td> </tr> <tr> <td></td> <td></td> </tr> <tr> <td>Total</td> <td>168 hours</td> </tr> </tbody> </table>	Activity	Semester Workload [1 ECTS = 28 hours]	Lectures	26 hours	Tutorials / Seminars	13 hours	Laboratory / Clinical Practice		Coursework preparation		Bibliographic research	9 hours	Field trips / field work		Practice / placement		Self-study	120 hours					Total	168 hours	
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<p>ASSESSMENT <i>Description of the assessment process</i></p> <p><i>Assessment Language, Assessment Methods, Formative or Summative, Multiple Choice Test, Short Answer Questions, Essay Development Questions, Problem Solving, Written Assignment, Report/Report, Oral Examination, Public Presentation, Laboratory Paper, Clinical Patient Examination, Artistic Interpretation, Other/Other</i></p> <p><i>Explicitly defined assessment criteria and if and where they are accessible by students are mentioned.</i></p>	<p>The module assessment language is in English and students are expected to exhibit the required level of proficiency.</p> <p>The assessment of the course consists of:</p> <ul style="list-style-type: none"> • Mid-term exam (30%, problem solving) • Final examination (70%, problem solving) <p>The evaluation criteria across modes of assessment include the following:</p> <ul style="list-style-type: none"> • Demonstration of key knowledge related to the content of course • Demonstration of an ability to apply the knowledge in a given problem or case study • Critical ability evident in applying appropriate methods/knowledge in a given case and/or developing theory-based and literature based arguments. • Structure and presentation • Use of English language <p>More detailed assessment criteria will be provided to you in the module handbook document or posted on the course webpage, if deemed necessary.</p>																									

(6) SUGGESTED BIBLIOGRAPHY

Chiang, A.C., & Wainwright, K. (2005). *Fundamental Methods of Mathematical Economics*. 4th edition, McGraw-Hill.

Haeussler, E.F., Paul, R.S., & Wood, R.J. (2018). *Introductory Mathematical Analysis for Business, Economics, and the Life and Social Sciences*. 14th edition, Pearson.

Jacques, I. (2019). *Mathematics for Economics and Business*, 9th edition, Pearson.

Other library sources, including journal articles accessible through the Library, as assigned by the instructor.