

COURSE OUTLINE

(1) GENERAL

SCHOOL	School of Education		
ACADEMIC UNIT	Department of Primary Education		
LEVEL OF STUDIES	Bachelor		
COURSE CODE	ΔEE803	SEMESTER	8
COURSE TITLE	Special topics in Mathematics		
INDEPENDENT TEACHING ACTIVITIES <i>if credits are awarded for separate components of the course, e.g. lectures, laboratory exercises, etc. If the credits are awarded for the whole of the course, give the weekly teaching hours and the total credits</i>	WEEKLY TEACHING HOURS	CREDITS	
	3	6	
<i>Add rows if necessary. The organisation of teaching and the teaching methods used are described in detail at (d).</i>			
COURSE TYPE <i>general background, special background, specialised general knowledge, skills development</i>	Special background		
PREREQUISITE COURSES:	<ul style="list-style-type: none"> • Basic Mathematics • Didactics of Mathematics – Teaching practice 		
LANGUAGE OF INSTRUCTION and EXAMINATIONS:	Greek		
IS THE COURSE OFFERED TO ERASMUS STUDENTS	Yes		
COURSE WEBSITE (URL)	http://ecourse.uoi.gr/course/view.php?id=549		

(2) LEARNING OUTCOMES

<p>Learning outcomes</p> <p><i>The course learning outcomes, specific knowledge, skills and competences of an appropriate level, which the students will acquire with the successful completion of the course, are described.</i></p> <p><i>Consult Appendix A</i></p> <ul style="list-style-type: none"> • <i>Description of the level of learning outcomes for each qualifications cycle, according to the Qualifications Framework of the European Higher Education Area</i> • <i>Descriptors for Levels 6, 7 & 8 of the European Qualifications Framework for Lifelong Learning and Appendix B</i> • <i>Guidelines for writing Learning Outcomes</i> 								
<p>By the end of the course the students are expected to be able to:</p> <ul style="list-style-type: none"> • identify and record the mathematical concepts used in situations of everyday life, but also of other sciences. • Evaluate the utility of mathematics in various aspects of everyday life. • Construct a set of problems or modules based on uses of mathematics in everyday life or in other sciences.. 								
<p>General Competences</p> <p><i>Taking into consideration the general competences that the degree-holder must acquire (as these appear in the Diploma Supplement and appear below), at which of the following does the course aim?</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> </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>
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<i>Working independently</i>	<i>Showing social, professional and ethical responsibility and sensitivity to gender issues</i>							

<i>Team work</i> <i>Working in an international environment</i> <i>Working in an interdisciplinary environment</i> <i>Production of new research ideas</i>	<i>Criticism and self-criticism</i> <i>Production of free, creative and inductive thinking</i> <i>Others...</i>
<ul style="list-style-type: none"> • Search for, analysis and synthesis of data and information, with the use of the necessary technology • Adapting to new situations • Decision-making • Working independently • Team work • Production of free, creative and inductive thinking 	

(3) SYLLABUS

<ul style="list-style-type: none"> • Mathematics as a science or as a tool • Creativity in mathematics and mathematics education • Measurement and analysis methods of creativity • Problem solving in mathematics and mathematics education • Realistic Mathematics • Modelling and its applications • Mathematics in the workplace • Misconceptions related to mathematics • Language and Mathematics – Introduction and theoretical approaches, applications in teaching practice, applications in educational research

(4) TEACHING and LEARNING METHODS - EVALUATION

DELIVERY	Face-to-face	
<i>Face-to-face, Distance learning, etc.</i>		
USE OF INFORMATION AND COMMUNICATIONS TECHNOLOGY	Use of the ecourse learning platform, electronic communication and feedback to the students in relation to their assignments	
<i>Use of ICT in teaching, laboratory education, communication with students</i>		
TEACHING METHODS	<i>Activity</i>	<i>Semester workload</i>
<i>The manner and methods of teaching are described in detail. Lectures, seminars, laboratory practice, fieldwork, study and analysis of bibliography, tutorials, placements, clinical practice, art workshop, interactive teaching, educational</i>	Lectures	39
	Literature study	68
	Assignments	43

<i>visits, project, essay writing, artistic creativity, etc.</i> <i>The student's study hours for each learning activity are given as well as the hours of non-directed study according to the principles of the ECTS</i>		
	Course total	150
<p align="center">STUDENT PERFORMANCE EVALUATION</p> <p><i>Description of the evaluation procedure</i></p> <p><i>Language of evaluation, methods of evaluation, summative or conclusive, multiple choice questionnaires, short-answer questions, open-ended questions, problem solving, written work, essay/report, oral examination, public presentation, laboratory work, clinical examination of patient, art interpretation, other</i></p> <p><i>Specifically-defined evaluation criteria are given, and if and where they are accessible to students.</i></p>	<p>Language of evaluation: Greek Written assignment at the end of semester. Written assignments</p>	

(5) ATTACHED BIBLIOGRAPHY

<p>- Suggested bibliography in Greek:</p> <ul style="list-style-type: none"> • Μαθηματικά της φύσης και της ζωής, Λεμονίδης Χαράλαμπος • Διδακτική βασικών μαθηματικών εννοιών, Χασάπης Δημήτρης • Το δωρεάν δεν αξίζει πλέον τίποτα: Τα μαθηματικά χρονικά της Liberation - Ντενί Γκετζ, Κέδρος, 2007 • Μαθηματικά επίκαιρα: Συνειρμοί διαβάζοντας την εφημερίδα - Τεύκρος Μιχαηλίδης, Πόλις, 2007 • 1089: Ένα μαγικό ταξίδι στον κόσμο των μαθηματικών - David Acheson, ΟΚΤΩ, 2007 • Η μαγεία των μαθηματικών: Αποκαλύπτοντας τα μυστικά των αριθμών - Calvin Clawson, Κέδρος, 2008 • Τα μαθηματικά της ζωής: Ξεκλειδώνοντας τα μυστικά της ύπαρξης - Ian Stewart, Τραυλός, 2012 <p>- Related academic journals:</p>
