COURSE OUTLINE

(1) GENERAL

SCHOOL	School of Education		
ACADEMIC UNIT	Department of Primary Education		
LEVEL OF STUDIES	Bachelor		
COURSE CODE	**ΔΥ047α**	**SEMESTER**	**1**
COURSE TITLE	Basic Mathematics		

INDEPENDENT TEACHING ACTIVITIES *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*	**WEEKLY TEACHING HOURS**	**CREDITS**
	3	4
Add rows if necessary. The organisation of teaching and the teaching methods used are described in detail at (d).		

COURSE TYPE *general background, special background, specialised general knowledge, skills development*	General background
PREREQUISITE COURSES:	
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=213

(2) LEARNING OUTCOMES

Learning outcomes

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.

Consult Appendix A

- *Description of the level of learning outcomes for each qualifications cycle, according to the Qualifications Framework of the European Higher Education Area*
- *Descriptors for Levels 6, 7 & 8 of the European Qualifications Framework for Lifelong Learning and Appendix B*
- *Guidelines for writing Learning Outcomes*

By the end of the course the students are expected to be able to:

- Identify and construct simple logical propositions and arguments
- Understand the concept of set and its relationship with logical and numerical operations
- Design the graphs of simple functions and identify their basic properties
- Identify the structural similarities between the decimal and other numerical systems
- Use theorems and results of number theory in order to comprehend various mathematical relationships

General Competences

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?

Search for, analysis and synthesis of data and information, with the use of the necessary technology
Adapting to new situations
Project planning and management
Respect for difference and multiculturalism
Respect for the natural environment

Decision-making *Working independently* *Team work* *Working in an international environment* *Working in an interdisciplinary environment* *Production of new research ideas*	*Showing social, professional and ethical responsibility and sensitivity to gender issues* *Criticism and self-criticism* *Production of free, creative and inductive thinking* *……* *Others…* *…….*

- Search for, analysis and synthesis of data and information, with the use of the necessary technology
- Decision-making
- Working independently
- Team work
- Production of free, creative and inductive thinking

(3) SYLLABUS

Introduction to Mathematical Logic – truth tables
Mathematical Logic – complex propositions and laws
Set theory: union, intersection, complement
Binary relations, functions, graphs
Numerical systems
Number theory: divisibility, prime and composite numbers
Prime factorisation, Greatest Common Divisor (GCD), Least Common Multiple (LCM)
Problems based on GCD and LCM

(4) TEACHING and LEARNING METHODS - EVALUATION

DELIVERY *Face-to-face, Distance learning, etc.*	Face-to-face
USE OF INFORMATION AND COMMUNICATIONS TECHNOLOGY *Use of ICT in teaching, laboratory education, communication with students*	Use of the ecourse learning platform
TEACHING METHODS *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 visits, project, essay writing, artistic creativity,*	

Activity	***Semester workload***
Lectures	39
Literature study	58
Examination	3

etc. *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*		
	Course total	*100*
STUDENT PERFORMANCE EVALUATION *Description of the evaluation procedure* *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* *Specifically-defined evaluation criteria are given, and if and where they are accessible to students.*	Language of evaluation: Greek Written examination at the end of semester. Problem solving.	

(5) ATTACHED BIBLIOGRAPHY

- Suggested bibliography in Greek:

- Ανάμεσα στο μέρος και στο όλο: Αναστοχαστική οικοδόμηση μαθηματικών εννοιών – Καλαβάσης, Φ., Μούτσιος-Ρέντζος, Α. Εκδόσεις Gutenberg, Αθήνα: 2015.
- Βασικές μαθηματικές έννοιες για τον εκπαιδευτικό της πρωτοβάθμιας εκπαίδευσης - Τριανταφυλλίδης Τ., Σδρόλιας Κ. Εκδόσεις Τυπωθήτω, Αθήνα: 2005.
- Στοιχεία αριθμητικής και θεωρίας αριθμών για το δάσκαλο - Λεμονίδης Χ. Εκδόσεις Πατάκη, Αθήνα: 2000.
- Εισαγωγή στα Μαθηματικά – Τόμος Α΄ Άλγεβρα – Εξαρχάκος Θ. Αθήνα, 1991.

- Related academic journals: