COURSE OUTLINE

1. GENERAL

SCHOOL	NATURAL SCIENCES		
DEPARTMENT	MATHEMATICS		
LEVEL OF COURSE	UNDERGRADUATE		
COURSE CODE	MAT_DI463	**SEMESTER OF STUDIES**	7th
COURSE TITLE	HISTORY OF 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*	**TEACHING HOURS PER WEEK**	**ECTS CREDITS**
Lectures and Tutorials	4	6
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*	Elective course
PREREQUISITE COURSES:	
TEACHING AND ASSESSMENT LANGUAGE:	Greek
THE COURSE IS OFFERED TO ERASMUS STUDENTS	No
COURSE WEBPAGE (URL)	

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*

The course is an introduction to the History of Mathematics with an emphasis on Ancient Greek Mathematics and references to later developments. The aim of the course is, after successfully completing the course, that the students have a clear picture:

- For the beginnings and the long and tedious process of the history of mathematics science.
- For the necessity that historically led to the emergence of the fundamental concepts of definition, theorem and proof, as well as the logical necessity of axiomatization.
- For the content and language of Euclid Elements and the work of Archimedes, in order to potentially constitute a rich material for didactic use during didactic practice.

At the same time, the opening of issues related to the relationship between mathematics and the other sciences emerging at the same time highlights interdisciplinary, while the relationship of mathematics with the philosophical currents of the time aspires to open the horizons for philosophical reflections.

General Abilities

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	*Project planning and management*
Adapting to new situations	*Respect for difference and multiculturalism*
Decision-making	*Respect for the natural environment*
Working independently	*Showing social, professional and ethical responsibility and sensitivity to gender issues*
Team work	*Criticism and self-criticism*
Working in an international environment	*Production of free, creative and inductive thinking*
Working in an interdisciplinary environment	*Others…*
Production of new research ideas	

- Autonomous work.
- Teamwork.
- Work in an interdisciplinary environment.
- Exercise of criticism and self-criticism.
- Promoting free, creative and inductive thinking.

3. COURSE CONTENT

The pre-scientific empirical mathematics of ancient civilizations. The beginnings of Greek mathematics, the formation of mathematics in axiomatic - productive science. The three famous problems of Greek antiquity. The contribution of Ancient Greek philosophies to the formation of Mathematical Thought.

Mathematics as an axiomatic deductive science. Euclid's axiomatic system. Archimedes and the ancient method of integration. Mathematics and other scientific fields in Greek antiquity (Astronomy – Optics – Acoustics – Statics – Hydrostatics- Kinematic). Ancient formal Logic (Aristotle, Stoics). Mathematics after Archimedes: Apollonius of Perga, Pappus of Alexandria, Heron of Alexandria, Diophantus of Alexandria.

4. TEACHING AND LEARNING METHODS - ASSESSMENT

TEACHING METHOD *Face-to-face, Distance learning, etc*	Lectures (face to face)
USE OF INFORMATION AND COMMUNICATION TECHNOLOGIES *Use of ICT in teaching, laboratory education, communication with students*	
TEACHING ORGANIZATION *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, 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*	

Activity	***Semester workload***
Lectures	26
Tutorials	26
Solving suggested exercises	50
Hours of personal study by the student	45
Final examination	3
Total number of hours for the Course (25 hours of work-load per ECTS credit)	***150***

STUDENT ASSESSEMNT *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*	**Assessment Language:** Greek **Assessment Language for Erasmus students:** **Assessment methods:** ✓ Written essay. ✓ Final examination: Multiple Choice Test, True/False Questions, Matching Questions, Quick Response Questions. Minimum passing grade: 5 Maximum passing grade: 10

5. RECOMMENDED LITERATURE

(*in Greek*)

- Basmakova Izabella Grigor'evna. *Ιστορία των Αρχαίων Ελληνικών Μαθηματικών*. Εκδόσεις Παπασωτηρίου, 2012.
- C. B. Boyer, U. C. Merzbach, *Η Ιστορία των Μαθηματικών*. Εκδόσεις Γ.Α. Πνευματικού, 1997.
- Bunt Lukas N.H., Jones Phillips S. and Bedient Jack D. *Οι Ιστορικές Ρίζες των Στοιχειωδών Μαθηματικών*. Εκδόσεις Γ.Α. Πνευματικού, 1981.
- Παπαδοπετράκης Ευτύχης. *Σημειώσεις Ιστορίας των Μαθηματικών*. Σημειώσεις μαθήματος, 2012.