COURSE OUTLINE

GENERAL

SCHOOL	School of Science		
ACADEMIC UNIT	Department of Mathematics		
LEVEL OF STUDIES	Undergraduate		
COURSE CODE	**MAE714**	**SEMESTER**	**Winter (7th)**
COURSE TITLE	Set Theory		

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	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*	*General background*
PREREQUISITE COURSES:	
LANGUAGE OF INSTRUCTION and EXAMINATIONS:	Greek
IS THE COURSE OFFERED TO ERASMUS STUDENTS	
COURSE WEBSITE (URL)	Through the platform "E-course" of the University of Ioannina

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*

Students will acquire knowledge on the construction of the sets of numbers (Natural, rational and Real numbers), also of an axiomatic set theory (Zermelo-Frankel theory or the Von Neumann – Bernays – Godel theory).

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

Working independently
Team work
Production of free, creative and inductive thinking

SYLLABUS

the construction of the sets of numbers (Natural, rational and Real numbers),.
Axioms for the Zermelo-Frankel theory, or the Von Neumann – Bernays – Godel theory.

TEACHING and LEARNING METHODS - EVALUATION

DELIVERY *Face-to-face, Distance learning, etc.*	Lectures\ Presentations in class
USE OF INFORMATION AND COMMUNICATIONS TECHNOLOGY *Use of ICT in teaching, laboratory education, communication with students*	
TEACHING METHODS *The manner and methods of teaching are described in detail. Lectures, seminars, laboratory practice, fieldwork, study and*	

Activity	***Semester workload***
Lectures	45
Assignments/Essays	15
Individual study	90

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*	Course total	***150***
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.*	Students choose evaluation by one or both of the following: 1. Class presentation – Essays – Assingments 2. Final Written Examination In case that a student participates to both, the final grade is the maximum of the two grades. Evaluation criteria and all steps of the evaluation procedure are accessible to students through the platform “E-course” of the University of Ioannina.	

ATTACHED BIBLIOGRAPHY

- Suggested bibliography:
Derek Goldrei, Classicl Set Theory
Γ. Μοσχοβάκη, Θεωρία Συνόλων
Κ. Κάλφα, Αξιωματική Θεωρία Συνόλων
R. Vaught, Set Theory, An Introduction
I. Adamson, A Set Theory Workbook