COURSE OUTLINE

(1) GENERAL

SCHOOL	SCHOOL OF SCIENCES
ACADEMIC UNIT	DEPARTMENT OF MATHEMATICS
LEVEL OF STUDIES	POSTGRADUATE **Studies in Mathematics**

COURSE CODE	A9	**SEMESTER**	B

COURSE TITLE	ALGEBRAIC TOPOLOGY

INDEPENDENT TEACHING ACTIVITIES	**WEEKLY TEACHING HOURS**	**CREDITS**
	3	10

COURSE TYPE	SPECIALISED GENERAL KNOWLEDGE
PREREQUISITE COURSES:	NO
LANGUAGE OF INSTRUCTION and EXAMINATIONS:	GREEK
IS THE COURSE OFFERED TO ERASMUS STUDENTS	YES
COURSE WEBSITE (URL)	http://www.math.aegean.gr/index.php/en/academics/undergraduate-programs

(2) LEARNING OUTCOMES

Learning outcomes
Computation of homology and cohomology for simplicial complexes. Equivalence of singular and simplicial homology for simplicial complexes. Computation of homology using the Mayer-Vietoris Theorem. Computation of homology of surfaces and their topological classification.

General Competences
Working independently. Understanding of special subjects. Creation of essays and presentation of new subjects.

(3) SYLLABUS

Simplicial complexes, homotopy, singular homology, chain complexes, simplicial homology, computations using Mayer-Vietoris, applications.

(4) TEACHING and LEARNING METHODS - EVALUATION

DELIVERY	Face-to-face		
USE OF INFORMATION AND COMMUNICATIONS TECHNOLOGY	Communication with students via e-mail		
TEACHING METHODS	*Activity*	*Semester workload*	
	Lectures	39	
	Independent study	148.5	
	Assignments	62.5	
	Course total (25 per ECTS)	*250*	
STUDENT PERFORMANCE EVALUATION	Student evaluation is done in Greek through a written examination which includes short-answer equations and problem solving.		

	For students with disabilities, evaluation takes place via oral exams.

(5) ATTACHED BIBLIOGRAPHY

1. Vick, James W. Homology Theory, an Introduction to Algebraic Topology
2. Hatcher, Allen. Algebraic Topology