

## COURSE OUTLINE

### (1) GENERAL

<b>SCHOOL</b>	SCHOOL OF SCIENCES		
<b>ACADEMIC UNIT</b>	DEPARTMENT OF MATHEMATICS		
<b>LEVEL OF STUDIES</b>	UNDERGRADUATE PROGRAM		
<b>COURSE CODE</b>		<b>SEMESTER</b>	<b>D</b>
<b>COURSE TITLE</b>	AXIOMATIC GEOMETRY		
<b>INSTRUCTOR</b>			
<b>INDEPENDENT TEACHING ACTIVITIES</b>	<b>WEEKLY TEACHING HOURS</b>	<b>CREDITS</b>	
	4	6	
<b>COURSE TYPE</b>	Special background		
<b>PREREQUISITE COURSES:</b>	NO		
<b>LANGUAGE OF INSTRUCTION and EXAMINATIONS:</b>	GREEK		
<b>IS THE COURSE OFFERED TO ERASMUS STUDENTS</b>	YES		
<b>COURSE WEBSITE (URL)</b>	<a href="http://www.math.aegean.gr/index.php/en/academics/undergraduate-programs">http://www.math.aegean.gr/index.php/en/academics/undergraduate-programs</a>		

### (2) LEARNING OUTCOMES

<b>Learning outcomes</b>
Axiomatic approach to Euclidean Geometry, basic theorems, similarity, Geometry without the parallel postulate, introduction to non-Euclidean geometries, Hyperbolic Geometry.
<b>General Competences</b>
Working independently. Team working. Working in an interdisciplinary environment.

### (3) SYLLABUS

<p>Euclid's Axioms: Triangles, Parallel Lines, Area, Pythagorean Theorem, Distance and Geometry.  Hilbert's Axioms – Comparison. Triangle Theorems. Circle Theorems.  Non-Euclidean Geometries  Neutral Geometry: Alternate Parallel Axioms  Hyperbolic Geometry: Models of Hyperbolic Geometry, Consistency of the Geometries, Asymptotic Parallels, Bigons, Divergent Parallels, Triangles in the Hyperbolic Space.</p>		
<table border="1"> <tr> <td><b>TEACHING MATERIAL DISTRIBUTION</b></td> <td>The teaching material of the course is uniformly distributed during the semester.</td> </tr> </table>	<b>TEACHING MATERIAL DISTRIBUTION</b>	The teaching material of the course is uniformly distributed during the semester.
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### (4) TEACHING and LEARNING METHODS - EVALUATION

<b>DELIVERY</b>	Face-to-face lectures	
<b>USE OF INFORMATION AND COMMUNICATIONS TECHNOLOGY</b>	Communication with students via e-mail	
<b>TEACHING METHODS</b>	<b>Activity</b>	<b>Semester workload</b>
	Lectures	52
	Independent study	98
	Course total (25 per ECTS)	<b>150</b>

<b>COURSE COMMITMENTS</b>	Attending course is not obligatory.
<b>STUDENT PERFORMANCE EVALUATION</b>	Student's evaluation is done in Greek through a written examination which includes short-answers questions and problem solving. For students with disabilities, evaluation takes place via oral exams.

**(5) ATTACHED BIBLIOGRAPHY**

1. ΓΕΩΜΕΤΡΙΑ ΚΑΙ ΣΥΜΜΕΤΡΙΑ, Ch. Kinsey, T. Moore, Ε. Πρασίδης, Μετάφραση: Ι. Πιπερίδης, Ε. Πρασίδης, Επιστημονική επιμέλεια: Ε. Πρασίδης, Πανεπιστήμιο Αιγαίου.