

## COURSE OUTLINE

### (1) GENERAL

<b>SCHOOL</b>	SCHOOL OF SCIENCES		
<b>ACADEMIC UNIT</b>	DEPARTMENT OF STATISTICS & ACTUARIAL – FINANCIAL MATHEMATICS		
<b>LEVEL OF STUDIES</b>	POSTGRADUATE PROGRAM Statistics & Actuarial – Financial Mathematics		
<b>COURSE CODE</b>	<b>333-1105</b>	<b>SEMESTER</b>	<b>B</b>
<b>COURSE TITLE</b>	GENERALIZED LINEAR MODELS		
<b>INDEPENDENT TEACHING ACTIVITIES</b>	<b>WEEKLY TEACHING HOURS</b>	<b>CREDITS</b>	
	2	6	
<b>COURSE TYPE</b>	SPECIALIZED GENERAL KNOWLEDGE		
<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.samos.aegean.gr/samos_actuar/modules_eng.html">http://www.samos.aegean.gr/samos_actuar/modules_eng.html</a>		

### (2) LEARNING OUTCOMES

<b>Learning outcomes</b>
After the successful completion of the course the students will be able to: <ul style="list-style-type: none"><li>• Conduct complex data analysis</li><li>• Understand and contribute to the development of new statistical methodology</li><li>• Have an advantage when it comes to participating in a doctoral program</li></ul>
<b>General Competences</b>
<ul style="list-style-type: none"><li>• Decision-making</li><li>• Working independently</li><li>• Team work</li><li>• Working in an interdisciplinary environment</li><li>• Adapting to new situations</li><li>• Production of ne research ideas</li><li>• Working in an international environment</li><li>• Project Planning and management</li></ul>

### (3) SYLLABUS

Multivariate normal distribution, quadratic forms, spectral value decomposition. Inference for generalized models, Fisher scoring, binary data, logistic regression, link function probit, log-log, poisson data. Mixed Linear Models, Non-linear Models, Generalized Mixed Models. Computer applications.

### (4) TEACHING and LEARNING METHODS - EVALUATION

<b>DELIVERY</b>	Synchronous and Asynchronous E-Learning and Face-to-face learning.
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<b>USE OF INFORMATION AND COMMUNICATIONS TECHNOLOGY</b>	<ul style="list-style-type: none"> <li>• Communication with students via eclass educational platform and via e-mail.</li> <li>• Educational material stored and presented into eclass educational platform.</li> </ul>	
<b>TEACHING METHODS</b>	<b>Activity</b>	<b>Semester workload</b>
	Lectures	24
	Independent study	126
	Course total (25 per ECTS)	<b>150</b>
<b>STUDENT PERFORMANCE EVALUATION</b>	<p>Student evaluation is done in Greek through</p> <ol style="list-style-type: none"> <li>1) a written examination which includes short-answer questions and problem solving.</li> <li>2) Project (bonus)</li> </ol> <p>For students with disabilities, evaluation takes place via oral exams.</p>	

### (5) ATTACHED BIBLIOGRAPHY

- Suggested bibliography:

1. 'Στατιστικά μοντέλα παλινδρόμησης', Καρώνη Χ., Οικονόμου Π., ISBN: 978-960-9400-27-5
2. 'Οικονομετρία', Τζαβαλής Η.
3. 'Generalized, Linear, and Mixed Models', McCulloch and Searle.