

## COURSE OUTLINE

### (1) GENERAL

<b>SCHOOL</b>	SCHOOL OF INFORMATION SCIENCES & TECHNOLOGY		
<b>ACADEMIC UNIT</b>	DEPARTMENT OF STATISTICS		
<b>LEVEL OF STUDIES</b>	1st Cycle (UNDERGRADUATE)		
<b>COURSE CODE</b>	<b>6134</b>	<b>SEMESTER</b>	<b>4rth</b>
<b>COURSE TITLE</b>	<b>Demographic Statistics</b>		
<b>INDEPENDENT TEACHING ACTIVITIES</b>		<b>WEEKLY TEACHING HOURS</b>	<b>CREDITS</b>
Lectures		4	7
Workshops			
Labs		2	
<b>COURSE TYPE</b>		Elective - Background	
<b>PREREQUISITE COURSES:</b>			
<b>LANGUAGE OF INSTRUCTION and EXAMINATIONS:</b>		GREEK	
<b>IS THE COURSE OFFERED TO ERASMUS STUDENTS</b>		NO	
<b>COURSE WEBSITE (URL)</b>		<a href="https://www.dept.aueb.gr/en/stat-courses">https://www.dept.aueb.gr/en/stat-courses</a>	

### (2) LEARNING OUTCOMES

<b>Learning outcomes</b>
Knowledge of statistical techniques for analyzing demographic data and their applications.
<b>General Competences</b>
<ul style="list-style-type: none"> <li>• Search, analysis and synthesis of data and information, using the necessary technologies</li> <li>• Adaptation to new situations</li> <li>• Autonomous work</li> <li>• Work in an interdisciplinary environment</li> <li>• Project planning and management</li> <li>• Respect for diversity and multiculturalism</li> <li>• Respect for the natural environment</li> <li>• Demonstration of social, professional and ethical responsibility and sensitivity to gender issues</li> <li>• Exercise of criticism and self-criticism</li> <li>• Promotion of free, creative and inductive thinking</li> </ul>

### (3) SYLLABUS

Basic concepts: Demographic events, types of demographic data, sources of demographic data, demographic data publications, demographic measures, population evolution – basic equation. Mortality, mortality per cause of death, mortality measures, mortality probability, mortality comparisons – standardization methods, direct and indirect standardization. Life tables: building a life table, the life table as a stationary population, mortality rate, stochastic approach to life table functions. Parametric and non-parametric mortality models, Mortality age, Multiple decrement tables, Fertility measures, reproduction factors, Parametric and non-parametric fertility models. Estimations, projections and population projections: projection techniques, probabilistic population projection.

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

<b>DELIVERY</b> <i>Face-to-face, Distance learning, etc.</i>	Face-to-face	
<b>USE OF INFORMATION AND COMMUNICATIONS TECHNOLOGY</b>	NO	
<b>TEACHING METHODS</b>	<b>Activity</b>	<b>Semester workload</b>
	Lectures	75
	Lab Exercise	20
	Studying and Analyzing Bibliography	10
	Tutorial	20
	Project	20
	Assignment	20
	Self Study	10
	Course total	<b>175</b>
<b>STUDENT PERFORMANCE EVALUATION</b>	Written examination at the end of the semester: 70% Project: 30%  Information is available at eclass	

#### (5) ATTACHED BIBLIOGRAPHY

- Παπαδάκης Μ., Τσίμπος Κ., Δημογραφική Ανάλυση-Αρχές, μέθοδοι, υποδείγματα, Εκδόσεις Σταμούλη Α.Ε., 2004.
- Keyfitz, Nathan, Caswell, Hal (2010). Applied Mathematical Demography (Statistics for Biology and Health). Springer.
- Preston, S., Heuveline, P., Guillot, M. (2000). "Demography: Measuring and Modeling Population processes" Blackwell publishing.
- Colin Newell, (1990). Methods and Models in Demography. Guilford Press.
- Shiva S. Halli, K. Vaninadha Rao (1992). Advanced Techniques of Population Analysis, Plenum Pub Corp.
- Κωστάκη, Α. "Δημομετρία". Σημειώσεις διδασκαλίας.