Demographic Techniques (61223)

Instructor: A. KOSTAKI

Elective Course, 4th semester, 5 ECTS units
Course level: Graduate (MSc)
Language: Greek

Course Description

Demographic events and measures. Age-specific rates, exposed-to-risk population and probabilities of vital events, Standardization techniques, Data sources. Modelling mortality: The life table and single decrement processes. Stochastic investigation of life table functions. Statistical hypothesis testing for choosing model life tables to represent a mortality pattern. Modelling mortality: Parametric models, Nonparametric techniques. Mortality forecasting. Multiple decrement processes. Fertility measures. Modelling fertility: Parametric models, nonparametric techniques. Forecasting fertility. Population projections and forecasting of population dynamics.

Prerequisites

Students should have good knowledge of Descriptive Statistics

Target Learning Outcomes

The students after attending successfully the course will be able, using the appropriate methodology, to analyse demographic data, official statistics and provide population projections.

Recommended Bibliography

- Statistical Demography and Forecasting (Springer Series in Statistics) by Juha Alho and Bruce Spencer ISBN-13: 978-0387235301
- Applied Mathematical Demography (Statistics for Biology and Health) Softcover reprint of hardcover 3rd ed. by Nathan Keyfitz , Hal Caswell ISBN-13: 978-144191977

Teaching and Learning Activities

One three-hour lecture per week and individual project

Assessment and Grading Methods

Written examination (60%) and individual project (40%).