Advanced Methods in Survey Sampling (61203)

Instructors: P.MERKOURIS

Core Course, 2nd semester, 3.5 ECTS units
Course level: Graduate (MSc)
Language: English

Course Description

Basic theory of survey sampling in finite populations. Methodology of estimation of parameters of populations and subpopulations. Use of auxiliary information in parameter estimation. Generalized regression and calibration. Variance estimation in complex surveys. Methods of adjustment for non-response and methods of imputation.

Prerequisites

Basic knowledge of Statistics.

Target Learning Outcomes

Upon completion of the course, the students will be able to identify the type of the statistical problem in real survey sampling situations, as well as to choose and apply in any case the appropriate methodology. Furthermore, they will be able to evaluate the quality of the results of the chosen methodology.

Recommended Bibliography

- Lohr, S.L (2009). Sampling: Design and Analysis. Second Edition, Brooks/Cole, Cengage Learning.
- Sarndal, C-E, Swensson, B., Wretman, J. (1992). Model Assisted Survey Sampling, Springer.

Teaching and Learning Activities

Six weekly three-hour lectures and homework.

Assessment and Grading Methods

Grade of final exam (100%).