

Survey Methods: traditional and new techniques in official statistics

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ECTS 6

Description The course is structured into two modules. The first module (3 ECTS) is on traditional data collection methods: 1) Sampling theory: topics include the main sampling designs, as random sampling with clustering and stratification. 2) Estimation: major issues in weighting and use of auxiliary variables in the estimation: ratio and regression estimators) and Survey error profile (coverage, nonresponse and measurement error). The students who successfully complete the first module will be aware of the basic terms and concepts of the field of survey sampling, will be able to estimate target parameters under the basic sampling designs; they will be able to distinguish the sampling and non sampling components of the error profile.

The second module (3ECTS) aims to provide a general introduction to the usage of administrative data sets and also large datasets as sources of statistical data (Big Data), with a focus on multiframe surveys. It will tackle the most important topics in big data ranging from data collection, analysis and visualization, as well as applications of statistical models to Big data.

At the end of the module student should be able to be confident with the theme of Big Data in Official and should know the main problems/challenges linked to their usage as source of statistical data.