**Course descriptor**

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| Title of the course | Data Analysis in Sociology (offered in English) | | |
| Title of the Academic Programme | Sociology | | |
| Type of the course | core | | |
| Prerequisites | Students are expected to have taken some sort of basic/introductory statistics course for social science research or to have at least some experiences and knowledge about basic social statistics, such as probability, hypothesis testing, and linear regression. | | |
| ECTS workload | 2 | | |
| Total indicative study hours | Directed Study | Self-directed study | Total |
| 32 | 44 | 76 |
| Course Overview | The course focuses on multivariate analysis of categorical data. It includes special types of prediction models (logistic regression), techniques of dimension reduction (correspondence analysis, multidimensional scaling) and classification (cluster analysis). | | |
| Intended Learning Outcomes (ILO) | As a result of studying the course, the students will be able to predict binary outcomes, identify dimensions of multivariate categorical data, and cluster various types of data; perform the assumption checks and analysis for these methods in RStudio; interpret and visualize the results of these methods; and produce interactive reports for these methods in R Markdown. | | |
| Indicative Course Content | 1. Binary logistic regression. 2. Multidimensional scaling and correspondence analysis. 3. Cluster analysis | | |
| Teaching and Learning Methods | This course involves lectures, seminars, and computer labs. Students prepare individual home projects and work in groups at the seminars. | | |
| Indicative Assessment Methods and Strategy | Students carry out three home projects on data sets that make up the major part of the assessment. There are interim paper-and-pencil tests on the interpretation of results. The exam consists of solving problems similar to home projects. | | |
| Readings / Indicative Learning Resources | Mandatory  Joseph F. Hair et al. (2014). Multivariate Data Analysis, Pearson New International Edition, Pearson Education Limited.  Optional  Alan Agresti (2013). Categorical Data Analysis, 2nd edition, John Wiley & Sons, Inc. | | |
| Course Instructor | Anna Shirokanova | | |