

EG14. WEB DATA ANALYSIS AND SOFTWARE FOR STATISTICS III: SOCIAL NETWORK ANALYSIS

Course title and code: EG14. Web data analysis and software for statistics III: social network analysis

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Number of ECTS: 5

■ Objectives

The course provides an introduction to social network analysis, starting from basic SNA terminology and concepts, gathering data, analysis and visualization. Besides the basic introduction, the aim of the course is to provide an overview of different types of networks, different approaches to analyse structure of the network as a whole, and properties of vertices and edges as building blocks of social networks. All the concepts are presented through the practical training using Pajek and other programs and packages for social network analysis.

■ Competences (basics, general, transversals, specifics)

Basic competences: practical and methodological knowledge to analyse social networks.

General competences: knowledge on software tools.

Transversals: knowledge on the methodology of SNA that can be applied in any discipline.

Specifics: ability to obtain and analyse data on social social networks.

■ Programme (brief description)

After the introduction of basic terminology (vertex, edge, graph, net, network...) the course reviews the development of SNA as a scientific field, which is essential to understand what actually social network analysis is, what can, and what cannot (yet) be done with it. With acquired framework, we continue with description of the most commonly used data sources, formats and approaches to gather the data to be analysed. Using the real-world data, we present the basic network properties like size, density, centralization, diameter, and centrality measures which are thought through the analytical approaches and practical training using different programs and packages for social network analysis. The training is based on programs Pajek, UCINET and network packages of R-project.

■ Expected learning outcomes

By the end of the course students will:

have obtained the practical and methodological knowledge to perform the basic analysis of social networks;

have learnt the basics of world-wide most commonly used software tools for SNA;

understand the principles of selecting the most appropriate tools for specific purposes;

■ **Methodology**

The course will consist of the mixture of face-to-face and online lessons, readings and assignments.

■ **Evaluation system**

A written exam and short assignments will be graded.

■ **Remarks** (previous requirements, coordination, others, if any)

■ **Online resources** (optional)

To be added later.

■ **Bibliography** (optional)

- de Nooy, W., A. Mrvar and V. Batagelj. (2011). Exploratory Social Network Analysis with Pajek, Revised and expanded second edition. Cambridge: Cambridge University Press.
- Wasserman, S. and K. Faust. (1994). Social Network Analysis: Methods and Applications. Cambridge: Cambridge University Press.

Additional bibliography shall be added later.

■ **Employment opportunities** (optional)

To be added later.