**Course Syllabus**

|  |  |
| --- | --- |
| Title of the course | **Applied Software (offered in English)** |
| Title of the Academic Programme  | Bachelor’s Programme 'Sociology and Social Informatics' |
| Type of the course  | Core |
| Prerequisites | None |
| ECTS workload | 4 |
| Total indicative study hours | Directed Study | Self-directed study  | Total |
| 32 | 120 | 152 |
| Course Overview | The course on Information Systems for the 3rd year students focuses on principles of data visualization and comprehensive set software tools for it. The theoretical part of the course introduces the basics of human visual perceptions, choice of appropriate graphics, its design and storytelling with data. The main purpose of this course is to help students with their scientific visualization for presentation during their study, their final papers and research. The focus is on data communication and presentations techniques with visual diagrams. Some parts of the course would be devoted to business visualization techniques.The practical part provides a complex of visualization techniques, applied in Social Sciences, including both primary and unusual diagrams. It develops an understanding of the visualization techniques applied in research and gives needed skills for application of data visualization in their future study and works. Moreover, both programming, via tools and drawing techniques of data visualization would be discussed. |
| Intended Learning Outcomes (ILO) | Upon the course completion, students are expected to be able to:* Find appropriate graphics for their data
* Communicate data from the research efficiently
* Choose colors and shapes of visualization more efficiently
* Have a knowledge of where it is possible to produce different types of diagrams
* Have skills of data visualizations in the main tools and software (Tableau, Excel, online tools)
* Be familiar with the basics of data storytelling
 |
| Teaching and Learning Methods | Teaching and learning methods include tutorials, seminars, group work, home assignments |
| Content and Structure of the Course |
| **№** | **Topic / Course Chapter** | **Total** | **Directed Study** | **Self-directed Study** |
| **Lectures** | **Tutorials** |
| 1 | Principles of data visualization | 60 | 4 | 12 | 44 |
| 2 | Visualization for business analysis | 52 | 4 | 8 | 40 |
| 3 | Improving graphics and unusual diagrams | 40 | 0 | 4 | 36 |
| **Total study hours** | 152 | 8 | 24 | 120 |
| Indicative Assessment Methods and Strategy  | Cumulative grade consists of:* 3 homework assignments (45%)
* In-class written assignments (test) (20%)
* Final group project (35%)

Resulting grade for the course is equal to cumulative grade. |
| Readings / Indicative Learning Resources | Mandatory 1. Knaflic, C.N., 2015. *Storytelling with data: A data visualization guide for business professionals*. John Wiley & Sons. <https://ebookcentral.proquest.com/lib/hselibrary-ebooks/detail.action?docID=4187267> :
2. Monsey, M. and Sochan, P., 2016. *Tableau For Dummies*. John Wiley & Sons. <https://proxylibrary.hse.ru:2258/toc.aspx?bookid=105577>:

Optional1. Acharya, Seema, and Subhashini Chellappan. 2016. Pro Tableau: A Step-by-Step Guide. 1st ed. Berkely, CA, USA: Apress. <https://proxylibrary.hse.ru:2258/toc.aspx?bookid=125416> :
2. Grennan, Simon. 2017. A Theory of Narrative Drawing | Simon Grennan | Palgrave Macmillan. Palgrave Macmillan. [https://proxylibrary.hse.ru:2176/book/10.1057%2F978-1-137-51844-6](https://proxylibrary.hse.ru:2176/book/10.1057/978-1-137-51844-6)
3. Rahlf, Thomas. 2017. Data Visualisation with R: 100 Examples. Springer International Publishing. <https://proxylibrary.hse.ru:2258/toc.aspx?bookid=138088> :
4. Niall, Keith K., ed. 2017. Erwin Schrödinger’s Color Theory: Translated with Modern Commentary. Springer International Publishing. //www.springer.com/gp/book/9783319646190. [https://proxylibrary.hse.ru:2176/book/10.1007%2F978-3-319-64621-3](https://proxylibrary.hse.ru:2176/book/10.1007/978-3-319-64621-3):
 |
| Indicative Self- Study Strategies | **Type** | **+/–** | **Hours** |
| Reading for seminars / tutorials (lecture materials, mandatory and optional resources) | + | 40 |
| Assignments for seminars / tutorials / labs | + | 30 |
| E-learning / distance learning (MOOC / LMS) | - |  |
| Fieldwork | - |  |
| Project work | + | 50 |
| Other (please specify) | - |  |
| Preparation for the exam | - |  |
| Academic Support for the Course | Academic support for the course is provided via e-mail |
| Facilities, Equipment and Software | A computer class with projector, Tableau, MS Office |
| Course Instructor | Sr. Lecturer Ilya Musabirov |