Linnæus University

Jnr: 2019/1707-3.1.2.2

Course syllabus

Faculty of Technology
Department of Computer Science and Media Technology

4DV801 Tillämpad Informationsvisualisering, 7,5 högskolepoäng
Applied Information Visualization, 7.5 credits

Main field of study
Computer Science

Subject Group
Informatics/Computer and Systems Sciences

Level of classification
Second Level

Progression
A1F

Date of Ratification
Approved 2015-05-22
Revised 2019-05-17 by Faculty of Technology. Prerequisites and literature list are revised.
The course syllabus is valid from spring semester 2020

Prerequisites
90 credits in Computer Science including a course in Information Visualization 7.5 credits (4DV800) or equivalent.

Objectives
Upon completion of the course the student should:

- be acquainted with the most important visualization techniques and systems for special data sets and applications domains
- have the capability to choose suitable visualization techniques for various data types
- be able to critically reflect upon standard approaches
- have a good background for the development of new innovative visualizations
- have a good understanding of evaluation methods for InfoVis tools and approaches
- have a good overview of the most important challenges in the field.

Content
Information visualization (InfoVis) is a research area that focuses on the use of visualization techniques to help people understand and analyze abstract data without geometric correspondences, e.g tabular or hierarchical information sources.
The course covers visual representations, interaction techniques as well as visualization tools for:

- text and documents
- network data (graphs)
- time series
- information visualization for the masses
- WebVis, BioVis, MedVis, GeoVis.

Furthermore, this course discusses issues that are important for information visualization and visual analytics, such as visual analytics, evaluation of techniques and tools and InfoVis challenges.

Type of Instruction
Lectures, seminars, self-studies, exercises and/or practical work.

Examination
The course is assessed with the grades A, B, C, D, E, Fx or F.
The grade A constitutes the highest grade on the scale and the remaining grades follow in descending order where the grade E is the lowest grade on the scale that will result in a pass. The grade F means that the student's performance is assessed as fail (i.e. received the grade F).

Assessment of the student's performance is made through written or oral exams as well as presentation of compulsory practical/theoretical assignments. To be allowed to attend the exam requires passed assignments. This means that successfully finished assignments are a prerequisite for doing the exam.

If a student does not pass an individual assignment, then he/she will get a chance for an improvement that has to be submitted within an appropriate deadline.

The type of assessment used in the course (written/oral) and deadlines will be decided at the beginning of the course.

Repeat examination is offered in accordance with Local regulations for courses and examination at the first and second-cycle level at Linnaeus University.
If the university has decided that a student is entitled to special pedagogical support due to a disability, the examiner has the right to give a customised exam or to have the student conduct the exam in an alternative way.

Course Evaluation
During the implementation of the course or in close conjunction with the course, a course evaluation is to be carried out. Results and analysis of the course evaluation are to be promptly presented as feedback to the students who have completed the course. Students who participate during the next course instance receive feedback at the start of the course. The course evaluation is to be carried out anonymously.

Credit Overlap
The course cannot be included in a degree along with the following courses of which the content fully, or partly, corresponds to the content of this course: 4DV301Applied Information Visualization, 7.5 credits

Other
Grade criteria for the A–F scale are communicated to the student through a special document. The student is to be informed about the grade criteria for the course by the start of the course at the latest.

Required Reading and Additional Study Material
Required reading
Ward, M. O., Grinstein, G., and Keim D. Interactive Data Visualization: Foundations, Techniques, and Applications. 2nd Ed., A K Peters/CRC Press, 2015. Pages 250 (578).

Munzner, T. Visualization Analysis and Design. 1st Ed., A K Peters/CRC Press, 2014.

Pages 180 (428).

DV. Distributed material and research papers. Slides 400 (400).