



Course syllabus

Faculty of Technology

NO VALUE DEFINED

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 2018-06-08 by Faculty of Technology. Assessment methods are changed.

The course syllabus is valid from spring semester 2019

Prerequisites

90 credits in Computer Science including a course in Computer Graphics 7.5 credits (1DV800) as well as an additional 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.

Course Evaluation

During the course or in close connection to the course, a course evaluation is to be carried out. The result and analysis of the course evaluation are to be communicated to the students who have taken the course and to the students who are to participate in the course the next time it is offered. The course evaluation is carried out anonymously. The compiled report will be filed at the Faculty.

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: 4DV301 Applied 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

Spence, R. *Information Visualization – An Introduction*. 3rd Ed., Springer, 2014. Pages 250 (321).

Kerren, A., Ebert, A., and Meyer, J. *Human-Centered Visualization Environments*. LNCS Tutorial 4417, Springer, 2007. Pages 220 (403).

DV. *Distributed material and research papers*. Pages 350 (350).