



Course syllabus

Faculty Board of Science and Engineering
School of Computer Science, Physics and Mathematics

4DV301 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 by the Board of the School of Computer Science, Physics and Mathematics
2009-09-08

Revised 2011-08-20. Revision of prerequisites, examination and literature list.

The course syllabus is valid from spring semester 2012

Prerequisites

90 credits in Computer Science including a course in Computer Graphics 7.5 credits (1DV300) as well as an additional course in Information Visualization 7.5 credits (4DV300) 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, such as 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, such as 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 Fail (U), Pass (G) or Pass with Distinction (VG).

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.

On request, students may have their credits translated to ECTS-marks. Such a request must be sent to the examiner before the grading process starts.

Course Evaluation

A course evaluation will be carried out at the end of the course in accordance with the guidelines of the University. The result of the course evaluation will be filed at the department.

Required Reading and Additional Study Material

Required reading

Spence, R. *Information Visualization – Design for Interaction*. 2nd Ed., Prentice-Hall, 2007. Pages 250 (304).

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

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