

# Advanced Visual Data Analysis

Programme course

6 credits

Avancerad visuell dataanalys

TNM098

Valid from: 2017 Spring semester

**Determined by**

Board of Studies for Computer Science and  
Media Technology

**Date determined**

2017-01-25

## Main field of study

Media Technology and Engineering

## Course level

Second cycle

## Advancement level

A1X

## Course offered for

- Media Technology and Engineering, M Sc in Engineering
- Computer Science, Master's programme

## Entry requirements

Note: Admission requirements for non-programme students usually also include admission requirements for the programme and threshold requirements for progression within the programme, or corresponding.

## Prerequisites

Skills in programming and computer graphics programming, mathematics, course Information Visualization or equivalent.

## Intended learning outcomes

After completing the course the student should be able to:

- Examine new, complex data sets and identify relevant features which might be extracted
- Select and apply advanced algorithmic methods for analysis of large complex data sets to determine valuable results
- Address issues with very large data sets and develop approaches to the 'big data' problem

- Display extracted relevant information from such data sets using standard visualization methods

## Course content

This course builds upon the course Information Visualization, with a focus on the data modelling, mining and analysis techniques which are the foundation of modern visual data analysis methodology. Such methods are becoming very important as the scale of data available for analysis expands, leading to the so-called 'big data' problem affecting business, healthcare, government, science and industry.

## Teaching and working methods

The course is composed of lectures, laboratory assignments, seminar sessions and a substantial project work.

## Examination

LAB1	Laboratory work	U, G	1 credits
PRA1	Project assignment	U, 3, 4, 5	5 credits

## Grades

Four-grade scale, LiU, U, 3, 4, 5

## Department

Institutionen för teknik och naturvetenskap

## Director of Studies or equivalent

Camilla Forsell

## Examiner

Matthew Cooper

## Education components

Preliminary scheduled hours: 48 h

Recommended self-study hours: 112 h

# Common rules

Regulations (apply to LiU in its entirety)

The university is a government agency whose operations are regulated by legislation and ordinances, which include the Higher Education Act and the Higher Education Ordinance. In addition to legislation and ordinances, operations are subject to several policy documents. The Linköping University rule book collects currently valid decisions of a regulatory nature taken by the university board, the vice-chancellor and faculty/department boards.

LiU's rule book for education at first-cycle and second-cycle levels is available at [http://styrdokument.liu.se/Regelsamling/Innehall/Utbildning\\_pa\\_grund-\\_och\\_avancerad\\_niva](http://styrdokument.liu.se/Regelsamling/Innehall/Utbildning_pa_grund-_och_avancerad_niva).