



## Course syllabus

Faculty Board of Science and Engineering

School of Computer Science, Physics and Mathematics

1DV013 Databasteori, 7,5 högskolepoäng

1DV013 Database Theory, 7.5 credits

**Main field of study**

Computer Science

**Subject Group**

Informatics/Computer and Systems Sciences

**Level of classification**

First Level

**Progression**

G1F

**Date of Ratification**

Approved 2009-12-15

Revised 2011-11-18 by School of Computer Science, Physics and Mathematics. Type of instruction, examination and required reading are revised.

The course syllabus is valid from autumn semester 2011

**Prerequisites**

60 credits in Computer Science including Programming and Data Structures 7.5 credits (1DV007) or equivalent.

## Objectives

After the course the student should:

- understand how a database works and how it is used
- understand what the relational model is and also be able to construct useful relational databases
- have acquired knowledge about SQL and how a database can be used from different high level languages
- have acquired basic knowledge about how a database works internally
- have acquired knowledge about novel visual interfaces of databases.

## Content

Generally, the course contents gives a technical and conceptual foundation of database systems.

The following areas are included:

- database models
- database modelling
- relational algebra
- storage structures
- transactions
- SQL and other (partly visual) query languages
- system aspects of SQL (APIs)
- constraints
- visual database interfaces

## 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 and/or oral tests and presentation of compulsory practical assignments. The types of assessment used in the course will be decided on at the beginning of the course. Students who do not pass the regular examination are given the opportunity to do a resit examination shortly after the regular examination.

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.

## Other

Upon request, a Swedish University degree will be issued upon successful completion of the full demand for that degree.

Students who receive a passing grade in the course may download a course certificate through the Student Portal. Otherwise they may request a course certificate from the school secretary.

## Required Reading and Additional Study Material

### Required reading

Garcia-Molina, H, Ullman, JD & Widom, J, *Database Systems – the Complete Book*. 2nd Ed., Prentice-Hall, 2008. Pages 600 (1181).

DFM, *Distributed material and research papers*. Pages 320 (320).