



## Course syllabus

Faculty of Technology

Department of Computer Science and Media Technology

2DV513 Databasteori, 7,5 högskolepoäng

Database Theory, 7.5 credits

### **Main field of study**

Computer Science

### **Subject Group**

Informatics/Computer and Systems Sciences

### **Level of classification**

First Level

### **Progression**

G2F

### **Date of Ratification**

Approved 2014-12-08

Revised 2019-05-11 by Faculty of Technology. Literature list is revised.

The course syllabus is valid from autumn semester 2019

### **Prerequisites**

60 credits in Computer Science including Programming and Data Structures 7.5 credits (1DV507) 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, excercises 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 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.

## 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.

## 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: 1DV013 Database Theory, 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

Elmasri, R., & Navathe, S., *Fundamentals of database systems*. 7th Edition, Pearson. 2016. Pages 600 (1272)

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