



# DD1334 Database Technology

## 6.0 credits

### Databasteknik

This is a translation of the Swedish, legally binding, course syllabus.

If the course is discontinued, students may request to be examined during the following two academic years

### Establishment

Course syllabus for DD1334 valid from Autumn 2016

### Grading scale

A, B, C, D, E, FX, F

### Education cycle

First cycle

### Main field of study

Information Technology, Technology

### Specific prerequisites

For single course students: completed upper secondary education including documented proficiency in Swedish corresponding to Swedish B, English corresponding to English A. Furthermore: 7,5 hp in mathematics and 6 hp in computer science or programming technics.

### Language of instruction

The language of instruction is specified in the course offering information in the course catalogue.

## Intended learning outcomes

The student will be able to both understand and create database designs particularly with regard to:

1. converting between textual descriptions, example data, diagram representations and coded schema specifications, for both relational and semi-structured database models,
2. forming queries and making modifications, for both relational and semi-structured database models;
3. enforcing constraints, avoiding anomalies, preserving information and dependencies in relational databases;
4. show examples of practical aspects such as indexing, concurrency, application programming and security issues.

## Course contents

Definition of the relation model. Information structuring according to the “Entity Relationship”-model.

Functional dependencies and what they mean for good database design. Normalization. Query languages and the mathematics behind them. Methods for storage and retrieval. Transaction handling. Assertion of security and integrity. Overview of different models for data representation. Laboratory assignments using experimental and commercial systems.

## Disposition

The course consists of a series of lectures each with a prerequisite reading assignment, recitations in which homework assignments are explained, labs, a group assignment, and an exam.

## Course literature

H. Garcia-Molina, J. Ullman and J. Widom, Database Systems: The Complete Book, Pearson Prentice Hall, 2009.

## Examination

- LABA - Laboratory Assignments, 3.0 credits, grading scale: A, B, C, D, E, FX, F
- TEN1 - Examination, 3.0 credits, grading scale: A, B, C, D, E, FX, F

Based on recommendation from KTH’s coordinator for disabilities, the examiner will decide how to adapt an examination for students with documented disability.

The examiner may apply another examination format when re-examining individual students.

In this course all the regulations of the code of honor at the School of Computer science and Communication apply, see: [http://www.kth.se/csc/student/heder-skodex/1.17237?l=en\\_UK](http://www.kth.se/csc/student/heder-skodex/1.17237?l=en_UK).

## Other requirements for final grade

The students participating in the course are expected to take part in all activities on the course with a particular emphasis on the exercises and laboratories.

In addition the course focuses on training:

acquiring knowledge.

training oral and written presentation.

Examination by one examination (TEN1; 3 university credits), laboratory assignments (LAB1; 3 university credits), seminar and training tasks.

## Ethical approach

- All members of a group are responsible for the group's work.
- In any assessment, every student shall honestly disclose any help received and sources used.
- In an oral assessment, every student shall be able to present and answer questions about the entire assignment and solution.