

# Database Technology

Single subject and programme course

6 credits

Databasteknik

732A57

Valid from: 2016 Autumn semester

**Determined by**

The Quality Board at the Faculty of Arts  
and Sciences

**Date determined**

2016-09-30

## Main field of study

Computer Science

## Course level

Second cycle

## Advancement level

A1N

## Course offered for

- Master's Programme in Statistics and Machine Learning

## Entry requirements

- Bachelor's degree equivalent to a Swedish Kandidatexamen of 180 ECTS credits in one of the following subjects:
  - statistics
  - mathematics
  - applied mathematics
  - computer science
  - engineering
- Completed courses in
  - calculus
  - linear algebra
  - statistics
  - machine learning
  - programming
- English corresponding to the level of English in Swedish upper secondary education (Engelska 6/B)  
(Exemption from Swedish)

## Intended learning outcomes

After the completion of the course you should on an advanced level be able to:

- explain and use the most important terminology within databases and database technology in a correct way
- design a data model using EER diagrams.
- design, implement and use a relational database.
- explain the theory behind the relational model and how this affects good design of databases.

## Course content

The aim of this course is to give a thorough introduction to:

- the theoretical and practical issues underlying the design and implementation of modern database systems
- principles for general database management systems: DBMS,
- methods for database design and use.
- datamodelling with EER, Relational databases, Datastructures for databases, SQL, Relational algebra, query optimization, transactions, serialisation, concurrency.

## Teaching and working methods

The course consists of lectures and laboratory work. Lectures are devoted to theory and techniques. Database design and implementation techniques are practised in the laboratory work.

Homework and independent study are a necessary complement to the course.

Language of instruction: English.

## Examination

Written examination. Laboratory work.

Detailed information about the examination can be found in the course's study guide.

## Grades

ECTS, EC

## Department

Institutionen för datavetenskap