



HI1030 Database Technology

7.0 credits

Databasteknik

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

Establishment

Course syllabus for HI1030 valid from Autumn 2011

Grading scale

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

Education cycle

First cycle

Main field of study

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: 15 hp in programming techniques, including object-oriented programming.

Language of instruction

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

Intended learning outcomes

The course will give the student knowledge about methods and concepts in databases with a focus on relation-models, ER-modeling, normalization and SQL.

For passing the course the students need to:

- Describe database- and relation database systems.
- Describe the relations model; keys feature and it's restrictions.
- Be able to do an ER modeling in a modern notation.
- Translate ER-model to relations-model.
- Be able to normalize a relations model into 1nf, 2nf, 3nf, bcnf and 4nf.
- Know how to use SQL.
- Explain and use transactions.
- Describe and use stored procedure, triggers and view.
- Write an objectoriented program which uses a database through a standardized API like ODBC or JDBC.

Course contents

- Database systems
- Relations model
- Er-/eer-modulation
- Normalization (unf, 1nf, 2nf, 3nf, bcnf, 4 nf och 5nf)
- Relation algebra
- SQL
- Views, triggers and stored procedures
- Database programming in and objectoriented language
- Transactions
- Indexes

Course literature

The course literature will be announced at the web page for the course at least 2 weeks before the course starts

Examination

- TEN1 - Examination, 3.0 credits, grading scale: A, B, C, D, E, FX, F
- LAB1 - Lab Work, 4.0 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.

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

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.