DD1334 Database Technology 6.0 credits

Databasteknik

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

Establishment

The official course syllabus is valid from the autumn semester 2021 in accordance with Head of School decision: J-2021-0652.Decision date: 15/04/2021

Grading scale

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

Education cycle

First cycle

Main field of study

Information Technology, Technology

Specific prerequisites

- Knowledge and skills in programming, 6 higher education credits, equivalent to completed course DD1310/DD1311/DD1312/DD1314/DD1315/DD1316/DD1318/DD1331/DD100N/ID1018.
- Knowledge in basic computer science, 6 higher education credits, equivalent to completed course DD1320/DD1321/DD1325/DD1327/DD2325/ID1020/ID1021.

Active participation in a course offering where the final examination is not yet reported in LADOK is considered equivalent to completion of the course.

Registering for a course is counted as active participation.

The term 'final examination' encompasses both the regular examination and the first re-examination.

Language of instruction

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

Intended learning outcomes

After passing the course, the student should be able to:

- explain the functions and structure of a database management system
- discuss advantages and disadvantages with different database models
- model and structure data considering current restrictions
- explain how different restrictions will influence the database structure
- use query language to formulate questions and describe the mathematical background for query language
- write embedded SQL statements in a third generation programming language
- explain and write SQL, XML and XQuery code
- explain the argument behind and carry out database normalising tasks, and formulate and explain functional dependencies.

Course contents

Definition of the relational model and the semi-structured data model. Information structuring according to the Entity-Relationsship model. Functional dependencies and their importance for good database design. Normalisation. Query language and underlying mathematics. Transaction management. Overview of different models for data representation. Labs that apply the concept of the course, particularly SQL, XML and XQuery.

Examination

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

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.