DD1334 Database Technology 6.0 credits

Databasteknik

Course syllabus for DD1334 valid from Autumn 16, edition 1.

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 main content

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 prerequist reading assignment, recitations in which homework assignments are explained, labs, a group assignment, and an exam.

Eligibility

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.

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, grade scale: A, B, C, D, E, FX, F
- TEN1 - Examination, 3.0 credits, grade scale: A, B, C, D, E, FX, F

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/hederskodex/1.17237?l=en_UK.

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.