IV1007 Relational Database Technology 6.0 credits

Databasteknik

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

Establishment

Course syllabus for IV1007 valid from Autumn 2008

Grading scale

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

Education cycle

First cycle

Main field of study

Technology

Specific prerequisites

Basic knowledge in computer science.

Language of instruction

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

Intended learning outcomes

After completed course, the student shall:

1. be be able to describe and apply theories, methods and tools within the area of information administration and database technique.

2. be able to design conceptual models from a user perspective.

3. be able to design relational database models based on conceptual models.

4. be able to design relational database models so that they meet high quality demands.

5. have practical skills in how to use relational databases and query language/SQL.

Course contents

The course starts with an orientation of models for systems development. Theories on requirements analysis and how various business models (conceptual models and relational database models) may support this analysis, are further elaborated and discussed. Various architectures of database managment systems, particularly three tier layers where application logic, data and presentation of data are separated, are introduced in the course. The course particularly focuses and elaborates on the data layer. In terms of data definition, storage and manipulation, the relational model is thoroughly covered, including design principles for the same model such as the difference between synthetic and analytic design. The course covers most common relational query languages and introduces theoretical models, in particular relational algebra, as well as industrial standards such as SQL. The course further gives an overview on database management systems, in particular transaction handling in the same.

Disposition

Lectures, seminars, computer labs, theoretical and practical assignments.

Course literature

Database System Concepts, Silberschatz, Korth & Sudarshan

Upplaga: 5:e Förlag: McGraw-Hill År: 2005

ISBN: 0-07-295886-3

Lecture notes

Article compendium

Examination

- SEM1 - Seminar, 1.0 credits, grading scale: P, F
- PRO1 - Project, 2.0 credits, grading scale: P, 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.

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

Other requirements for final grade

Course examination consists of three parts
Seminars (1hp)
Project assignment (2hp)
A written exam (3hp), 4 hours, available grades: A, B, C, D, E, Fx,
F.
The grade of the course is given by the grade of the exam.

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.