



Course syllabus

Faculty Board of Science and Engineering
School of Computer Science, Physics and Mathematics

1DV423 Databasteknik och administration av databas, 7,5
högskolepoäng

Database Engineering and Database Administration, 7.5 credits

Main field of study

Computer Science

Subject Group

Informatics/Computer and Systems Sciences

Level of classification

First Level

Progression

G1F

Date of Ratification

Approved by the Board of the School of Computer Science, Physics and Mathematics
2009-11-19

Revised 2010-08-18. Revision made for English translation of the syllabus, prerequisites and course evaluation.

The course syllabus is valid from autumn semester 2011

Prerequisites

30 credits in computer science, including courses 1IK416 Introduction to Computer Science for ITtekniker 7.5 credits and 1DV416 Windows Administration I 7.5 credits or equivalent.

Expected learning outcomes

The course gives basic knowledge in data modeling, database technology and database management.

After taking this course the student will be able to:

- apply data modeling practical and theoretical development of databases
- construct databases in accordance with the standards set in data modeling
- explain the components of the database
- use SQL (language) and describe its structure and use of work on databases
- use the software for database administration
- explain the administration of databases
- use tools for administration of database.

Content

The course includes four modules.

The course covers how to develop a database application based on a hypothetical business perspective in a business until a final product, a database, which can be used in the business. During the course covers computer modeling is the key to create a persistent databases. The database section covers the construction of databases and the query language SQL. In the administration section dealt with operational and security of a database manager. Finally, implementation of a individual work in which all parts are represented.

Module 1 Data Modeling 1.5 credits

Theoretical and practical application of computer modeling. The chapter discusses the concepts of objects, relationships, keys, indexes, tables and attributes. Conceptual, logical and physical model. Normalization rules. volume calculation, referential integrity and growing analysis.

Module 2 Database 1.5 credits

Theoretical and practical application of database design and SQL, Structured Query Language.

Module 3 Database Administration 3 credits

Theoretical and practical application of administration of databases. The chapter discusses the concepts of users, roles, security, backup, restore, recover, scripting and others.

Module 4 Individual Project 1.5 credits

Final work on the application of the module 1, 2 and 3. The student will perform a work independently and demonstrate that he/she possesses knowledge of the subject.

Type of Instruction

Teaching is conducted through lectures, tutorials, laboratory and individual work.

Examination

The course is assessed with the grades U,3,4 or 5. Examination will be done in the form of oral and written reports. The examination of item 1 and 2 is done in connection with the presentation of the individual work. There could also be continuous examination throughout the course, one per module.

On request, students may have their credits translated to ECTS-marks. Such a request must be sent to the examiner before the grading process starts.

Reexamination will be offered within six weeks under the regular semester periods. The number of examinations are limited to five times.

Course Evaluation

A course evaluation will be carried out at the end of the course in accordance with the guidelines of the University. The result of the course evaluation will be filed at the department.

Required Reading and Additional Study Material

Required Reading

Axelsson, Lars & Hidefjäll, Martin (1993) *Praktisk datamodellering*. ISBN 91-44-38001-1

Web-based materials are provided on the course website.

The Required Reading and Additional Study Material are subject to changes.