Linnæus University

Course syllabus

Faculty Board of Science and Engineering

School of Computer Science, Physics and Mathematics

1DV405 Databasteknik, 7,5 högskolepoäng
1DV405 Database Engineering, 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 2009-06-23
Revised 2011-08-20 by School of Computer Science, Physics and Mathematics.
Revision made for expected learning outcomes.
The course syllabus is valid from spring semester 2011

Prerequisites
Web Technical introduction, 7.5 credits, and Web and programming bases, 7.5 credits or equivalent.

Objectives

The course aims to provide the student with a basic knowledge of database technologies and computer modeling.
The student should 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 and describe its structure and use when work on databases
- use the software for database management.

Content

The course consists of three modules.

Module 1 Data Modeling 1.5 credits

Theoretical and practical application of computer modeling. In this module we discusse 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 Data Base 3 credits
Theoretical and practical application of database design and SQL, Structured Query Language. The module includes practical work, tables, attributes, keys and referential integrity.
Practical application of skills from Module 1.

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

Type of Instruction
The course is using the Internet as a distribution form and can be read either on campus or at a distance.

On campus the teaching is conducted through lectures, tutorials, laboratory, exercises and individual work.
As a distance course the teaching consists of web-based educational materials, tutoring via the Internet-based voice conference and fixed telephone hours.

Examination
The course is assessed with the grades U, 3, 4 or 5.

Examination will be oral presentation. Each part is examined separately in connection with the individual work. Examination may be ongoing with one examination per session. 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.
Reexaminations are offered within six weeks under the regular semester periods. The numbers 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

Dewson, Robin (2008) *Beginning SQL Server 2008 for Developers.* Latest edition

Other study materials
Web-based materials are provided on the course website.

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