Linnæus University

Course syllabus

Faculty of Technology
Department of Computer Science

2DV51U Databasteori, 7,5 högskolepoäng
Database Theory, 7.5 credits

Main field of study
Computer Science

Subject Group
Informatics/Computer and Systems Sciences

Level of classification
First Level

Progression
G2F

Date of Ratification
Approved by Faculty of Technology 2015-11-09
The course syllabus is valid from autumn semester 2015

Prerequisites
60 credits in Computer Science including Programming and Data Structures 7.5 credits
(1DV507) or equivalent.

Objectives
After the course the student should:

- understand how a database works and how it is used
- understand what the relational model is and also be able to construct useful relational databases
- have acquired knowledge about SQL and how a database can be used from different high level languages
- have acquired basic knowledge about how a database is works internally
- have acquired knowledge about novel visual interfaces of databases.

Content
Generally, the course contents gives a technical and conceptual foundation of database systems.
The following areas are included:

- database models
- database modelling
- relational algebra
- storage structures
- transactions
- SQL and other (partly visual) query languages

- system aspects of SQL (APIs)
- constraints
- visual database interfaces

Type of Instruction
Lectures, seminars, self-studies, excercises and/or practical work.

Examination
The course is assessed with the grades A, B, C, D, E, Fx or F.
The grade A constitutes the highest grade on the scale and the remaining grades follow in descending order where the grade E is the lowest grade on the scale that will result in a pass. The grade F means that the student's performance is assessed as fail (i.e. received the grade F).

Assessment of the student's performance is made through written and/or oral tests and presentation of compulsory practical assignments. The types of assessment used in the course will be decided on at the beginning of the course. Students who do not pass the regular examination are given the opportunity to do a resit examination shortly after the regular examination.

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.

Credit Overlap
This course cannot be part of a degree in combination with another course in which the content fully or partly correspond to the content of this course: 1DV013 Database Theory, 7.5 credits

Other
Grade criteria for the A–F scale are communicated to the student through a special document. The student is to be informed about the grade criteria for the course by the start of the course at the latest.

Required Reading and Additional Study Material
Required reading
Garcia-Molina, H, Ullman, JD & Widom, J, *Database Systems – the Complete Book*. 2nd Ed., Prentice-Hall, 2008. Pages 600 (1181).

DFM, *Distributed material and research papers*. Pages 320 (320).