IT-universitetet i Göteborg

CHALMERS | GÖTEBORGS UNIVERSITET

Course Plan
DIT620

Dept. of Computer Science and Engineering

DIT620, Databases, 7.5 ECTS Credits

Basic Level

1. Establishment

The Faculty Board at the IT-university established the course plan at 2006-11-17. This course plan is effective from autumn 2007.

Educational area: Technology/Sciences

2. Location

The course is a part of the Computer Science Bachelor´s programme and an elective course at Göteborg University.

3. Knowledge Requirements

The requirement for the course is to have successfully completed two years of an education aimed at a bachelor degree within Computer Science or equivalent.

4. Learning Outcomes

When the course is through, the student will be able to

- given a domain, know how to design a database that correctly models the domain and its constraints as a relational schema
- argue about different data models, in particular the relational and semi-structured models, regarding their strengths and weaknesses for modeling purposes
- given a database schema with related constraints, implement the database in a relational (SQL) database management system (DBMS)
- query a database for relevant data using SQL
- change the contents of a database using SQL
- connect to and use a database from external applications

5. Content

The course covers the basic principles of database systems as seen by users, application programmers and database administrators. A laboratory assignment develops these topics as a running example throughout the course.

These include programming in SQL, as seen by a user querying or modifying an existing database, by a database designer, and by an application programmer invoking SQL from a host language.

Course contents include:

- Entity-Relationship modeling
- Functional Dependencies and Normalisation
- Database querying and manipulation through SQL
- Interfacing to a database from a host language (Java/JDBC)
- The semi-structured model, XML

The course is thus a typical first course in database systems, and occupies a traditional place in the curriculum.

6. Literature
See separate literature list.

7. Examination
Written exam (graded) and a laboratory assignment (pass/fail).

8. Marks
The course is graded with the following marks: Fail, Pass, Pass with Distinction. The course can also, at the students' request, be marked according to ECTS standards.

9. Evaluation
The course is evaluated through meetings both during and after the course between teachers and student representatives. Further, an anonymous questionnaire can be used to ensure written information. The outcome of the evaluations serves to improve the course by indicating which parts could be added, improved, changed or removed.

10. Other
The course is held in English.