



COURSE SYLLABUS

Databases, 6 credits

Databaser, 6 högskolepoäng

Course Code: TDRK18	Education Cycle: First-cycle level
Confirmed by: Dean Feb 1, 2017	Disciplinary domain: Technology (95%) and social sciences (5%)
Revised by: Director of Education Apr 8, 2020	Subject group: DT1
Valid From: Jan 1, 2021	Specialised in: G1F
Version: 2	Main field of study: Computer Engineering

Intended Learning Outcomes (ILO)

After a successful course, the student shall:

Knowledge and understanding

- demonstrate comprehension of a relational database (function, architecture and limits)
- display knowledge of fundamental database design principles
- display knowledge of transaction management, indexing and file organization within databases
- demonstrate comprehension of the main differences between relational and non-relational databases

Skills and abilities

- demonstrate the ability to design an ER-model from a provided business description
- demonstrate the ability to apply the first three normalization forms
- demonstrate the ability to formulate basic and advanced SQL queries
- demonstrate the ability to interpret SQL expressions and comprehend the obtained results

Contents

The purpose of the course is to introduce and experience Database design and querying. After a successful course, the student shall master basics of relation databases and be able to model, design and query databases.

The course includes the following topics:

- Relational Databases - Introduction, Theory, Purpose
- Database Design - ER model
- Normalization
- Structured Query Language and Query writing
- Multi-table Queries - Joins, Relations
- Usage of databases and database systems with software and/or mobile development
- Advanced SQL, Transactions, Indexing

Type of instruction

Tuition will consist of lectures, exercises and lab work.

The teaching is conducted in English.

Prerequisites

General entry requirements and completed courses in Introduction to Programming, 9 credits (or the equivalent).

Examination and grades

The course is graded 5,4,3 or Fail.

Registration of examination:

Name of the Test	Value	Grading
Examination ¹	4 credits	5/4/3/U
Practical Assignment	2 credits	U/G

¹ Determines the final grade of the course, which is issued only when all course units have been passed.

Course literature

The literature list for the course will be provided one month before the course starts.

Title: Fundamentals of Database Systems, Seventh Edition

Author: Elmasri & Navathe

Publisher: Pearson

ISBN: 978-1-292-09761-9