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COURSE SYLLABUS

Databases, 7.5 credits

Databaser, 7.5 högskolepoäng

Course Code:	TDRK16	Education Cycle:	First-cycle level
Confirmed:	Feb 01, 2025	Disciplinary domain:	Technology
Valid From:	Jan 19, 2026	Subject group:	Computer Technology
		Specialised in:	G1F First cycle, has less than 60 credits in first-cycle course/s as entry requirements
		Main field of study:	Computer Engineering

Intended Learning Outcomes (ILO)

On completion of the 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
- demonstrate the ability to understand and use No-SQL databases

Content

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 based on provided requirements. The student should also have an understanding of database development as part of system and business development.

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
- Databases in the system development lifecycle
- Usage of databases and database systems with software and/or mobile development
- Advanced SQL, Transactions, Indexing
- Introduction to No-SQL databases

Type of instruction

Tuition will consist of lectures, exercises, and lab work. Teaching can occasionally be in Swedish.

Language of instruction is in English.

Entry requirements

General entry requirements and taken course in Introduction to Programming, 7,5 credits or the equivalent.

Examination and grades

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

Registration of examination:

Name of the Test	Value	Grading
Examination [1]	5 credits	5/4/3/U
Assignment	2.5 credits	G/U

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

Course literature

Please note that changes may be made to the reading list up until eight weeks before the start of the course.

Title: *Fundamentals of Database Systems* , Seventh Edition
Author:Elmasri & Navathe
Publisher: Pearson
ISBN: 978-1-292-09761-9