DALARNA UNIVERSITY

Course Syllabus

Data Storage and Management Technologies 7.5 Credits*, First Cycle

Learning Outcomes

The overall goal is for students to acquire in depth knowledge and skills so that they can manage data across a data tier in an efficient manner.

Knowledge and understanding
After completing the course, students will be able to:

- Explain how different data management platforms are used appropriately to handle different types of data.
- Explain how indexes can be used to optimise the retrieval of different types of data from a data tier.
- Explain how different types of cloud storage can be used to realise a data management platform.

Skills and abilities
After completing the course, students will be able to:

- Use programming languages to create stored APIs in a data tier.
- Use SQL to retrieve data from dimensional models.
- Create an information model for spatial data connected to an infrastructure network.

Evaluation ability and approach
After completing the course, students will be able to:

- Suggest a suitable data management platform for a specific situation with different types of data.

Course Content

The course deals with how companies and organisations based on their different needs can choose a data management platform that is well suited for the type of data to be stored in their data tier. The course addresses various current data management systems and how

they can be used effectively. It also discusses how indexes and design patterns can be used to optimise performance and response times for these data management platforms. The course deals with how to create information models for spatial data that is used to connect different types of phenomena to different infrastructure networks, where phenomena can be road surfaces, hospitals, speed cameras, etc.

Assessment
Assignment (3 credits) and laboratory work (4.5 credits).

Forms of Study
Lectures, laboratory work and assignments.

Grades
The Swedish grades U–VG.

Laboratory work U-G.
The final grade is determined by the assignment.

Prerequisites
Database management, 7,5 credits or equivalent knowledge

Subject:
Information Systems

Group of Subjects:
Informatics/Computer and Systems Sciences

Disciplinary Domain:
Technology, 100%

This course can be included in the following main field(s) of study:
1. Information Systems

Progression Indicator within (each) main field of study:
1. G1F

Approved:
Approved 11 March 2021
Valid from 23 May 2021