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Course Syllabus

Data Warehousing 7.5 Credits*, Second Cycle

Learning Outcomes

Knowledge and understanding

After completing the course the student shall be able to:

- Describe central concepts in the field of relational databases and data warehousing
- Describe the architecture and components in a data warehouse
- Explain the significance of normalisation for a design solution of a relational database.
- Explain the importance of designing good tables identifiers in relational databases.

Skills and abilities

After completing the course the student shall be able to:

- Apply basic principles of relational databases in accordance with the relational model.
- Manipulate data and create, modify and delete database objects.
- Use concept modeling and graphical description techniques to design relational databases corresponding to at least the third normal form.
- Model data according to the principles of the Kimball and Immon methods
- Use ETL (Extract, Transform, Load) processes to extract data from, change data in and add data to a data warehouse
- Design and implement a simpler business intelligence solution, based on data warehouse architecture evaluation

Judgement and approach

After completing the course the student shall be able to:

- Choose the appropriate method for data modeling to solve a specific business problem

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Course Content
The course introduces the relational database concept and system theory, and design methods for developing database systems. The reason for using databases in companies and organisations is also covered.

The course deals with key concepts in the field of Data Warehousing (DW) and the general architecture of data warehouses. Furthermore, various types of data models are treated, e.g. Dimensional Data Store according to the Kimboll Model, and Normalized Data Store according to the Immon Model. The course also addresses terminology as ETL processes, OLAP (Online Analytical Processing), Data Mart, Data Lake, operational databases and common data sources.

Assessment
Written examination 4.5 credits and written presentation of laboratory work 3 credits.

Forms of Study
Lectures and laboratory sessions.

Grades
The Swedish grades U–VG.

Written presentation of laboratory work U-G.
Written examination U-VG.

Prerequisites
Bachelor’s degree in Statistics, Economics, Business Administration, Computer Science, Information Science or Informatics comprising at least 180 credits and English 6
Fundamentals of programming 7,5 credits

Other Information
The number of examinations per module is maximized to five.

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. Microdata Analysis

Progression Indicator within (each) main field of study:
1. A1N

Approved:
Approved 29 April 2019
Valid from 22 June 2019