

DW - Data Warehousing and Business Intelligence (2 VL + 2 UE)

434 L 462

Content:

The comprehensive thematic of this course is organized in three blocks. In the first block the development and management methods for DWH in relational databases are presented (architectures, ETL-process, OLAP operations, Bitmap-index). In the second block complex topics in relation to data analysis and exploration are examined in more detail (multidimensional data model, logic modeling, view materialization, etc.). In the last block, current research questions (Cloud, TextAnalytics) and practical experience (invited experts in the field) are addressed. Data Warehouses (DWH) store big amounts of data in databases designed with a focus in data analysis. Business Intelligence is the process of extracting information from DWH with the purpose of enabling decision support.

The lecture introduces these topics with an emphasis in data analysis. In particular DWH architectures and components, differences between "normal" databases and DWH, integration of data in a DWH, the multidimensional data model as well as selected methods for analysis in relational DWH. The previous topics will be put in practice with the help of relational database management system (DBMS) (for example IBM DB2 or Business Objects XI 3.0). The theoretical part of the course will be covered in weekly lectures, together with practical exercises and tutorial sessions to strengthen the content. Homework exercises to improve the acquisition of theoretical concepts as well as practical experience with a DBMS. Both the text book and supplementary literature for this course are in English language.

Target group:

Bachelor-students in the 5. semester with special interest in Databases and Information systems.

Prerequisite:

Wünschenswerte Voraussetzungen für die Teilnahme zu den Lehrveranstaltungen:

Students that have approved the courses: MPGI5 (Datenbanksysteme) and DBPRA (Datenbankpraktikum) or students with similar background.

The course will be given in English language, thus fluency in English is required!

Verpflichtende Voraussetzungen für die Modulprüfungsanmeldung: keine

Registration:

Students are required to register via the DIMA course registration tool before the start of the first lecture (<http://www.dima.tu-berlin.de>). Within the first six weeks (30.11.2019) after commencement of the lecture, students will have to register for the course at **QISPOS (university examination protocol tool) and **ISIS (course organization tool)** in addition to the registration at the DIMA course registration tool.**

Contributions:

Prüfungsform: Portfolioprüfung

Benotung: benotet.

Die Gesamtnote gemäß § 47 (2) AllgStuPO wird nach dem Notenschlüssel 2 der Fakultät IV ermittelt.

The final grade according to § 47 (2) AllgStuPO will be calculated with the faculty grading table 2.

Short Comment:

The module capacity limits this course to max. 30 participants.

The module can be completed within 1 semester.

This module was initiated in winter term 2009/10, since then subsequently each winter term.

Contact persons:

Dr. Alireza Rezaei Mahdiraji, Dr. Marcela Charfuelan, Duc Linh Tran

Mon 14 – 16 in E-N 719 (starts Oct 14th 2019)

Tue 10 – 12 in E-N 732 (starts Oct 15th 2019)

2+2 SWS/6 ECTS

Mon 14 – 16 in HT-EMH 025 (**only on Nov 04th 2019**)

Tue 10 – 12 in H 0105 (**only on Dec 03th 2019**)

Tue 10 – 12 in MA 043 (**only on Feb 18th 2020**)