

Advanced Information Management I – Heterogeneous Distributed Inf. Systems (4 IV) (Integrierte Veranstaltung/ Integrated Course)

0434 L 441

Content:

This „integrated course“ (Integrierte Veranstaltung, IV) consists of a lecture partition and a seminar-like partition, where all participants develop one of the key topics with own literature work and give short presentations. Additionally, there is a practical lab part of smaller and larger exercises, particularly one complex task, to be fulfilled in team work. Active contribution to all parts of the course is essential, as there will be a final report and a final presentation of all members of the course. The participants of this module will achieve deep conceptual, methodical, technical and practical knowledge in requirements analysis, design, architecture and development of heterogeneous and distributed information systems. This includes firstly classical knowledge about federated databases and mediator-based information systems (tight or loose coupling wrt. the dimensions of distribution, heterogeneity and autonomy). Secondly, different paradigms of heterogeneous information infrastructures and their management (e.g. P2P) and interoperability architectures (‘middleware’) will be investigated. Finally, modern model-based concepts for the development, integration and evolution of arbitrary information infrastructures, and –under this conceptual frame– model, metamodel, and metadata management as well as semantic concepts will be discussed and brought into practical experience by some larger project-like group work.

The course is principally designed to impart: technical skills 50%, method skills 30%, system skills 10%, social skills 10%

- * Foundations/Terminology of HDIS (FDBS, FIS, MBIS)
- * Dimensions of HDIS: Distribution, Heterogeneity, Autonomy
- * Heterogeneous Data Models in HDIS: structured, semistructured, unstructured
- * Distributed Data Organisation and Software Architectures of HDIS (FIS, P2P, CS, ...)
- * Interoperability and Middleware Platforms for HDIS
- * Persistency Services
- * Metadata Standards and Management in HDIS
- * Model-based Development of HDIS
- * Applications from industry and public services

Target group:

This course addresses master students with a focus on information management in “Informatik”, “Technische Informatik”, “Wirtschaftsinformatik”, “Wirtschaftsingenieurwesen”. (If capacity is available, it will be open also for other faculties).

AIM-1 / HDIS is also open for the remaining diploma students in the mentioned areas.

Moreover, it is **compulsory** for **EIT-ICT Labs master CCS (former DSS) and master DSc**.

Prerequisite:

The basic modules in the Bachelor Curriculum in “Informatik” (like MPGI 1-5 at TU Berlin orequivalent) or “Technische Informatik” or “Wirtschaftsinformatik” or “Wirtschaftsingenieurwesen”; particularly knowledge in Database Systems/ Information Modeling and Software Engineering /Programming is required. The AIM-1 / HDIS 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 (30.11.2018) 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:

Benotung: benotet.

Prüfungsform: Portfolioprüfung

The grade will be given by fulfilling all required tasks during the course (portfolio exam): seminar work including the oral presentation and the final report; home/lab exercises including presentation and the semester project including the final report/presentation.

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

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

Studienleistung	Punkte
Homework Presentation	10
Project Work	25
Seminar Talk	25
Written Seminar Report	40

Short Comment:

The module can be completed within 1 semester.

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

Contact persons:

Dr. Ralf-Detlef Kutsche

Tue 14 – 16 in MA 004 (at Oct 16th 2018)

Tue 10 – 12 in E-N 719 (starts Oct 23th 2018)

Tue 14 – 16 in E-N 719 (starts Oct 23th 2018)

4 SWS/6 ECTS