

Course Description Information Systems

Keywords: database concepts

Target Group:	6th Semester SWB	Module Number:	SWB 642
Workload:	5 ECTS		150 h
Divided into:	Contact time		60 h
	Self-study		60 h
	Exam preparations		30 h
Course language:	English		
Module director:	Prof. Jürgen Nonnast		
Valid from:	01.03.2014		

Requirements:

- Databases 1-2
- Established SQL knowledge
- Background in Software Engineering

Overall Aims of the Module:

Students will become competent database designers, in that they will be capable of designing and implementing a database application. They will learn to evaluate the effects of the data model according to implementation, performance, maintainability, and expandability. Students will be able to provide an abstract model of the real world and to run an inspection of that model using an application. They will be able to implement various tools with automatic result performance in multiple phases of the assigned project.

Contents:

Modelling information with the help of the entity-relation model and a CASE tool

- Development process of a database application
- Analysis procedures for databases
- Modelling with the entity-relation model
- Normalising
- Conceptual, logical, and physical design
- Implementation of business rules using database integration
- Evaluation and optimisation of the relational database model for OLTP
- Databases and data warehouses in OLAP

Literature:

Connolly, Thomas M.: Database Systems: A Practical Approach to Design, Implementation and Management, Addison-Wesley, 2010.

Dwaine R. Snow, Thomas Xuan Phan: Advanced DBA Certification Guide and Reference for DB2, IBM Press Series-Information Management, 2003.

Offered:

Every semester

Submodules and Assessment:

Type of instruction/learning:	Lecture with self-study and exam preparations
Type of assessment:	Written exam (90 minutes)
Hours per week:	3 SWS
Estimated student workload:	120 hours

Learning outcomes:

Students will acquire the abilities needed to design and to implement database applications.

Type of instruction/learning:	Laboratory exercises
Type of assessment:	Attendance certificate
Hours per week:	1 SWS
Estimated student workload:	30 hours

Learning outcomes:

Students will learn how to implement database applications.

Overall Assessment:

Written exam, non-graded attendance certificate