Course Description  Information Systems

Keywords: database concepts

Target Group: 6th Semester SWB  
Module Number: SWB 642

Workload: 5 ECTS  
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:

Offered:
Every semester

Vaid from 01.03.2015  
Hochschule Esslingen - University of Applied Sciences
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