Database Systems

Formal Details of the Module

module no.	location in course of study	duration	responsibility	language
	2nd year	2 terms		English

Teaching Methods

teaching forms	teaching methods
lecture, tutorial	lecture, discussion, group work

Forms of Examination

examination forms	exam duration (in minutes)	Grading
written exam or combined examination		yes

Workload and ECTS Credit Points

total workload (in hours)	of which online	of which self-study	ECTS
180	72	108	6

Qualification Goals and Competences

professional competence

Students know the basic theories and models of database systems. They can systematically present and explain the basic principles of database systems. They can use these to design a practically usable database and evaluate database designs.

methodical competence

Students can evaluate the strengths and weaknesses of the design methods for databases and assess them with regard to their applicability in a professional environment.

personal and social competence

Students can adequately assess their decision-making and professional competences in the field of database development and involve experts from other fields (esp. the application field) in database design.

interdisciplinary competence

Upon completion of the module, students have acquired the ability to apply theoretical concepts of databases in practical applications in addition to their sound technical knowledge.

Learning Units and Contents

teaching and learning units	online	self-study
Basics of Databases	72	108

- Basic concepts and data modelling (e.g. Entity Relationship Model)
- Relational data model
- Normal forms
- Relational database design
- Multi-user operation and transaction concepts
- Architectures of database systems
- Introduction to SQL (practical project)

Specifics

The module usually consists of a theoretical and a practical part.

Prerequisites

Algorithms and Data Structures, as well as basics of logic

Literature