Study programmes: Master studies - Informatics

Course name: R371 - Database Design

Lecturers: Gordana Pavlović-Lažetić and other lecturers at Department of Computer Science

Status: Compulsory

ECTS: 8

Attendance prerequisites: -

Course aims: Acquiring knowledge about the complete process of database design and train for the application of various database design methods.

Course outcome: After completion of the course, the student mastered the process of database designing, from conceptual, through logical and physical model, to the design of database security. Student gained experience in applying the techniques of normal forms and semantic modeling and the knowledge to assess the significance and the applicability of different physical models.

Course content: Entity-relationship model and its application in database design. Theory of functional dependencies and normal forms. Applications in designing relational databases. Database physical organization - files, indexes, memory. Workload and physical model. Construction, updating and searching of B, B+, B* trees. Database design tools. Introduction to the NoSQL databases.
- Individual project.

Literature:

1. Ramakrishnan Raghu, Gehrke Johannes, Database Management Systems, McGraw-Hill Companies, 2003
2. G. Pavlović-Lažetić: Relational Databases, Faculty of Mathematics, Belgrade, 1999.
(The lecturer can choose another relevant current literature)

Number of hours: 7	**Lectures: 2**	**Tutorials: 3**	**Laboratory: -**	**Research: 2**

Teaching and learning methods: Frontal lectures, group and individual tutorials and exercises.

Assessment (maximal 100 points)

Course assignments	**points**	**Final exam**	**points**
Lectures	-	Written exam	-
Exercises / Tutorials	-	Oral exam	-
Colloquia	30	Written-oral exam	50
Essay / Project	20		