

Study programmes: PhD studies - Informatics				
Course name: R475 - Database Design - Advanced topics				
Lecturers: Gordana Pavlović-Lažetić and other lecturers at Department of computer Science				
Status: Optional				
ECTS: 9				
Attendance prerequisites: -				
Course aims: Preparing students for the application of modern techniques of relational and non-relational databases design.				
Course outcome: After completing the course, the student should master modern methods of designing relational and non-relational databases.				
Course content:				
<ul style="list-style-type: none"> - Advanced techniques for relational databases design - patterns and templates. - Non-relational databases modeling techniques (XML, document, key-value, graphs, big-table databases). - General modeling techniques - denormalization, aggregation, dimension reduction, index tables. - Hierarchical Modeling Techniques. - Tools for modeling non-relational databases. - Selected Topics. 				
Literature:				
1. The Data Model Resource Book, Vol. 3: Universal Patterns for Data Modeling (Volume 3), 2008, Len Silverston, Paul Agnew, Wiley Publishing Inc, 2009.				
2. Selected papers				
(The lecturer can choose another relevant current literature)				
Number of hours: 10	Lectures: 4	Tutorials: -	Laboratory: -	Research: 6
Teaching and learning methods: Frontal lectures, group and individual tutorials and exercises.				
Assessment (maximal 100 points)				
Course assignments	points	Final exam		points
Lectures	10	Written exam		50
Exercises / Tutorials	-	Oral exam		-
Colloquia	25	Written-oral exam		-
Essay / Project	15			