Study programmes: Bachelor studies - Informatics	
Course name: R272 - Database programming	
Lecturers: Nenad Mitić, Vesna Marinković and other lecturers of the Department of Computer science and informatics	
Status: Optional	
ECTS: 6	
Attendance prerequisites: P100, P101, M105, R270	
Course aims: Students are expected to adopt advanced concepts and techniques of databases, grasp applicative query languages and transaction programming, acquire basics of object-relational mapping and understand types of work in client-server environment	
Course outcome: Upon completion of the course, a student grasped database programming techniques, acquired experience in applicative SQL usage and gained an overview of the necessary operations for database administration and maintenance.	
Course content: - Nesting query languages in procedural languages; SQL/Java; SQL/C; - Transactions management: transaction, fall and recovery; concurrency control - Working principles in client-server environment - Introduction to object-relational mapping - Database administration and maintenance	
Literature: 1.Hector Garcia-Molina, Jeffrey D. Ullman, Jennifer Widom: Database Systems: The Complete Book, International Version, 2nd ed. Pearson Education 2008. 2. C.J.Date: An Introduction to Database Systems, VIII ed, Addison Wesley Inc, 2004 3. DB2 manuals and materials (lecturer may opt for other suitable current literature)	

Number of hours: **5**	Lectures: **2**	Tutorials: **3**	Laboratory: **-**	Research: **-**

Teaching and learning methods: Frontal, group, individual and practical.

Assessment (maximal 100 points)				
Course assignments	**points**	**Final exam**	**points**	
Lectures	-	Written exam	-	
Exercises / Tutorials	-	Oral exam	-	
Colloquia	30	Written-oral exam	70	
Essay / Project	-			