

Study program: Modern computer technologies			
Course title: Database Administration			
Professor/assistant: Dušan M. Stefanović			
Type of course: elective			
ECTS credits: 6			
Pre-requisites: Basic understanding of relational databases			
Aims of the course: Acquiring theoretical and practical knowledge of functioning database management system, configuration and database administration. Students will learn to design, implement, and administer databases on various DBMS (Database Management System) platforms.			
Learning outcomes: Students will gain knowledge to configure, manage and maintain databases, as well as the ability to use tools for database monitoring and administration. Students will fully understand all the components of the database management system.			
Syllabus			
<i>Theoretical part</i> Database administrator job introduction. System components for database management. Physical and logical structure of a database. Installing and upgrading DBMS. Managing spaces and database objects. Database administration tools. Creating users and granting access to database objects. Security, backup and data recovery. Import and export data. Connecting to a database. Job automation. Tools and methods for database optimization and monitoring.			
<i>Practical part</i> Installation, configuration and connection to Microsoft SQL and MySQL DBMS. Managing database instances. Configuring users and defining privileges. Database management tools. Working with tables, indexes, constraints and triggers. Job tracking, trends, instances, and environments. Space management. Database and users security. Creating, configuring, using, and optimizing backup solutions. Configuring and enforcing database recovery. Job automation, log tracking, measurement and enhancement of database performance.			
Literature			
1. Administering Microsoft SQL Server 2012 Databases, Microsoft Press Training kit, publish:2012, ISBN: 978-0735666078.			
2. MySQL Administrator's Bible, publisher Wiley, Authors: Sheeri K. Cabral, Keith Murphy, 2009, ISBN: 978-0470416914.			
3. Database Administration: The Complete Guide to DBA Practices and Procedures, publisher: Addison Wesley, Authors: Craig S. Mullins,2012, ISBN: 978-0321822949.			
Number of active classes			Other forms of teaching:
Lectures: 30	Practical classes: 30	Research work:	
Teaching methods Combination of interactive approach with practical problem solving.			
Grading system (maximum 100 points), grading scale from 5 to 10: below 51 points grade 5, grade 6 from 51-60 points, grade 7 from 61-70 points, grade 8 from 71-80 points, grade 9 from 81-90 points, grade 10 from 91-100 points.			
Pre-exam obligations	points	Final exam	points
activity during theoretical lectures	30	written exam	30
practical training	20	oral exam	
colloquium(s)/seminar papers	20		
Sum	70	Sum	30