

Study program: Informatics			
Name of the subject: Databases			
Professor/assistant: Vladimir M. Nedić			
Type of course: compulsory			
ECTS credits: 7			
Prerequisites: none			
Aims of the course: Introducing students to the methods and principles of database design and operation for further use in the information system development.			
Learning outcomes: After passing the course, the student will be able to apply the basic elements of database design in the process of developing information system.			
Syllabus: <i>Theoretical part:</i> <ol style="list-style-type: none"> Basic terms. Data, entity, attributes, domain, logical record, file, datasets, databases, data banks, knowledge bases, automatic data processing, information systems. Basic database design. Real-system analysis, modeling, object-relationship model, modeling methodology, examples of E-P model. Database types. Hierarchical, network, relational model, object-oriented data model, pros and cons, database management systems (DBMS), examples. Relational databases. Relational algebra, relational account, design of relational databases, concept of data normalization, translation of an E-P model to the relational model, types of relations, establishing relations, examples. Computer equipment as the basis of an information system. Selection of the hardware, operating system, database management and communication software. Software support. The basic elements of the SQL query language. <i>Practical part:</i> Practical exercises			
Literature: <ol style="list-style-type: none"> Chris Fehily, SQL, CET, Beograd, 2005. Mogin, I. Luković, Principi baza podataka, Stulos, Novi Sad, 1996. P. Kaluđerčić, Osnove projektovanja informacionih sistema - relacione baze podataka, Viša elektrotehnička škola, Beograd, 1998. (dodatna literatura) Michael R. Groh, Access 2010 Bible, Wiley Publishing, Inc., 2010 (dodatna literatura) 			
Total number of active classes: 75		Lectures: 45	Practical classes: 30
Teaching methods: Lectures and practical computer exercises			
Grading system (maximum 100 points) grading scale from 5 to 10: below 51 points – student fails the exam, 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 lectures	max 5	Written exam	50
Practical training	max 5		
Project	max 40		
Minimum requirement for the final exam	30		