

Course title: Selected Chapters of Computer Science			
Lecturer: Miloš Racković			
Status: elective			
ECTS: 15			
Requirements:			
Learning objectives Adoption of basic principles of computer networks, relational database design, and the development of dynamic web presentations. Introduction to a multi-layer client-server systems and modern technologies of their development.			
Learning outcomes Understanding of the functioning of computer networks, relational database design, and the development of dynamic web presentations. Usage of expert literature, scientific terminology, the most important protocols, and modern software solutions.			
Syllabus <i>Theoretical instruction</i> Introduction to computer networks. OSI model and TCP/IP protocols family. Introduction to databases. ER model - characteristics and design. Basic characteristics of relational data model. SQL language. Systems for database management. HTML programming language. Usage of XML marking language for the development of web applications. Introduction to dynamic web applications, architecture and methods of dynamic web application functioning. Java servlets and JSP. Dynamic web application development in JSP technology using IDE environment. Multy-layer client-server systems. Java technology for the development of multy-layer client-server systems – Enterprise JavaBeans <i>Students research</i> Exercises follow lectures as topics are presented and assume practical work in small groups, with the aim of adoption of specific techniques and introduction to adequate modern tools.			
Suggested literature: Literature is based on articles from international and domestic journals, selected book chapters, specifically prepared texts for this purposes, and materials from international and domestic conferences. 1. Miloš Racković, Srđan Škrbić, Jovana Vidaković: <i>Introduction to Databases</i> , University of Novi Sad, Faculty of Science, Department of Mathematics and Informatics, Novi Sad, 2007. 2. Stallings, W., <i>Data and Computer Communications</i> , Prentice Hall, 2007			
Weekly teaching load	Lectures: 5	Student research: 5	
Teaching methodology Plenary lectures and classes of practical work with smaller groups of students. Interactive teaching.			
Grading (maximal number of points 100)			
Pre-exam requirements	points	Final exam	points
Practical teaching		Oral exam	40
Colloquia			
Seminar papers	60		