

Study programme(s): Computer Science				
Level: bachelor studies				
Course title: Information systems development				
Lecturer: Danijela N. Boberić Krstićev				
Status: elective				
ECTS: 6				
Requirements:				
Learning objectives				
Training students for development of information systems in three-tier software architecture.				
Learning outcomes				
<i>Minimum:</i> Student should be able to implement certain functionalities of information system using up-to-date software tools.				
<i>Desirable:</i> Student should be able to implement the complete information system from the database schema, implementation of the business logic and simple user interface using up-to-date open-source software environments and tools.				
Syllabus				
<i>Theoretical instruction</i>				
Software architecture of client/server systems. Java Servlets. Concept of sessions and cookies. Java Server Pages (JSP). JSP Standard Taglib Library and JSP expression language. The overview of current open-source Web development frameworks. Automated application compiling and building. Reporting in information systems.				
<i>Practical instruction</i>				
Specification of the software requirements and creating database schema for one example of information system. Implementation of the business logic using ORM. Development of complex functionalities of the business tier using Java Servlet. Implementation of the user interface in JSP and HTML. Application building.				
Literature				
<i>Recommended</i>				
<ul style="list-style-type: none"> • Williams, N. S. ;“<i>Professional Java for web applications</i>“, John Wiley & Sons, 2014 • K.Qian, R. Allen, M. Gan, R. Brown, "<i>Java Web Development Illuminated</i>", Jones and Bartlett Publishers, 2007 				
Weekly teaching load				
Lectures: 2	Exercises:1	Practical Exercises: 2	Student research:	Other:
Teaching methodology				
Lectures are conducted using a projector, blackboard and chalk. Projector is used for showing slides and demonstrate the use of selected software environment and examples of implementation of certain parts of the information system. Pre-exam includes the classroom activity, the two programming assignment and a project. Each programming assignment is done on practical part of the classes in a computer classroom and they check the student's ability to understand and use software environment to implement the individual modules of the information system. The project includes development of a complete information system, its presentation and defence before the relevant teacher. At the final exam students answer questions related to the selected information technologies for the development of information systems and information system's architecture.				
Grading method (maximal number of points 100)				
Pre-exam obligations	points	Final exam	points	
Test 1	20	Oral exam	30	
Test 2	20			
Project	30			