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

Minimum: Student should be able to implement certain functionalities of information system using up-to-date software tools.

Desirable: 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

Theoretical instruction

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.

Practical instruction

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

Recommended

- Williams, N. S. ,"*Professional Java for web applications",* John Wiley & Sons, 2014
- *K.Qian, R. Allen, M. Gan, R. Brown, "Java Web Development Illuminated", 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		