Course Unit Descriptor

Study Programme: Computer Science

Course Unit Title: Information Systems Development

Course Unit Code: CS615

Name of Lecturer(s): Danijela Boberić Krstićev

Type and Level of Studies: Bachelor Academic Degree

Course Status (compulsory/elective): Elective

Semester (winter/summer): Summer

Language of instruction: Serbian (primary), English (secondary)

Mode of course unit delivery (face-to-face/distance learning): Face-to-face

Number of ECTS Allocated: 7

Prerequisites: None

Course Aims:

Training students for development of information systems in three-tier software architecture.

Learning Outcomes:

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

Theory

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 such as SpringMVC and SpringBoot. Automated application compiling and building. Reporting in information systems.

Practice

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 Spring Boot. Implementation of the user interface in JSP and HTML. Application building.

Required Reading:

1. Williams, N. S. *Professional Java for web applications.* John Wiley & Sons, 2014

2. Walls, Craig. *Spring Boot in action*. Manning Publications, 2016.

Weekly Contact Hours: 5	**Lectures:** 3	**Practical work:** 2

Teaching Methods:

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.

Knowledge Assessment (maximum of 100 points): 100

Pre-exam obligations	points	**Final exam**	points
Test 1	20	written exam	
Test 2	20	oral exam	30
Project	30	…….	

The methods of knowledge assessment may differ; the table presents only some of the options: written exam, oral exam, project presentation, seminars, etc.