Study program: Information technologies	
Type and level of studies: Master studies (second level of studies)	

Course unit: Advanced Web Programming

Teacher in charge: Vladimir Mladenović

Language of instruction: English

ECTS: 6

Prerequisites: Passed exams in academic studies: at least three cases in the field of programming and programming languages (including Object-Oriented Programming, Internet programming), Web Technologies

Semester: Summer

Course unit objective

The acquisition of theoretical knowledge and practical programming skills needed for designing, coding and implementation of integrated Web applications with mobile systems.

Learning outcomes of Course unit

Knowledge of basic concepts and principles of integrative Web programming for creating mobile applications. Ability to analyze, design; coding, testing and implementation of software for system integration. Knowledge of programming languages and tools for the integrated systems designing/programming.

Course unit contents

Theoretical classes

Introduction to advanced integrative programming on a variety of platforms operating systems (such as: Android, iOS, Symbian, Windows Mobile). Relations, services, receivers and alarms,including inter-systems communication. The user interface of the application. The directories for resources and general attributes. Events user interface. Functions for processing events and listeners. Multimedia techniques. Use in a networked environment. SMS messages. Working with Web content. Creating a Web browser. Using the HTTP GET method. Using the HTTP POST method. Social networks. Methods for data storage. Services are based on the geographical location of the device. More advanced techniques. Testing and debugging.

Practical classes

RT Java. ROOM. RT UML. Chosen RT operating systems.

Individual project: programming and implementation of a dedicated software system.

Literature

[1]   Ian F. Darwin, *Android cookbook*

[2]   James Steele, Nelson To, *Android - Development of applications using the Android SDK package*

[3]   Bruce Lawson, Remy Sharp, *Introduction to HTML5 for developers iOS Application Programming Guide*, Apple Inc, (2012)

Number of active teaching hours				Other classes
Lectures: 2	Practice: 2	Other forms of classes	Independent work:	

Teaching methods Lectures, exercises, projects – independent

Examination methods (maximum 100 points)			
Exam prerequisites	**No. of points:**	**Final exam**	**No. of points:**
Student's activity during lectures	-	oral examination	-
Practical classes/tests	30	written examination	70
Seminars/homework	-	....	
Project	-		
Other			

Grading system		
Grade	**No. of points**	**Description**
10	**91-100**	Excellent
9	**81-90**	Exceptionally good
8	**71-80**	Very good
7	**61-70**	Good
6	**51-60**	Passing
5	**less than 50**	Failing