

Specification for the book of courses

Study program		Electrical Engineering and Computer Science		
Module		Computing and Informatics		
Type and level of studies		Undergraduate Academic Studies		
The name of the course		Mobile Application and Service Development		
Lecturer (for lectures)		Stojanović H. Dragan, Predić B. Bratislav		
Lecturer/associate (for exercises)		Predić B. Bratislav		
Lecturer/associate (for OFE)		Davidović P. Nikola		
Number of ECTS	5	Course status (obligatory/elective)	Elective	
Prerequisites				
Course objectives	Acquiring knowledge required for development of software and services for mobile computing/communication devices using contemporary software, hardware and communication technologies.			
Course outcomes	Theoretical and practical knowledge about principles, methods and software tools for development of software and services for mobile computing/communication devices.			
Course outline				
Theoretical teaching	Introduction to mobile systems, applications and services. Mobile computing/communication devices, wireless networks and protocols. Mobile operating systems, platforms and software environments for development of mobile applications and services. Architecture and design of mobile application and services. Mobile Web, hybrid and cross-platform applications. Mobile user interfaces and interaction with mobile application. Data management in mobile applications and mobile databases. Mobile positioning and location-based services. Sensor data processing and context-aware services. Privacy and security in mobile application and services. Mobile messaging and ad-hoc communication. Contemporary mobile applications and services: mobile commerce and business, mobile navigation systems, mobile tourist guides, mobile healthcare, mobile games, emergency and crisis management, etc			
Practical teaching (exercises, OFE, study and research)	Development of mobile application and services for Android platform, as well as mobile Web, hybrid and cross-platform applications. Design and implementation of mobile application functionalities that include user interaction and graphical user interface, local storage of data in a database, accessing Web information and services, detection of location and context and appropriate adaptation of functions and services to location and context, mobile messaging and notification, access to mobile device sensors.			
Textbooks/references				
1	Bill Phillips, Chris Stewart, Brian Hardy, Kristin Marsicano, Android Programming: The Big Nerd Ranch Guide, 3rd Edition, Big Nerd Ranch Guides, 2017.			
2	Reto Meier, Ian Lake, Professional Android, 4th Edition, Wrox 2018.			
3	Mobile Developer's Guide To The Galaxy, 17th Edition, Open-Xchange, 2017			
4				
5				
Number of classes of active education per week during semester/trimester/year				
Lectures	Exercises	OFE	Study and research work	Other classes
2	2	1	0	0
Teaching methods	Lectures, auditive exercises, lab practicing, independent student work on assignments and projects, student seminars.			
Grade (maximum number of points 100)				
Pre-exam duties	Points	Final exam		Points
Activity during lectures		Written exam		40
Exercises		Oral exam		
Colloquia	40			
Projects	20			