

Study program: Multimedia Communication Technologies			
Course title: Mobile Operative Systems			
Professor/assistant: Mirko Kosanović, Ph. D.			
Type of course: elective			
ECTS credits: 7			
Pre-requisites:			
Aims of the course: Mastering knowledge about basic concepts and principles of modern operating systems, as well as their structure, functions and components and their application on mobile devices.			
Learning outcomes: Theoretical and practical knowledge of concepts, internal design and application implementations on modern mobile operating systems with a special emphasis on the Android operating system.			
Syllabus			
<i>Theoretical part</i> Introduction to embedded operating systems, features and functions of embedded operating systems, Android operating system, Android versions, Android features, Android architecture, Linux Kernel, Source software libraries, Remote desktop workstation (Dalvik Virtual Machine), Application framework, Application layer , Basic Android components, Integrated browser, SQLite, Android devices, Google Play Store, Android application structure, AndroidManifest.xml, Activities and intents, Resource management in Android OS, User interface, Menus, Resistant st data in Android preferences, File system, Databases, Content providers, Location-Based services in Android, Getting location data, Developing Android services, Programming for Android platforms, Publishing Android applications.			
<i>Practical part</i> Working with files from the command line, Command Interpreter (shell). Copy, move, and delete files. Working with directories. Working with text files. Shell programming. Basics of shell programming. Structures in shell programming. Network environment. Process administration. Basic techniques of process and thread management. Process synchronization. Synchronization threads. Booting (boot). Configuring the Linux system core. Work with modules. Translation of the kernel.			
Literature			
<ol style="list-style-type: none"> 1. Andrew S. Tanenbaum , Modern Operating Systems, 3/E, ISBN-13: 9780136006633. 2. Wei-Meng Lee, Android 4 razvoj aplikacija, <u>Kompjuter biblioteka</u>, 2013. 3. Ronan Schwarz, Phil Dutson, James Steele, Nelson To, <u>Android 4: Izrada aplikacija pomoću paketa Android SDK</u>, Mikro knjiga, 2014. 4. James Talbot, Justin McLean, <u>Programiranje Android aplikacija</u>, CET 2014. 5. Mirko Kosanović, Skripta sa predavanja u elektronskom obliku i PowerPoint prezentacije svih predavanja. 			
Number of active classes 75			Other forms of teaching:
Lectures: 30	Practical classes: 45	Research work:	
Teaching methods Combined, interactive approach with practical problem solving.			
Grading system (maximum 100 points), grading scale from 5 to 10: below 51 points grade 5, grade 6 from 51-60 points, grade 7 from 61-70 points, grade 8 from 71-80 points, grade 9 from 81-90 points, grade 10 from 91-100 points.			
Pre-exam obligations	points	Final exam	points
activity during theoretical lectures	10	written exam	30
practical training	20	oral exam	
colloquium(s)/seminar papers	40		
Sum	70	Sum	30