

Specification for the book of courses

Study program		Electronics and Microsystems		
Module		Electronics and Microsystems		
Type and level of studies		Master studies		
The name of the course		Open Source Operating Systems		
Lecturer (for lectures)		Dimitrijević A. Marko		
Lecturer/associate (for exercises)		Dimitrijević A. Marko		
Lecturer/associate (for OFE)		Dimitrijević A. Marko		
Number of ECTS	5	Course status (obligatory/elective)	Elective	
Prerequisites				
Course objectives		Acquiring the necessary knowledge for advanced using open source operating systems: Linux/Unix.		
Course outcomes		Mastering the knowledge and skills of using and administering open source operating systems (OOS), application installation on OOS and OOS networking. Learning user interface (shell) and script programming.		
Course outline				
Theoretical teaching		The history of open source system (OOS) development. OOS architectures. Kernel. Working with files and file systems. Shell and shell script programming (regular expressions, variables). Processes and jobs. Working with users and security models. Working with hardware and hardware diagnostics. Working with text files, standard I/O, pipes. Installing and maintaining software on OOS. Computer networks and network services. Graphical user interface.		
Practical teaching (exercises, OFE, study and research work)		The login procedure. General purpose commands (passwd, cal, clear, date, man, find, grep,...). Working with files and directories (commands: cat, chmod, umask, chown, chgrp, cmp, diff, cp, more, mv, rm, ln, ...). Working environment and corresponding commands (env, set). Archiving (tar, gzip, bzip,...). Process control (jobs, ps, top, kill, killall,...). Text editors (VI editor). Shell (bash, tcsh, zsh) and script programming. Regular expressions. Working with a file system (commands df, du, dd, fdisk, gdisk). Graphical user interface. System administration basics. Applications installation and maintenance (rpm, make,...). Basic network services and commands for working in the computer network environment (ping, traceroute, arp, netstat, nslookup,...).		
Textbooks/references				
1	P. P. Silvester, "UNIX user manual" (in Serbian), Mikro Knjiga, 1992.			
2	Z. Jelić, "UNIX User Manual" (in Serbian), Beograd 1989.			
3	A short introduction to UNIX (in Serbian), http://leda.elfak.ni.ac.rs/?page=education/unix/html/sadrzaj.html			
4				
5				
Number of classes of active education per week during semester/trimester/year				
Lectures	Exercises	OFE	Study and research work	Other classes
2	1	2		
Teaching methods		lectures, excercises, laboratory work, consultations		
Grade (maximum number of points 100)				
Pre-exam duties		Points	Final exam	Points
Activity during lectures			Written exam	
Exercises		30	Oral exam	70
Colloquia				
Projects				