

Course title:		Switching systems		
Course code	Course status	Semester	Number of ECTS credits	Lecture hours
PA3105	Mandatory	I	6	3L+1E
Study program: Graduate academic studies, ELECTRICAL ENGINEERING, study program: Electronics, Telecommunications and Computer engineering (studies last for 4 semesters, 120 ECTS credits).				
Prerequisites: No prerequisites				
Course aims: Students will be introduced in basic switching theory, basic architecture of switching circuits and packets.				
Teacher(s) and assistant(s) first and last names: <i>Doc.dr Igor Radusinović</i>				
Studying method: Lectures, exercises, consultations.				
Course synopsis:				
Preliminary week	Preparation and semester enrolment.			
I week	Introduction. Basic concepts. Historical overview.			
II week	Multiplexing.			
III week	Concepts of digital circuits switching			
IV week	Digital switching system			
V week	Optical circuit switches			
VI week	I colloquium			
VII week	Free week			
VIII week	Basics of packets switching.			
IX week	Switches with input bafer. Switches with input and output bafer.			
X week	Switches with bafers in switching elements. Load-balanced switches			
XI week	Clos's switch. Switches with topology of separated rutes			
XII week	II colloquium.			
XIII week	Optical packets switch			
XIV week	IP ruter			
XV week	Seminar works defence			
XVI week	<i>Final exam</i>			
Final week	Administrative procedures.			
XVIII-XXI week	Additional lessons, correction of the final exam and administrative procedures.			
STUDENT WORKLOAD				
<u>per week</u>		<u>per semester</u>		
Working hours: 6 credits x 40/30 = 8 hours.		Teaching and the final exam: (8hours) x 16 = 128hours.		
Working hours structure:		Necessary preparation (before semester): 2 x (8hours) = 16hours.		
3 hours for teaching		Total work hours for the course: 180hours		
1 hour for exercises		Additional hours for preparing correction of the final exam, including the exam taking: up to 33hours.		
4 hours for individual work, including consultations.		Work hours structure:		
		128hours (lectures) + 16hours (preparation) + 36hours (additional work)		
Lessons attendance is mandatory for students, as well as doing home and laboratory exercises and both colloquiums.				
Literatura: Basic: I.Radusinović, "Switching systems", lecture notes. Additional: R.A.Thompson, „Telephone switching systems“, Artech House, 2000 H.J. Chao, C.H. Lam, E. Oki." Broadband Packet Switching Technologies", John Wiley & Sons, 2001 T.S. EL-Bawab: "Optical switching", Springer, 2005				
The forms of knowledge testing and grading:				
- 10 homeworks carries 20 points,				
- Each colloquium carries 15 points (30 points in total)				
- Seminar work (20 points)				
- Final exam 30 points.				
Student gets the passing grade by collecting 51 points at least.				
Special remarks for the course :				
Teacher(s) who provided the information: Doc.dr Igor Radusinović				