

Study program:	Electrical and computer engineering – Module: Computer engineering			
Type and level of studies:	Undergraduate academic studies (first level of studies)			
Course unit:	Computer Telecommunications and Networks			
Teacher in charge:	Uros Pešović, teaching assistant Ana Vulović			
Language of instruction:	English			
ECTS:	6			
Prerequisites:	-			
Semester:	Summer			
Course unit objective				
Learning basic parameters that have impact on speech and data transfer in communication systems, from technologies and standards of modern computer networks.				
Learning outcomes of Course unit				
Enabling of designing and realization of computer networks with low size and complexity.				
Course unit contents				
<i>Theoretical classes</i>				
<ol style="list-style-type: none"> 1. Introduction. Syllabus and connection to other courses. 2. Layers of protocol architecture; OSI and TCP/IP referent models. 3. Time and frequency domain, Fourier analysis, analogue and digital data transfer, modulations, frequency, time and code multiplex, sampling theorem, communication techniques, error detections, modems, flow control, error control, sliding window. 4. IEEE local area networks: IEEE 802.1 – IEEE 802.5. 5. Computer networks interconnections. Bridges, commutators, and routers. 6. Network layer protocols. IPv4 protocol, addresses, subnets. IPv6 protocol. 7. Routing. Direct and indirect routing, distance vector algorithms, connection states, RIP, OSPF, BGP protocols. 8. Transport layer protocols. TCP protocol. Sliding window method. State diagrams. UDP protocol. 9. Application layer protocols. 				
<i>Practical classes</i>				
Laboratory administration of networking computers.				
Literature:				
1.	A. Tanenbaum, <i>Computer Networks</i> , Prentice Hall, 2010			
2.	W. Stallings, <i>Computer and data communications</i>			
5.				
Number of active teaching hours				
Lectures: 2	Practice: 2	Other forms of classes: 0	Other classes	Independent work: Case study:
Teaching methods:				
Lectures, tutorials, projects, demonstrations				
Examination methods (maximum 100 points)				
Exam prerequisites	No. of points:	Final exam	No. of points:	
Student's activity during lectures	10	oral examination		
Practical classes		written examination	60	
Colloquiums				
Seminars/homework	30			
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		