Study Program: Informatics
Type and level of studies: Bachelor studies
Course name: Computer networks
Lecturer: Panić R. Stefan
Status: elective
ECTS: 10
Attendance Prerequisites:

Course aims

Familiarizing students with the basic principles according to which modern information and communications systems and networks function, as well as to their structure.

Course outcome

The students are familiar with the basic methods applied in modern information and communication systems. They understand the structure of different information and communication systems and their basic elements, as well as the differences that exist among different information types transmissions.

Course contents

Introduction. Computer networking history. Networks usage. Computer network taxonomy: point to point, network emissions, LAN, MAN, WAN, Internet. Reference network models. ISO/OSI reference model. TCP/IP reference model. Reference model comparison. Network hardware and software. Network hardware: Host, router, bridge, hub, switch, network cards. Client-server model. Network protocols and services. Data layer connection. Error control and handling. Sliding window protocol. Protocol examples: HDCL, PPP. Local area networks. Emission channel protocol. IEEE 802 LAN standard (Ethernet, Token bus, Token ring). Network layer. Routing algorithms. Overflow control. Internet network layer. IP protocol. IP addresses. Low layer networks. Transport layer. Transport services. Addressing. Connection establishment. Multiplexing. Internet transport protocols: TCP UDP. Application layer. Network security and cryptography. DNS, e-mail, WWW.

Literature

1. Andrews S. Tanenbaum, Рачунарске мреже, Микро Књига, 2005., Београд
2. Lydia Parziale, David T. Britt, Chuck Davis, Jason Forrester, Wei Liu, Carolyn Matthews, Nicolas Rosselot: „TCP/IP Tutorial and Technical Overview", IBM 2006.
3. Jerry Fitzgerald and Alan Dennis, Business Data Communications and Networking - 8th Edition, John Wiley & Sons, Inc, 2005., New York

Number of active classes				Other classes
Lectures: 4	Practical classes: 3	Other forms of teaching:	Students' research work	

Teaching methods

Lectures, auditory practice, laboratory, term tests, consulting, homework, written exam.

Assessment (maximum 100 points)			
Course assignments	**points**	Final exam	**Points**
activity during lectures	**10**	written exam	**20**
practical classes	**30**	oral exam	**20**
term test(s)	**20**	....	
seminar(s)			
Total	**60**		**40**