

COURSE SHEET

Course name	Signalling Systems and Protocols
Acronym	SSP

Level:

1. (BSc)	2. (MSc)
X	

Field of study:

Electronics and Telecommunications	Control Engineering and Robotics	Informatics
X		

Person responsible for the course:

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List of Topics - Lecture

No	Topic	Level of					No of hours
		knowledge			skills		
		A	B	C	D	E	
1.	Notion and classification of communications protocols		X				1
2.	Notion and classification of signaling systems; communications protocols in signaling systems		X				1
3.	Functions of communications protocols in OSI and Internet architecture		X				1
4.	Protocols and protocol stacks in IP network		X				1
5.	Characteristics and functions of physical layer protocols.		X				1
6.	Characteristics and functions of data link layer protocols (LAPB, LAPB,PPP).		X				1
7.	Characteristics, functions and procedures of network layer protocols		X				1
8.	Characteristics, functions and procedures of network transport layer protocols: TCP, UDP		X				1
9.	Characteristics and functions protocols to support routing functions BGP, OSPF		X				1
10.	Characteristics, functions and procedures RSVP protocol		X				1
11.	Protocols in MPLS networks.		X				1
12.	Signalization systems for PSTN/ISDN telecommunication networks: DSS1 and SS7	X					1
13.	Signalization system DSS1: functions, types and structures of signalling messages		X				1
14.	Signalization system DSS1: basic signalization procedures.		X				1
15.	Signalization system SS7. Signalling network architecture		X				1
16.	Signalization system SS7 ISUP: functions, types and structures of signalling messages		X				1
17.	Basic signalization procedures for PSTN/ISDN network.		X				1
18.	Signalization system SS7 MAP. Messages and basic signalization procedures		X				1
19.	Signalization system SS7: SCCP and TACP protocols. Messages and basic signalization procedures		X				1
20.	Call handling scenarios for signalization network		X				1
21.	Signaling protocols utilized in VoIP technology		X				1
22.	H.323 standard: types and structures of signalization messages		X				1
23.	Basic call handling procedures in H.323		X				1
24.	Cooperation between network with SS7 ISUP and IP network		X				1
25.	Signaling protocol SIP: functions , types and structures of signalization messages.		X				1

26.	Basic call handling procedures in SIP.		X				1
27.	Cooperation between SIP and H.323		X				1
28.	Signaling protocol NSIS		X				1
29.	Standard of MGCP protocol: messages, functions and structure, API parameters		X				1
30.	Basic call handling procedures in MGCP		X				1
Total							<u>30</u>

List of Topics - Lab

No	Topic	Level of					No of hours
		knowledge			skills		
		A	B	C	D	E	
1.	Study of possibility of laboratory tools to monitoring protocols				X		1
2.	Investigation of functionality of protocol PPP						2
3.	Investigation of functionality and handling procedures of protocol RTP				X		2
4.	Investigation of functionality and handling procedures of protocol RSVP-TE				X		2
5.	Study of DSS1 call handling procedures				X		2
6.	Study of DSS1 and SS7 call handling procedures				X		2
7.	Study of H.323 call handling procedures				X		2
8.	Study of SIP call handling procedures				X		2
Total							<u>15</u>