COURSE SHEET

Course name	**VoIP Technology**
Acronym	VoIPT

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 knowledge*			*Level of skills*		*No of hours*
		A	*B*	*C*	*D*	*E*	
1.	Influent factors on quality parameters of stream-oriented services (speech, video) in the IP technology.			*X*			0,67
2.	The control with the range of the influence of these factors - mechanisms and their practical realization.			*X*			1
3.	RTP protocol as not the network mechanism of the maintenance of time relation in the stream of packets.			*X*			0,67
4.	The heap Application/RTP/UDP/IP and his influence on the quality.			*X*			1
5.	Time delay budget of the packets and his variation in the e2e path.			*X*			0,67
6.	The allocation of the delay time of packets and his variation on each routers in the path.			*X*			0,67
7.	Practical solutions of packets queue service system of the IP QoS router realized in the LINUX environment.			*X*			1
8.	Determining and setting up of parameters of queue service system in the LINUX system for streaming and elastic services.			*X*			1
9.	Filtration mechanisms of packets in the LINUX environment.			*X*			0,67
10.	The use of these mechanisms to the realization of the classification function of packets.			*X*			1
11.	The implementation of the router in the LINUX environment.			*X*			1
12.	Media gateway between the PSTN/ISDN/GSM network and the IP network.			*X*			1
13.	The installation and the configuration of the media gateway in the LINUX environment.			*X*			1
14.	SIP Server. AAA system.			*X*			1
15.	In use protocols and systems of the signalling.			*X*			1
16.	The scenario of the connection realization for the speech and the video: between IP network subscribers, between subscribers of the PSTN/ISDN/GSM network and IP networks and across the IP network.			*X*			0,67
17.	The practical realization of QoS parameters measurement of the connection in the IP network.			*X*			0,33
18.	Tools in the LINUX environment for the realization of QoS measurement.			*X*			0,67
						Total	**15**

List of Topics - Lab

No	*Topic*	*Level of*					*No of hours*
		knowledge			*skills*		
		A	*B*	*C*	*D*	*E*	
1.	The setting up of the laboratory network of IP routers for the service of stream-oriented services.				*X*		1
2.	Determining of acceptable values of the delay in each router of the network.				*X*		1
3.	Determination of admissible values on the packet loss probability in each router of the network .				*X*		1
4.	Pointing out of parameters for service queue systems.				*X*		1
5.	Configuring of service queue systems in routers.				*X*		1
6.	Determining of parameters of the classifier of packets.				*X*		1
7.	Configuring of the classifier of packets in routers.				*X*		1
8.	Installation and configuring of the media gateway.				*X*		1
9.	Installation and configuring of gatekeeper and SIP server.				*X*		1
10.	Installation and configuring of AAA server.				*X*		0,67
11.	Installation and configuring of the VoIP terminal in the Windows environment.				*X*		0,33
12.	Installation and configuring of the PSTN end termination on IP.				*X*		1
13.	Practical service of measuring tools in the LINUX environment.				*X*		1
14.	QoS observation and measurement of the connection for the stream-oriented service between subscribers of the network IP.				*X*		1
15.	QoS observation and measurement of the connection for the stream-oriented service between subscribers of the PSTN/ISDN and IP network.				*X*		1
16.	QoS observation and measurement of the connection for the stream-oriented service between subscribers of the PSTN/ISDN network across the IP network.				*X*		1
						Total	**15**