

## COURSE SHEET

<i>Course name</i>	<b>Information Transport Systems</b>
<i>Acronym</i>	<b>ITS</b>

*Level:*

<i>1. (BSc)</i>	<i>2. (MSc)</i>
	X

*Field of study:*

<i>Electronics and Telecommunications</i>	<i>Control Engineering and Robotics</i>	<i>Informatics</i>
X		

*Person responsible for the course:*

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### List of Topics - Lecture

<i>No</i>	<i>Topic</i>	<i>Level of</i>					<i>No of hours</i>
		<i>knowledge</i>			<i>skills</i>		
		<i>A</i>	<i>B</i>	<i>C</i>	<i>D</i>	<i>E</i>	
1.	Using principles of optical transmission systems on access area, features, parameters.		X				1
2.	Application of xDSL systems for transmission of TDM signals, ATM, ETH, IP, physical frame, standards adaptation mechanism		X				1
3.	Making of bidirectional data transmission in HFC network, protocols standardisation (DOCSIS).		X				1
4.	Methods of transmitted data aggregation on network edge, multiplexing, concentration.		X				0.67
5.	Optical Transport Network (OTN) – features, structure and standardization.		X				0.67
6.	Digital wrapper for transmitted signals in OTN, optical channels OCh, optical multiplex section OMS.		X				1
7.	Connection points, interfaces and tributary signals in OTN optical layer.		X				1
8.	METRO networks specifics – requirements and optical layer realization.		X				0.67
9.	Architecture of Automatic Switched Optical Network (ASON).		X				0.67
10.	Functions and elements of transport plane in ASON..		X				0.67
11.	Control and management planes in ASON.		X				1
12.	Automatic resources discovery procedures in ASON.		X				1
13.	Routing in Automatic Switched Optical Network ASON.		X				1
14.	Reliability of information transport systems.		X				1
15.	Comparison of protection techniques applied in optical networks.		X				0.67
16.	Principles of parameters choice of telecommunications fibre-optics for DWDM systems in OTN.		X				1
17.	Long distance optical transmission systems (Transoceanic and continental) – specifics of solutions.	X					0.33
18.	Clocks synchronization in optical transport network.		X				0.67
<b>Total</b>							<b><u>15</u></b>

### List of Topics - Lab

<i>No</i>	<i>Topic</i>	<i>Level of</i>		<i>No of hours</i>
		<i>knowledge</i>	<i>skills</i>	

		<i>A</i>	<i>B</i>	<i>C</i>	<i>D</i>	<i>E</i>	
1.	Passive Optical Network – power budget for directions network to user and user to network.				X		2
2.	Data transport and concentration in ADSL/VDSL systems.				X		3
3.	Procedures of resources discovery on ASON.				X		2
4.	Routing in ASON.				X		3
5.	Reliability of information transmission in OTN.				X		3
6.	Optimization of fiber-optics parameters in optical DWDM link.				X		2
<b>Total</b>							<b><u>15</u></b>