



SYLLABUS

Basic information of the course	
University:	University “Ukshin Hoti” - Prizren
Academic unit:	Faculty of Computer Science
Study program:	Information Technologies and Telecommunication
Course:	Transmission Methods
Study level:	Bachelor
Course status:	Mandatory
Study year:	2
Number of hours per week:	2+2
Credit value - ECTS:	6
Time / location:	It will be published in the university web site!
Lecturers:	Ass. Betim Maloku, Ph. D. c.
Contact details:	betim.maloku@uni-prizren.com; 045307235
Course description:	The course offers basic concepts about different transmission methods, including network transmission, data and signals, digital and analog transmission, multiplexing, spectrum resolution, transmission media, switching, multiple access, Ethernet and wireless standards, etc.
Course objectives:	The purpose of this course is to give students general knowledge about: <ul style="list-style-type: none"> - Current signal transmission techniques; - The principle structure of communication systems; - Continuous-time / Discrete-time signals; - Spectra; - Linear time-invariant systems; - Frequency response; - Level; - Interference signals; - Channel capacity.
Learning outcomes:	The student will be able to understand: <ul style="list-style-type: none"> - Intersymbol Interference; - Baseband/passband signal transmission; - Line codes;

	<ul style="list-style-type: none"> - Digital modulation techniques (FSK, QAM, PSK, OFDM); - Multiple access techniques (TDMA, CDMA, FDMA, SDMA); - Fundamentals of circuit and packet switching. 		
Contribution on student load (must correspond with learning outcomes)			
Activity	Hours	Days/week	Total/hours
Lectures	2	15	30
Exercise theoretical/laboratory	2	15	30
Practice work	1	2	2
Contact with lecturer/consultations	1	5	5
Field exercises	1	1	1
Midterms	2	2	4
Laboratory exercises	2	2	4
Individual time spent studying (at the library or home)	3	10	30
Final preparation for the exam	5	6	30
Time spent in evaluation (tests, quiz, final exam)	2	3	6
Projects, presentations, etc.	4	2	8
Total			150
Notice: 1 ECTS credits = 25 hours commitment, e.g. if the course has 6 ECTS credits student must have 150 hours during the semester.			
Teaching methods:	The course is a combination of lectures, discussions, numerical and laboratory exercises, while the assignments are presented by the laboratory course lecturers!		
Assessment methods:	<ul style="list-style-type: none"> - Attendance in lectures and exercises: 5% + 5%. - Semestral project: 10%. - Test 1: 40%. - Test 2: 40%. - Or final exam: 100%. 		
Assessment and grading:	Vlerësimi në %	Nota përfundimtare	
	91% - 100%	10	
	81% - 90%	9	
	71% - 80%	8	
	61% - 70%	7	
	51% - 60%	6	
	0% - 50%	5	

Literature	
Basic literature:	1. Behrouz A. Forouzan, “Data Communications and Networking”, McGraw-Hill.
Additional literature:	<ol style="list-style-type: none"> 1. I.A. Glover, P.M. Grant, “Digital Communications”, Prentice Hall. 2. Tarmo Anttalainen, “Introduction to Telecommunications Engineering”, Artech House. 3. Leon W. Couch, “Digital and Analog Communication Systems”, Pearson Prentice Hall.

Study plan	
Week	Lectures
<i>First week:</i>	<ul style="list-style-type: none"> • Introduction • Presentation of the syllabus
<i>Second week:</i>	<ul style="list-style-type: none"> • Network Models
<i>Third week:</i>	<ul style="list-style-type: none"> • Data and Signals - 1
<i>Fourth week:</i>	<ul style="list-style-type: none"> • Data and Signals - 2
<i>Fifth week:</i>	<ul style="list-style-type: none"> • Digital Transmission
<i>Sixth week:</i>	<ul style="list-style-type: none"> • Analog Transmission
<i>Seventh week:</i>	<ul style="list-style-type: none"> • Multiplexing and Spreading
<i>Eighth week:</i>	<ul style="list-style-type: none"> • Test 1
<i>Ninth week:</i>	<ul style="list-style-type: none"> • Transmission Media
<i>Tenth week:</i>	<ul style="list-style-type: none"> • Switching
<i>Eleventh week:</i>	<ul style="list-style-type: none"> • Multiple Access
<i>Twelfth week:</i>	<ul style="list-style-type: none"> • Wired LANs: Ethernet
<i>Thirteenth week:</i>	<ul style="list-style-type: none"> • Wireless LANs
<i>Fourteenth week:</i>	<ul style="list-style-type: none"> • Connecting LANs, Backbone Networks, and Virtual LANs
<i>Fifteenth week:</i>	<ul style="list-style-type: none"> • Test 2

Exercises

Study plan	
Java	Exercises
<i>First week:</i>	<ul style="list-style-type: none"> • Introduction • Presentation of the syllabus
<i>Second week:</i>	<ul style="list-style-type: none"> • Network Models
<i>Third week:</i>	<ul style="list-style-type: none"> • Data and Signals - 1
<i>Fourth week:</i>	<ul style="list-style-type: none"> • Data and Signals - 2
<i>Fifth week:</i>	<ul style="list-style-type: none"> • Digital Transmission
<i>Sixth week:</i>	<ul style="list-style-type: none"> • Analog Transmission

<i>Seventh week:</i>	<ul style="list-style-type: none"> • Multiplexing and Spreading
<i>Eighth week:</i>	<ul style="list-style-type: none"> • Test 1
<i>Ninth week:</i>	<ul style="list-style-type: none"> • Transmission Media
<i>Tenth week:</i>	<ul style="list-style-type: none"> • Switching
<i>Eleventh week:</i>	<ul style="list-style-type: none"> • Multiple Access
<i>Twelfth week:</i>	<ul style="list-style-type: none"> • Wired LANs: Ethernet
<i>Thirteenth week:</i>	<ul style="list-style-type: none"> • Wireless LANs
<i>Fourteenth week:</i>	<ul style="list-style-type: none"> • Connecting LANs, Backbone Networks, and Virtual LANs Sequential circuits.
<i>Fifteenth week:</i>	<ul style="list-style-type: none"> • Test 2

Academic policies and rules of conduct	
<ul style="list-style-type: none"> • Generally lecture presentations will be made through MS PowerPoint, tables, material usage, computer programs and numeric exercises. • Additional resources (scientific papers, publications, national bulletins, as well as recent discoveries and research) will be provided by professors. • In the absence of the opportunity for practical work to be organized weekly, in cooperation with the management of the university, this activity will be organized on certain days in: organizations, companies, etc. • During each session will be organized the conversation and co-participation with the students! • Students are required to be regular in lectures and exercises! • It will be evaluated when the students collaborate and participate in the lectures and course exercises! • Timely arrival in lectures and exercises is mandatory! 	