Меѓународен Универзитет Визион - International Vision University
Universiteti Ndërkombëtar Vizion - Uluslararası Vizyon Üniversitesi

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SYLLABUS

COURSE NAME	COURSE CODE	SEMESTER	COURSE LOAD	ECTS
NETWORK PROTOCOL	**4035**	**7**	**180**	**6**

Prerequisite(s)	None

Course Language	Turkish
Course Type	Required
Course Level	First Cycle
Course Lecturer	
Course Assistants	
Classroom	
Extra-Curricular Office Hours and Location	Meeting: Consultancy:

Course Objectives	The goal of this course is to familiarize students with the concepts of data communication, computer networks, and Internetworking. At the end of this course, students will be able to understand the principles of computer networking, including protocol features, protocol layering, addressing, routing, and basic network security issues. Students will be able to enumerate the architectural structures of the ISO/OSI and TCP/IP and explain functions of each layer. TCP/IP layers and their network traffic will be analyzed using dedicated tools such as TCPDUMP and Wireshark. Client-server programs will be developed by using C/C++ socket library. All laboratory assignments and experiments will be performed on the UNIX platform.
Course Learning Outcomes	• Will be able to examine and evaluate the structure and functionality of network protocols, • Describe and get familiar with the structure and functionality of the Data Link Layer and MAC, • Examine the concept of the Network Layer, design local area networks (LAN), comprehend IP addressing scheme, examine and design subnetworks, • Will be able to examine Routing Algorithms and analyze routing information exchange, • Will comprehend the functionality of the Transport Layer and TCP/IP protocol stack. Students will also be able to monitor and decode the contents of the TCP/ IP stack using packet analysis tools, • Will be able to implement client-server applications using C/C++ socket programming library for the UNIX platform.
Course Contents	To acquaint students with major communication protocols, their features, details, and functionality and to introduce students to the literature and terminology

WEEKLY SUBJECTS AND RELATED PREPARATION STUDIES

Week	Subjects	Related Preparation
1	Introduction to Computer Networks.	Related Chapters of Course Sources
2	Tools, techniques and methodologies used in analyzing and implementing computer networks	Related Chapters of Course Sources
3	Data Link Layer: Multiple Access Protocols	Related Chapters of Course Sources
4	Medium Access Control (MAC) Protocols, Contention and Collision- free protocols	Related Chapters of Course Sources
5	Data Link Layer: Error-detection and Correction, Link-Layer Addressing ARP,RARP	Related Chapters of Course Sources
6	Transport Layer: Connection-oriented and Connectionless networking. TCP and UDP protocols	Related Chapters of Course Sources
7	Mid-term Exam	Related Chapters of Course Sources
8	Error control, flow control, error detection and correction	Related Chapters of Course Sources
9	Wireless and Mobile Networks	Related Chapters of Course Sources
10	Network Layer, IPv4 Addressing. Subnetworking, ICMP, NAT, Dynamic Addressing BOOTP, DHCP	Related Chapters of Course Sources
11	Routing algorithms	Related Chapters of Course Sources
12	Routing Information Exchange	Related Chapters of Course Sources
13	Application Layer: Socket programming, Connection-oriented and Connectionless client-server programming	Related Chapters of Course Sources
14	Basic Network Security	Related Chapters of Course Sources
15	Final Exam	Related Chapters of Course Sources

ECTS / WORKLOAD TABLE

Presentation / Seminar			
Hours for off-the-classroom study (Pre-study, practice)	14	3	42
Midterm Exam	1	12	12
Final examination	1	14	14
Total Work Load			
ECTS	**6**		

GENERAL PRINCIPLE RELATED WITH COURSE

Dear students,

In order to be included, learn and achieve full success that you deserve in the courses you need to come well prepared by reading the basic and secondary textbooks. We are expecting from you carefully to obey to the course hours, not to interrupt the lessons unless is very indispensable, to be an active participant on the courses, easily to communicate with the other professor and classmates, and to be interactive by participating to the class discussions. In case of unethical behavior both in courses or on exams, will be acting in framework of the relevant regulations. The attendance of the students will be checked in the beginning, in the middle or at the end of the lessons. Throughout the semester the students who attend to all lectures will be given 15 activity-attendance points in addition to their exam grades.

SOURCES

COMPULSORY LITERATURE		
No	**Name of the book**	**Author's Name, Publishing House, Publication Year**
1	Bilgisayar Haberleşmesi ve Ağ Teknolojileri	Rıfat Çölkesen, Bülent Örencik , Papatya Yayıncılık Eğitim
2	Computer Networks 4th Edition	Andrew Tanenbaum, Prentice Hall, 2003
3		

ADDITIONAL LITERATURE		
No	**Name of the book**	**Author's Name, Publishing House, Publication Year**
1	Computer Networks: A Top Down Approach	Behrouz A. Forouzan, Firouz Mosharraf
2		
3		

EVALUATION SYSTEM

Underlying the Assessment Studies	NUMBER	PERCENTAGE OF GRADE
Attendance/Participation	15	%10
Project / Event	1	%20
Mid-Term Exam	1	%35
Final Exam	1	%35
TOTAL	**17**	**%100**

ETHICAL CODE OF THE UNIVERSITY

In case of the students are cheating or attempt to cheat on exams, and in the case of not to reference the sources used in seminar studies, assignments, projects and presentations, in accordance to the legislations of the Ministry of Education and Science of Republic of Macedonia and International Vision University, will be applied the relevant disciplinary rules. International Vision University students are expected never to attempt to this kind of behavior.