



Ewha International Summer College

Course Syllabus

Computer Networks

Professor: TBA
E-mail: TBA
Home Univ.: TBA
Dept.: TBA

Description: This course is an introduction to both the principles and the practice of computer networking. Starting with an overview of the different types of networks, this course follows a bottom-up approach going through the different layers of the TCP/IP reference model: physical layer, data link layer and MAC sublayer, network layer, transport layer, and the application layer. Examples cover Ethernet, wireless networks, different routing protocols, IPv6, DNS, etc. The course ends with an introduction to network security.

Objective: To learn about modern computer networking, both in theory and in practice.

Prerequisite:: Lecture notes will be provided and no textbook is required. Students must have some basic knowledge of the binary number system, and must understand bits and bytes. Basic knowledge of a computer operating system such as Microsoft Windows or Mac OS is sufficient for this course. This course is fairly technical though, and includes the study of many networking protocols, of some basic communication theory, and of multiple routing algorithms, therefore some knowledge of computer algorithms is a plus.

Credits	3	Contact Hours	45
Week 1	6/29(Tue)	Introduction: types of networks (LAN, WAN, wireless), network software, reference models (OSI, TCP/IP).	
	6/30(Wed)	Physical layer: communication theory, guided transmission media, wireless transmission, multiplexing.	
	7/1(Thu)	Physical layer: satellites, phone networks, mobile phones, cable television.	
Week 2	7/5(Mon)	Data link layer: frames, error detection and correction, examples.	
	7/6(Tue)	MAC sublayer: channel allocation and collisions, multiple access protocols, Ethernet.	
	7/7(Wed)	MAC sublayer: wireless and broadband, bluetooth, switches, bridges.	
	7/8(Thu)	Network layer: packet switching, routing protocols.	
Week 3	7/12(Mon)	Network layer: congestion, quality of service, internetworking.	

	7/13(Tue)	Network layer: IPv4, OSPF, BGP, IPv6.
	7/14(Wed)	Transport layer: connection, flow control, UDP.
	7/15(Thu)	Transport layer: TCP, sockets.
Week 4	7/19(Mon)	Application layer: DNS, email, world wide web.
	7/20(Tue)	Application layer: multimedia protocols. Introduction to network security.
	7/21(Wed)	Network security: IPsec, firewalls, VPNs, wireless security, email security, web security.
	7/22(Thu)	Examination

Evaluation(%)	Midterm	Final	Attendance	Assignments	Participation	Etc.
	0	40	0	60	0	0

※ Applicants with intent for more than one course are asked to make up a syllabus for each, repeatedly using the above template.