

**OSTIM TECHNICAL UNIVERSITY
FACULTY OF ENGINEERING
COURSE SYLLABUS FORM
2022-2023**

Course Name	Course Code	Period	Hour	Application Hour	Lab Hour	Credit	ECTS
Computer Networks	EEE456	Fall	3	3	0	3	4

Prerequisite	None
Language of Instruction	English
Course Status	Elective
Course Level	Undergraduate
Method of Teaching	In class lectures
Learning and Teaching Techniques of the Course	Lectures, Homeworks, Projects

Course Objective

The aim of this course is to introduce the students with theoretical and practical aspects of computer networks using the Internet as a framework. Homeworks and projects will be used for shedding light on the basics, applications and design of computer networks.

Learning Outcomes

Upon successful completion, students will have the knowledge and skills to:

1	Understand and describe the layered protocol model,				
2	Demonstrate understanding of datalink, network, and transport layer protocols,				
3	Demonstrate understanding of wireless and mobile networking principles,				
4	Understand and describe network security issues.				

Course Outline

This course is an introduction computer networks with Internet as the primary focus. Topics include application layer, transport layer, network layer, data link layer; the protocols used in each of these layers; wireless and mobile networks; and network security.

Weekly Topics and Related Preparation Studies		
Weeks	Topics	Preparation Studies
1	Introduction to Computer Networks	Chapter 1, Kurose & Ross, 7th Ed.
2	Application Layer	Chapter 2, Kurose & Ross, 7th Ed.
3	Application Layer	Chapter 2, Kurose & Ross, 7th Ed.
4	Transport Layer	Chapter 3, Kurose & Ross, 7th Ed.
5	Transport Layer	Chapter 3, Kurose & Ross, 7th Ed.
6	Network Layer: Data Plane	Chapter 4, Kurose & Ross, 7th Ed.
7	Network Layer: Control Plane	Chapter 5, Kurose & Ross, 7th Ed.
8	Midterm	
9	Network Layer, Chapter 5	Chapter 5, Kurose & Ross, 7th Ed.
10	Link Layer, Chapter 6	Chapter 6, Kurose & Ross, 7th Ed.
11	Link Layer, Chapter 6	Chapter 6, Kurose & Ross, 7th Ed.
12	Wireless and Mobile Networks	Chapter 7, Kurose & Ross, 7th Ed.
13	Wireless and Mobile Networks	Chapter 7, Kurose & Ross, 7th Ed.
14	Network Security	Chapter 8, Kurose & Ross, 7th Ed.
15	Network Security	Chapter 8, Kurose & Ross, 7th Ed.
16	Final Exam	

Textbook(s)/References/Materials:
Computer Networking: A Top Down Approach, J. F. Kurose & K.W. Ross, 7th Ed. Pearson.
Computer Networking with Internet Protocols and Technologies, William Stallings, Prentice Hall.

Assessment		
Studies	Number	Contribution margin (%)
Active Participation		
Lab		
Application	5	10
Field Study		
Course-Specific Internship (if any)		
Quizzes / Studio / Critical		
Homework	5	20
Presentation		
Projects	5	10
Report		
Seminar		

Midterm Exams / Midterm Jury	1	30
General Exam / Final Jury	1	30
Total		100
Success Grade Contribution of Semester Studies		70
Success Grade Contribution of End of Term		30
Total		100

Course Category	
Basic Vocational Courses	x
Specialization/Field Courses	
Support Courses	
Communication and Management Skills Courses	
Transferable Skills Courses	

Relationship Between Course Learning Outcomes and Program Competencies						
No	Learning Outcomes	Contribution Level				
		1	2	3	4	5
1	Ability to apply knowledge of mathematics, science, and engineering				x	
2	Ability to design and conduct experiments and to analyze and interpret experimental results.					
3	Ability to design a system, component, and process according to specified requirements.				x	
4	Ability to work in teams in interdisciplinary areas.				x	
5	Ability to identify, formulate and solve engineering problems.				x	
6	Identifies, defines, formulates and solves complex network problems; chooses and applies analysis and modeling methods suitable for this purpose.					x
7	Develops, selects and uses modern techniques and tools necessary for the analysis and solution of complex problems encountered in Electrical and Electronics Engineering applications; uses required technologies effectively.					x

ECTS / Workload Table			
Activities	Number	Duration (Hours)	Total Workload
Course hours (Including the exam week: 16 x total course hours)	16	3	48
Laboratory			
Application	5	5	25
Course-Specific Internship			
Field Study			
Study Time Out of Class			
Presentation / Seminar Preparation			
Projects	1	5	5
Reports			
Homeworks	5	1	5
Quizzes / Studio Review			
Preparation Time for Midterm Exams / Midterm Jury	1	5	5
Preparation Period for the Final Exam / General Jury	1	5	5
Total Workload		(ECTS 93/25 = 3.72)	