

	FACULTY OF ENGINEERING COURSE SYLLABUS FORM	Doküman No	MF.FR.003
		Revizyon Tarihi	13.11.2024
		Revizyon No	01
		Sayfa No	1 / 6

CENG 314 Computer Networks				
Course Code	Course Name		Semester	
CENG 314	Computer Networks		Fall ☐ Spring ☒ Summer ☐	
Hours			Credit	ECTS
Theory	Practice	Lab	3	6
3	0	0		

Course Details	
Department	Computer Engineering
Course Language	English
Course Level	Undergraduate ☒ Graduate ☐
Mode of Delivery	Face to Face ☒ Online ☐ Hybrid ☐
Course Type	Compulsory ☒ Elective ☐
Course Objectives	The aim of this course is to introduce key concepts and principles of computer networks. The course will use a top-down approach to study the Internet and its protocol stack. Instances of architecture, protocol, application-examples will include email, web and media-streaming. We will cover communications services (e.g., TCP/IP) required to support such network applications. The implementation and deployment of communications services in practical networks: including wired and wireless LAN environments, will be followed by a discussion of issues of network-management. Throughout the course, the Internet's architecture and protocols will be used as the primary examples to illustrate the fundamental principles of computer networking.
Course Content	Chapter 1 Computer Networks and the Internet Chapter 2 Application Layer Chapter 3 Transport Layer Chapter 4 The Network Layer Chapter 5 The Link Layer: Links, Access Networks, and LANs Chapter 6 Wireless and Mobile Networks Chapter 7 Multimedia Networking Chapter 8 Security in Computer Networks Chapter 9 Network Management

	FACULTY OF ENGINEERING COURSE SYLLABUS FORM	Doküman No	MF.FR.003
		Revizyon Tarihi	13.11.2024
		Revizyon No	01
		Sayfa No	2 / 6

	Advanced Topics on Computer Networks
Course Method/ Techniques	Lecture ☒ Question & Answer ☒ Presentation ☒ Discussion ☒
Prerequisites/ Corequisites	
Work Placement(s)	
Textbook/ References/ Materials	
Computer networking : a top-down approach / James F. Kurose, Keith W. Ross.—6th ed. ISBN-13: 978-0-13-285620-1	

Course Category				
Mathematics and Basic Sciences	☐		Education	☐
Engineering	x		Science	☐
Engineering Design	x		Health	☐
Social Sciences	☐		Profession	x

Weekly Schedule		
No	Topics	Materials/Notes
1	Chapter 1 Computer Networks and the Internet	
2	Chapter 1 Computer Networks and the Internet	
3	Chapter 2 Application Layer	
4	Chapter 3 Transport Layer	
5	Chapter 4 The Network Layer	

	FACULTY OF ENGINEERING COURSE SYLLABUS FORM	Doküman No	MF.FR.003
		Revizyon Tarihi	13.11.2024
		Revizyon No	01
		Sayfa No	3 / 6

6	Chapter 5 The Link Layer: Links, Access Networks, and LANs	
7	Exercises, Assignments, Review	
8	Midterm Exam	
9	Chapter 6 Wireless and Mobile Networks	
10	Chapter 7 Multimedia Networking	
11	Chapter 8 Security in Computer Networks	
12	Chapter 9 Network Management	
13	Advanced Topics on Computer Networks	
14	Exercises, Assignments, Review	
15	Final Exam	

Assessment Methods and Criteria

In-term studies	Quantity	Percentage
Attendance	Max. 13 hours of absence	P/F
Lab		
Practice		
Fieldwork		
Course-specific internship		
Quiz/Studio/Criticize		
Homework	4	15
Presentation / Seminar	1	10
Project		
Report		
Seminar		
Midterm Exam	1	% 25
Final Exam	1	% 50
Total		100%
Contribution of Midterm Studies to Success Grade		32,5
Contribution of End of Semester Studies to Success Grade		67,5
Total		100%

ECTS Allocated Based on Student Workload

Activities	Quantity	Duration (Hrs)	Total Workload
Course Hours	13	3	39
Lab			
Practice			
Fieldwork			
Course-specific Work Placement			
Out-of-class study time	13	2	26
Quiz/Studio/Criticize			

	FACULTY OF ENGINEERING COURSE SYLLABUS FORM	Doküman No	MF.FR.003
		Revizyon Tarihi	13.11.2024
		Revizyon No	01
		Sayfa No	5 / 6

Homework	4	6	24
Presentation / Seminar	1	9	9
Project			
Report			
Midterm Exam and Preparation for Midterm	1	12	12
Final Exam and Preparation for Final Exam	1	15	15
Total Workload			125
Total Workload / 25			5
ECTS Credit			5

Course Learning Outcomes

No	Outcome
P1	Be able to analyse a communication system by separating out the different functions provided by the network;
P2	Understand that there are fundamental limits to any communications system;
P3	Understand the general principles behind multiplexing, addressing, routing, reliable transmission and other stateful protocols as well as specific examples of each;
P4	Understand what Forward Error Correction is;
P5	Be able to compare communications systems in how they solve similar problems;
P6	Have an informed view of both the internal workings of the Internet and of a number of common Internet applications and protocols.
P7	Have hands on experience on network monitoring and analysing

Contribution of Course Learning Outcomes to Program Competencies/Outcomes

Contribution Level: 1: Very Slight, 2: Slight, 3: Moderate, 4: Significant, 5: Very Significant

	P1	P2	P3	P4	P5	P6	P7	P8	P9	P10	P11	P12	P13	P14	P15	Total
L1	5	5	5	5	5	5	5	5								40
L2	4	4	4	4	4	4	4	4								32
L3	4	4	4	4	4	4	4	4								32
L4	3	3	3	3	3	3	3	3								24
L5	4	4	4	4	4	4	4	4								32
L6	3	3	3	3	3	3	3	3								24
L7	2	2	2	2	2	2	2	2								16
L8	4	4	4	4	4	4	4	4								32
L9	3	3	3	3	3	3	3	3								24
L10	2	2	2	2	2	2	2	2								16
Total																397