OSTIM TECHNICAL UNIVERSITY
FACULTY OF ENGINEERING

EEE 306 COMMUNICATION SYSTEMS
COURSE SYLLABUS FORM 2022-2023 Fall

Offered by:			Prof. Dr. Yalçın Ata
Name of the Department:			Electrical and Electronics Engineering
Course Level:			Undergraduate
Form Submitting/Renewal Date:			2022-2023 II. Semester
Language of Instruction:			English
Prerequisite			-
Weekly Course Hours			4 hours
Theory	Application	Laboratory	
4	0	0	

Course Objective:
Introduction to and overview of analog and digital communications. The fundamental physics and mathematics of communication, metrics and limitations of telecommunication systems. This course will ensure knowledge for analyzing the basic analog and digital communication systems. Understanding the communication engineering fundamentals.

Learning Outcomes:

Students who successfully complete this course will;

1. learn analog communication systems
2. learn basic digital communication systems
3. differentiate analog and digital representation and transmission of information
4. understand the concept of "noise" in analog and digital communication systems
5. understand the trade-offs (in terms of bandwidth, power, and complexity requirements) between basic analog and digital communication systems
6. be aware of design basic analog or digital communication systems

Learning and Teaching Strategies:
The main teaching methods used to convey the basic concepts and fundamental theories are lectures and tutorials. The homeworks and projects are used to help the students to have an in-depth understanding of the fundamentals of communication systems and apply the theory learned to practice.

	Week number	Weight (%)
Semester Requirements		
Mid-term exam	8, 11	50
Quizzes Homework Assignments/ Presentation	5, 9, 12	10
Final Exam	14	40
Active participation to the lecture	-	-
TOTAL	-	100

Assessment Criteria
The final exam will determine 40% of the total course grade. The rest of the grading 60% is obtained from two midterm exams (50%) and average of three homework (10%).

Textbook(s)/References/Materials:
1. Michael P. Fitz, Fundamentals of Communications Systems, McGraw-Hill, 2007.
2. Simon Haykin, Communication Systems, John Wiley&Sons, Inc, 2001.

Course Policies and Rules:
As a OSTIM Technical University student all students are accepted to not lie, cheat, or steal, nor accept the actions of those who do. Upon accepting admission to OSTIM Technical University, a student immediately assumes a commitment to accept responsibility for learning, and to follow the philosophy and rules of OSTIM Technical University. Ignorance of the rules does not exclude any member of the OSTIM Technical University community from the requirements or the processes of the regulations.

Contact Details for the Instructor: OSTIM Technical University Room number: 824 E-mail: yalcin.ata@ostimteknik.edu.tr
Office Hours: Tuesdays 10:00am -11:00am; Fridays 10:00am -11:00am, and by appointment.

Course Outline:		
Week	**Topics:**	**Note:**
1.	Introduction, Signal and Systems Review, Fourier Transform	
2.	Analog Modulation and Performance Metrics, Amplitude Modulation	
3.	Amplitude Demodulation, Coherent and Envelope Detectors	
4.	Phase and Frequency Modulation Systems	
5.	Phase and Frequency Modulation Systems, Multiplexing	
6.	Noise and Random Processes	
7.	Digital Modulation and Performance Metrics, Shannon's Limit	
8.	**Midterm Exam**	
9.	Digital Modulation Systems	
10.	Digital Modulation Systems	
11.	**Midterm Exam**	
12.	Digital Modulation Design Process	
13.	M-ary Modulation Performance and Spectral Efficiency	
14.	Digital Coding, Compression, and Error Correction	
15.	**Final Exam**	
16.		

ECTS/Workload Table

Activities	Number	Time(h)	Total Workload
Courses (Face-to-face teaching)	12	4	48
Laboratory			
Practice			
Field Study			
Course-Specific Internship (if applicable)			
Quizzes			
Homework	3	2	6
Presentation			
Project			
Report			
Seminar			
Midterm Exams / Midterm Jury	2	2	4
Final Exam / Final Jury	1	2	2
Total Workload			**60**