



Course Lecturer	Yousif abd alwahab kheerallah			
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Title	Communication fundamental			
Course Coordinator	The objective of this course is to teach the student the basic topics of the basics of communication used in the transmission of electrically transmitted data and information.			
Course Objective	Adding modern communications and embedding applications and how to address them in advanced ways			
Course Description				
Textbook	1. Haykin S., Introduction to Analog and Digital ( 2 Communications, second edition, 2007. 2. Principles of Communication Systems ,By S. Chitode ,First Edition-2007			
References	1.Modern Digital and Analog Communication Systems,By B.P.Lathi OXFORD 2.Analog and Digital Communications, By Schaum			
Course Assessment	Term Exam	Project	Quizzes and Attendance	Final Exam
	30		10	60
General Notes				



## Course Weekly Outline

the week	date	Theoretical subject	the scientific material	purposes
3+2+1	4/10/2022	Introduction To Communications Fundamentals	Types of signals and types systems and system general communication	The student will learn important terms and concepts in communication systems
6+5+4	25/10/2022	Fourier Series	spectrum of signals and use theory Parseval and spectrum of functions Trigonometric and complex	The student will learn the process of converting from time domain to frequency domain for signals by using Fourier series
9+8+7	15/11/2022	Fourier Transform	Fourier transform properties Representation of periodic functions	The student will learn the process of converting from the time domain to the frequency domain for signals and modules to facilitate the analysis and design of communication modules
+11+10 12	6/12/2022	Filters	Types of passive filters and effective filter design and its applications in systems Telecommunications	The student will learn about filters
+14+13 +16+15 17	27/12/2022	Amplitude Modulation	Types of Amplitude Modulation and coefficient calculations Embedding and signal generation Modified and restored and total voltage calculations Pregnant signal voltage	The student will learn about the importance of the Modulation process, its causes and types

+19+18 +21+20 22	31/1/2023	Frequency Modulation	Types of Frequency Modulation and coefficient calculations Embedding and signal generation Modified and restored and total voltage calculations	The student will learn about the importance of the Modulation process, its causes and types
24+23	7/2/2023	Noise In Communication System	types of noise in Modulation scaling and frequency Modulation	The student will learn about the Noise In Communication System
+26+25 27	21/2/2023	Transmission Lines	Definition of transmission line And types of transmission line and types Losses in the transmission line	The student will learn about the transmission lines of electrical and electromagnetic waves and signals
+29+28 30	11/3/2023	Smith Chart	apply Smith Chart in the calculation of Impedance and losses in transmission line	The student will learn how to use Smith's diagram to find the reflection coefficient of transmission lines