

وصف مقرر دراسي Course Description

متطلب متزامن Co-Req.	متطلب سابق Pre-Req.	تأريخ TU	عملي LB	نظري LT	الساعات CR	اسم المقرر Course Title	رقم ورمز المقرر Course Code
-	301 كهر	1	-	3	3	مبادئ الاتصالات	320 كهر
-	EE 301					Communications Principles	EE 320

محتويات المقرر:

مقدمة لنظم الاتصالات تشمل: العناصر الاساسيه لنظم الاتصالات- انواع نظم الاتصالات السلكية و اللاسلكية- نظم الارسال و الاستقبال اللسلكية من نوع سوبر هيتروداين . نظم تضمين الاشارة و تشمل: التضمين بالاتساع AM و التضمين بالتردد FM والتضمين بالطور PM . نظم تعديل النبضات و تشمل PAM, PWM, PCM, DPCM, و مكثرات الاشارة و تشمل: مكثرات بتقسيم الزمن و مكثرات بتقسيم التردد. مقدمة لنظم التضمين الرقمية (نظم زحزحة الاشارة) و تشمل زحزحة السعة و زحزحة التردد و زحزحة الطور

Course Contents:

Basic Elements of a Communication System, including: types of communication systems and their building blocks, receiver, transmitter and channel. Wireless communication systems, Superheterodyne transceivers (TRX). **Basic Modulation Techniques**, including: Amplitude modulation (AM), Frequency modulation (FM), and phase modulation (PM). **Pulse modulation Techniques**, including: PAM, PWM and PPM, Pulse Code Modulation (PCM), Differential PCM (DPCM), Delta Modulation (DM). **Signal Multiplexing**, including: time division multiplexing (TDM), and frequency-division multiplexing (FDM). **Introduction to Digital Modulation (Shift Keying)**, including amplitude-shift keying (ASK), frequency-shift keying (FSK) and phase-shift keying (PSK).

Course Objectives:

The student is introduced to the basic elements of communication system, primary communication resources, different sources of information and the need for modulation.
The student should be capable to differentiate between different types of continuous wave modulation techniques.
The student is introduced to the advantages of digital communications, digital switching and digital multiplexing.
The student should be capable to differentiate between different types of digital modulation techniques.

Evaluation Methods:

1. Midterm exams
2. Assignment
3. Quizzes
4. Final exam

Text Book and References:

1- Simon Haykin, **Communication Systems**, John-Wiley & Sons, NY, 2000