نموذج (هـ)

Brief Course Description

Course number: ECE 372	Course name: Digital Communications Systems
لغة تدريس المقرر: English	Pre-requisites: ECE 371, ECE204
Credit hours: 3 (3+ 0 + 0)	Course level: Eighth Level - Fourth Year

Course Description **وصف المقرر :**

Review of basic digital modulation and random processes. Baseband transmission of digital signals. Matched filter. Band-pass transmission of digital signals. Optimum Receivers and BER Analysis over AWGN channels. Introduction to information theory. coding: Block codes and convolutional codes. Channel

Course objectives **أهداف المقرر :**

- ✓ To familiarize the students with baseband digital communication schemes.
- ✓ To enable modeling and analyzing the performance of AWGN channels.
- ✓ To introduce the basics of source and channel coding
- ✓ To investigate the applications of modern digital comm. schemes.

Course Outcomes **مخرجات التعليم:**

Upon completing the course, the student should be able to:

- Understand and describe baseband transmission principles and pulse shaping.
- Derive the optimum receiver design over AWGN channels.
- Analyze the performance of digital modulation schemes over AWGN channels.
- Understand the basics of entropy, channel capacity, and source coding.
- Identify and implement basic channel coding schemes.

Textbook and references **الكتاب المقرر والمراجع المساندة:**

Book	Authors	Publisher	Publication year
Communication Systems (textbook)	S. Haykin and M. Moher	John Wiley & Sons	2010
Modern Digital and Analog Communication Systems	Lathi B. P.	Oxford University Press	2018, New 5th Edition
Digital and Analog Communication Systems	Couch L. W.	Prentice-Hall	2013
Communication Systems Engineering	Proakis J. G. and Salehi M.	Prentice-Hall	2002
Probability And Random Processes for Electrical Engineering	Alberto Leon-Garcia	Pearson	2008