نموذج (هـ)

Brief Course Description

Course number: ECE 270	Course name: Signals and Systems
لغة تدريس المقرر: English	Pre-requisites: ECE 210
Credit hours: 3 (3+ 0 + 0)	Course level: Level 5 - Third Year

Course Description وصف المقرر :

Representation and properties of continuous time signals. Linear time-invariant systems and convolution. Fourier series. Fourier transform and applications. Sampling theorem. Laplace transform. Transfer functions. Time domain analysis of discrete linear systems and z-transform. The discrete Fourier transform.

Course objectives أهداف المقرر :

- ✓ To familiarize the students with the fundamental concepts of continuous and discrete signals and systems and their properties.
- ✓ To explain the notion of linear time-invariant systems and convolution.
- ✓ To explain the different transform-domain techniques and their applications
- ✓ To acquire skills to simulate and implement basic signal analysis.

Course Outcomes مخرجات التعليم:

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

- Understand the characterization of both continuous- and discrete-time signals and systems.
- Identify LTI systems and carry out convolution operation.
- Understand and manipulate the different transform-domain techniques and their applications.
- Simulate signals and systems using Software tools such as Matlab.

Textbook and references الكتاب المقرر والمراجع المساندة:

Book	Authors	Publisher	Publication year
Signals, Systems and Transforms (textbook)	Charles L. Phillips, John M. Parr, Eve A. Riskin	Pearson	2014
Signals and systems	Alan V. Oppenheim, Alan S. Willsky, with. S. Hamid	Prentice-Hall	1997
Signals and Systems: Continuous and Discrete	Rodger E. Ziemer, William H Tranter, D. R. Fannin	Pearson	1998
Signals and Systems Using MATLAB	Luis F. Chaparro	Academic Press	2010