Hashemite University
College of Engineering
Department of Electrical Engineering
EE 322-Signals and Systems(3 Credit Hours/Dept. Compl.)

Instructor

Dr. Ahmad Al-Nimrat	
Email:	nimrat@hu.edu.jo
Office:	E 3070
Office hours:	Sun-Thu: 7:00-8:00 pm

Grading info

Midterm	30%
Home work	15%
quizzes	15%
Final	40%

Class Info

Days	Sun,tue,thu
Time	10:00-11:00 11:00-12:00
Location	E3075

Course

Course Number:	110409322
Prerequisite:	Applied math (110406260), covering the following topics: - Complex numbers analysis. - Linear algebra. - Laplace transform. - Integration techniques.
Textbook:	**"Signals, Systems, and Transforms"**, fifth edition, Charles phillips, John Parr, Eve Riskin, pearson puplishing, 2014.
Course Description:	Course introduce basic concepts of signals and systems, types of signals and systems, signals transformations, mathematical function of signals, system properties, L.T.I. system, fourier series and fourier transform, applications to fourier transform.
Specific Outcomes of Instruction (Course Learning Outcomes):	At the end of the course, the students will be able to: 1. Classify continuous time signals and systems.(a,e) 2. Manipulate signals and systems in time and frequency domains. 3. analyze L.T.I. system. .(a,e) 4. Calculate fundamental signal and system parameters, such as energy, power and bandwidth. .(a,e) 5. practical implementation of filter, 3-db bandwidth, and aliasing using MATLAB.(k) 6- demonstrate general knowledge of contemporary issues in DSP. (j)
Important material	- Lecture notes - References - Internet resources

References:

Signals and Systems using MATLAB, by Luis Chaparro, Second Edition, 2014.

Major Topics Covered and Schedule in Weeks:

Topic	# Weeks	# Contact hours*
Definition of signal and system and their types.		
Transformation and mathematical function of C.T. signals.		
Properties of C.T. systems.		
Analysis of L.T.I. system.		
Fourier series and Fourier transform of C.T. signals.		
Applications to Fourier transform.		
Total		

Student Outcomes (SO) Addressed by the Course:

#	Outcome Description	Contribution
	General Engineering Student Outcomes	
(a)	An ability to apply knowledge of mathematics, science, and engineering	*H*
(b)	An ability to design and conduct experiments, as well as to analyze and interpret data	
(c)	An ability to design a system, component, or process to meet desired needs within realistic constraints such as economic, environmental, social, political, ethical, health and safety, manufacturability, and sustainability	
(d)	An ability to function on multidisciplinary teams	
(e)	An ability to identify, formulate, and solve engineering problems	*H*
(f)	An understanding of professional and ethical responsibility	*L*
(g)	An ability to communicate effectively	
(h)	The broad education necessary to understand the impact of engineering solutions in a global, economic, environmental, and societal context	
(i)	a recognition of the need for, and an ability to engage in life-long learning	
(j)	A knowledge of contemporary issues	*L*
(k)	An ability to use the techniques, skills, and modern engineering tools necessary for engineering practice	*L*

H=High, **M**= Medium, **L**=Low