



weekly lesson schedule

Course Lecturer		Alyaa G. Darweesh			
e-mail					
Title		Signals and Systems:			
Course Coordinator					
Course Objectives		An ability to classify signals (e.g., periodic, even) and systems and an understanding of the difference between discrete and continuous time signals and systems.:			
Course Description		An ability to determine the impulse response of a differential or difference equation.			
Textbooks		CALCULUS, Thomas, twelfth edition			
final exam 50	project	Assignment	daily exams	lab	Midterm Exam
		20	20	20	10
General Notes					



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Week	Date	Topics Covered	Number of Hours	Notes
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١	1٠-11-2024	BACKGROUND : Complex Numbers, Sinusoids, Sketching Signals		
٢	١٧-11-2024	Introduction, The Elements of Signals and Systems , Signals classification overview		
٣	2٤-11-2024	The Mathematical Approach to Signals and Systems, Signal Representation, Time Domain and Frequency Domain Representation of Signals, Representation of Signals in the Complex Frequency Domain		
٤	١-12-2024	Some Useful Signal Models, The Unit Step Function $u(t)$, The Unit Impulse Function $\delta(t)$, The Exponential Function e^{st}		
٥	٨-12-2024	Basic Operations on signals, Time Shifting, Time Scaling, Time Reversal, Combined Operations		
٧-٦	15-12-2024 22-12-2024	Properties of Signals, Size of a Signal, Signal Energy and Power, Transformations of Signals, Periodic, Even and Odd Functions, Some Properties of Even and Odd Functions, Even and Odd Components of a Signal Even and Odd Signals		
٩-٨	29-12-2025 5-1-2025	Classification of Signals , Continuous-Time and Discrete-Time Signals, Continuous-Amplitude and Discrete-Amplitude Signals , Exponential and Sinusoidal Signals, Continuous-Time Complex Exponential Signals, Discrete-Time Complex Exponential Signals, Continuous-Time and Discrete-Time Signals, Analog and Digital Signals, Periodic and Aperiodic Signals, Energy and Power Signals, Deterministic and Random Signals		
١٢-١١-١٠	12-1-2025 19-1-2025 26-1-2025	Midterm + Representation of Fourier series, Continuous time periodic signals, Dirichlet's conditions, Trigonometric Fourier Series, Exponential Fourier Series, Properties of Fourier series, Complex Fourier spectrum.		
١٤-١٣	2-2-2025 9-2-2025	Deriving Fourier transform from Fourier series, Fourier transform of arbitrary signal, Fourier transform of standard signals, Properties of Fourier transforms.		
١٥	16-2-2025	Sampling theorem – Graphical and analytical proof for Band Limited Signals, impulse sampling, Natural and Flat top Sampling, Reconstruction of signal from its samples, effect of under sampling – Aliasing.		

lecturers signature:

Head of Department signature: