

بِسْمِ اللَّهِ الرَّحْمَنِ الرَّحِيمِ

Republic of Iraq
The Ministry Of Higher Education
& Scientific Research



University: Diyala
College: Engineering
Department: Computer
Stage: Fourth
Lecturer name: Dr. Ali J. Abboud
Qualification: Ph.D.
Place of work: Computer Dept.

Course Instructor	Dr. Ali J. Abboud				
E-mail	Ali.j.abboud@gmail.com				
Title	Digital Signal Processing				
Course Coordinator	Dr. Ali J. Abboud				
Course Objective	To teach students the concepts of digital signal processing				
Course Description	Students will learn the basics of digital signal processing including elementary signals, time domain analysis, Discrete and Fast Fourier Transforms, Z-Transform, Digital Filters, Digital and Analog Filters Design.				
Textbook	<ol style="list-style-type: none">١. Andreas Antonio: Digital Filters: Analysis and Design, ١٩٧٩.٢. Lonnie C. Ludeman: Fundamentals of Digital Signal Processing, ١٩٩١.٣. BY Lathi: signal Processing and Linear Systems, ١٩٩٨.٤. Paul A. Lynn: Introductory Digital Signal Processing with Computer Applications, ١٩٩٨.				
Course Assessments	Term Tests	Laboratory	Quizzes	Project	Final Exam
	As(٣٠%)	As(٠%)	As(١٠%)	-	As(٦٠%)
General Notes					

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Course Weekly Outline

Week	Date	Topics Covered	Lab. Experiment Assignments	Notes
١	٢٣/٠٩/٢٠١٤	Basic types of digital signal		
٢	٣٠/٠٩/٢٠١٤	Classification of digital systems		
٣	٠٧/١٠/٢٠١٤	Characterization of digital filters		
٤	١٤/١٠/٢٠١٤	Describing digital signals with impulse function		
٥	٢١/١٠/٢٠١٤	Describing digital LTI processors		
٦	٢٨/١٠/٢٠١٤	Digital convolution and de-convolution		
٧	٠٤/١١/٢٠١٤	Circular Convolution		
٨	١١/١١/٢٠١٤	Digital Correlation		
٩	١٨/١١/٢٠١٤	Introduction on Fourier Transforms		
١٠	٢٥/١١/٢٠١٤	Continuous Fourier Series		
١١	٠٢/١٢/٢٠١٤	Discrete time Fourier series		
١٢	٠٩/١٢/٢٠١٤	Discrete Fourier Transform		
١٣	١٦/١٢/٢٠١٤	Fast Fourier Transform (FFT)		
١٤	٢٣/١٢/٢٠١٤	Decimation in time fast Fourier Transform		
١٥	٣٠/١٢/٢٠١٤	Decimation in frequency fast Fourier Transform		
١٦	٠٦/٠١/٢٠١٥	End Term Exam		
Half – year break				
١٧	١٧/٠٢/٢٠١٥	Direct and indirect method		
١٨	٢٤/٠٢/٢٠١٥	Cascade method		
١٩	٠٣/٠٣/٢٠١٥	Parallel method		
٢٠	١٠/٠٣/٢٠١٥	Realization of FIR filter		
٢١	١٧/٠٣/٢٠١٥	Realization of IIR filter		
٢٢	٢٤/٠٣/٢٠١٥	Analog Filter Design		
٢٣	٣١/٠٣/٢٠١٥	Butterworth filters		
٢٤	٠٧/٠٤/٢٠١٥	Chebyshev filters		
٢٥	١٤/٠٤/٢٠١٥	Digital Filter Design		
٢٦	٢١/٠٤/٢٠١٥	Design by using numerical solutions of differential equations		

۲۷	۲۸/۰۴/۲۰۱۵	Analog design using digital filters		
۲۸	۰۵/۰۵/۲۰۱۵	Design of digital filters using digital to digital transformations		
۲۹	۱۲/۰۵/۲۰۱۵	Fir filter design		
۳۰	۱۹/۰۵/۲۰۱۵	Bilinear transformation		
۳۱	۲۶/۰۵/۲۰۱۵	DSP applications in programming language MATLAB		
۳۲	۰۲/۰۶/۲۰۱۵	End Term Exam		

INSTRUCTOR Signature:

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