



Course Syllabus

Course ID	0902309
Course Title	Signal Analysis & Processing
Prerequisite	0902301
Time & Date	
Coordinator	-
Instructor	Assoc. Prof. Dr Head of Communication and electronics Department
Office hours	
Course Description	Classes of signals and systems. Fourier series and transform. Convolution and impulse response. Correlation and power spectral density. Theory and design of digital filters. Discrete Fourier series and FFT. X-transform. Computer applications
Course Objectives	The purpose of this course is to introduce students to 1. The principles of continuous and discrete-time signals. 2. The principles and applications of signal processing. 3. The applications of the Fourier analysis and Laplace-transform in signal processing
Course Outcomes	CO1. The communication process. CO2. communication in small groups , large groups CO3. communication in public . CO4. Writing reports CO5. Interview preparing . CO6. Data analysis .
Course Topics	(1) Introduction to Signals and Systems (2) Basic Continuous-Time Signals (3) Basic Discrete-Time signals HW#1 (4) Continuous-Time Convolution Quiz#1 (5) Discrete-Time Convolution HW#2 (6) System Attributes First exam (7) Linear Time-Invariant Systems HW#3 (8) Properties of LTI Systems Quiz. #2

	<p>(9) Differential and Difference Equations HW#4</p> <p>(10) Fourier Analysis for Continuous-Time signals</p> <p>(11) The Continuous-Time Fourier-Transform Second Exam</p> <p>(12) Properties of the Fourier-Transform HW#5</p> <p>(13) The Laplace Transform Quiz. 3</p> <p>(14) Properties of the Laplace Transform</p> <p>(15) Problem Solving Specimen examination (Optional)</p> <p>(16) --- Final Examination</p>
Course Text Book	<p>Signals & Systems”, Simon Haykin & Barry Van Veen, 2nd edition, Wiley, 2002.</p> <p>- “Signals & Systems”, E. Kamen & B. Heck, 2nd edition, Prentice-Hall, 2000.</p> <p>- “Signals & Systems,” A. V. Oppenheim, A. S. Wilsky, and S. H. Nawab, 2nd Ed., Prentice-Hall, 1997.</p>
Course References	
Course delivery	<p>Lectures</p> <p>Tutorial</p> <p>Lab</p> <p>Homework</p> <p>Project</p> <p>Computer</p> <p>Internet</p> <p>Industrial Visit</p>
Course Assessment	<p>Assignments & short reports..... 10%</p> <p>2 exams @ 20% each 40%</p> <p>Final exam 50%</p>
Updated	

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO12
CO1											
CO2											
CO3											
CO4											
CO5											
CO6											
CO7											

CO8											
CO9											

	a	b	C	D	e	f	g	h	i	j	K
CO1											
CO2											
CO3											
CO4											
CO5											
CO6											
CO7											
CO8											
CO9											

ABET a-k Engineering and Technology program outcome

- (a) An ability to apply knowledge of mathematics, science, and engineering
- (b) An ability to design and conduct experiments, to analyze and interpret data
- (c) An ability to design a system, component, or process to meet desired needs
- (d) An ability to function on multi-disciplinary teams
- (e) An ability to identify, formulate, and solve engineering problems
- (f) An understanding of professional and ethical responsibility
- (g) An ability to communicate effectively
- (h) The broad education necessary to understand the impact of engineering solutions in a global 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
- (k) An ability to use the techniques, skills, and modern engineering tools necessary for engineering practice

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Deliberate plagiarism is a serious act of academic misconduct. Students may be suspended from the University if they are found to have plagiarized their course work. Whether inadvertent or deliberate, plagiarism includes the following:

- (a) word-for-word copying of sentences or whole paragraphs or presenting of substantial extracts from either paper-based or electronic sources the work or data of others that are published or unpublished (such as books, internal reports, and lecture notes or tapes) without clearly indicating their origin;
- (b) using very close paraphrasing of sentences or whole paragraphs without due acknowledgement in the form of reference to the original work;
- (c) submitting another student's work in whole or in part;
- (d) using of another person's ideas, work or research data without acknowledgement;
- (e) copying computer files, algorithms or computer code without clearly indicating their origin;
- (f) submitting work that has been written by someone else on the student's behalf; and
- (g) submitting work that has been derived, in whole or in part, from another student's work by a process of mechanical transformation (e.g., changing variable names in computer programs).