



Course Syllabus

Course ID	0902515
Course Title	Antenna Engineering
Prerequisite	0902306
Time & Date	
Coordinator	
Instructor	Assoc. Prof. Dr. Head of Communication and electronics Department
Office hours	
Course Description	Basic Antenna Directive Antenna Wavelength and Frequency Measurement Measurement of Microwave power and voltage standing wave ratio. Waveguide attenuation and Detector Characteristics. Microwave Tuner and measurement of Impedance The Directional Couplers. Series and shunt Tees. Horn Antenna Measurements. Propagation of Microwave and Reflection loss within Waveguide. Pre : 0902306
Course Objectives	
Course Outcomes	After successfully completing this course, the students should be able to: (a) An ability to apply knowledge of and (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 program outcomes (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
Course Topics	1-2 Antenna Parameters 3 Radiation Integrals 4-6 Wire Antennas 7 Loop Antennas 8-10 Arrays 11 Broadband Dipoles 12 Traveling Wave Antennas 13-14 Aperture and Reflector Antennas 15 Microstrip Antennas
Course Text Book	1) Antenna Theory and Design, Stutzman and Theile, John Wiley. 2) Antennas and Radiowave Propagation, Robert Collin, McGraw-Hill. 3) Antennas for All Applications, Kraus and Marhefka,, McGraw-Hill. 4) Advanced Engineering Electromagnetics, C. A. Balanis, John Wiley
Course References	
Course delivery	Lectures Tutorial Lab Homework Project Computer Internet Industrial Visit
Course Assessment	Assignments & short reports..... 10% 2 exams @ 20% each 40% Final exam 50%
Updated	Dr. Saad 27/9/2009

	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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- (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 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