EC560- Modern Electronic Circuits

CREDIT HOURS

3 Hours

CONTACT HOURS (Hours/week)

Lecture: 2; Tutorial: 2

COURSE COORDINATOR

Dr. Khaled Shehata

TEXT BOOK

Thomas Lee, The Design of CMOS Radio-Frequency Integrated Circuits, 2nd edition, Cambridge Press , 2007

COURSE DESCRIPTION

A course that integrates electonic courses with communication courses to give students the overall picture of different communiactions systems. This includes the design, analysis, testing and troubleshooting methods to be carried in these systems.

PREREQUISITE:

EC 434

RELATION OF COURSE TO PROGRAM

Elective

COURSE INSTRUCTION OUTCOMES

The student will be able to vision how systems are implemented electronically and address the need of integrating electronic and communications courses.

TOPICS COVERED

- Introductory Topics.
- Amplitude Modulation: Transmission.
- Reception: Receiver Characteristics.
- Frequency Modulation: Transmission, Reception.
- Communications Techniques.
- Digital Communications: Coding Techniques.
- Wireless Digital Communications 1.
- Network Communications 1.
- Internet. IP Telephony. Interfacing the Networks
- Television 1.

CONTRIBUTION OF COURSE TO MEET THE REQUIREMENTS OF CRITERION 5:

Professional component Content			
Math and Basic Sciences	**Engineering Topics**	**General Education**	**Other**
	✓		

RELATIONSHIP OF COURSE TO STUDENT OUTCOMES:

Student Outcomes		Course aspects
A	An ability to apply knowledge of mathematics, science, and engineering	a_1
B	An ability to design and conduct experiments, analyze and interpret data.	
C	An ability to design a system, component, or process to meet desired needs within realistic constraints such as economics, environmental, social, political, ethical, health, and safety, manufacturability, and sustainability	c_2 c_3
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, economic, environmental, and social content	
I	A recognition of the need for, and an ability to engage in life-long learning.	
J	A knowledge of contemporary issues within and outside the electrical engineering profession.	j_2
k	An ability to use the techniques, skills, and modern engineering tools necessary for electrical engineering practice.	k