Course Syllabus

Second Semester – 2013/2014

General Information

Course name	Course code	Credits	Contact hours
Biomedical Analog Electronics 1	BMTS351	3 lecture+1 lab	3 lecture+2 lab

Instructors/ Coordinators

	Instructor	Course coordinator
Name	Mr. Abderahman Algahtani	Dr. Khemais Saada
Email	a.alqahtani@mu.edu.sa	k.saada@mu.edu.sa
Ext	2855	2820

Text Book

Title	Electronic Devices and Circuit Theory
Author/Year	Robert L. Boylestad and L. Nashelsky / 2012

Supplemental materials

Recommended Textbooks and Reference Material		
Title	Schaum's Outline of Electronic Devices and Circuits	
Author/Year	Jimmie J. Cathey / 2002	
Electronic Materials (eg. Web Sites, Social Media, Blackboard, etc.)		
Web sites	http://www.prenhall.com/boylestad/	http://wps.prenhall.com/chet_floyd_fundament_2/

Specific Course Information

a. Brief description of the content of the course (Catalog Description)

This course contain the basics of electronics, semiconductor diodes, diode applications, bipolar junction transistor (BJT), DC biasing BJT, Field- Effect Transistor, FET Biasing, BJT transistor modeling, BJT small signal analysis, FET small signal analysis. It contains also the use of transistor as amplifier in electronic circuits and application on biomedical instruments.

b. Prerequisites (P) or Co-requisites (C)

(P) Electrical Circuits - BMTS241

c. Course type (Mandatory or Elective)

Mandatory

Specific Goals

a. Specific outcomes of instruction
By the end of this course, the student should be able to: - Recognize the basics of semiconductor theory: intrinsic and extrinsic semiconductor. (a) - Demonstrate how to use extrinsic semiconductor theory to make a junction diodes and transistors. (a) - Identify different semiconductor components and its uses in biomedical equipment. (b) - Apply electric network theory to semiconductor circuits. (b) - Conduct practical experiments on semiconductor circuits. (c)

b. Student outcomes addressed by the course										
a	b	c	d	e	f	g	h	i	j	k
✓	✓	✓								

Brief list of topics to be covered

Topics	No of Weeks	Contact hours
Semi-conductor theory	2	10
Diodes	1	5
Diodes applications	2	10
Bipolar Junction transistor “BJT”	1	5
Bipolar Junction transistor applications	2	10
Field Effect Transistor “FET”	1	5
Field Effect Transistor “FET” applications	2	10
Transistor as Amplifiers in biomedical instruments	2	10
Diode logic gates	1	5
General Review	1	5