

Course Syllabus

Second Semester - 2013/2014

General Information

Course name	Course code	Credits	Contact hours
Biomedical Digital Electronics 2	BMTS364	2 lecture+1 lab	2 lecture+2 lab

Instructors/ Coordinators

	Instructor	Coordinator
Name	Mr. Anandh Bose	Dr. Hedi Guesmi
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Ext	2834	2819

Text Book

Title	Digital Electronics: Principles, Devices and Applications
Author/Year	Anil K. Maini / 2007

Supplemental materials

Recommended Textbooks and Reference Material	
Title	Digital Fundamentals
Author/Year	Thomas L. Floyd / 2010
Electronic Materials (eg. Web Sites, Social Media, Blackboard, etc.)	
Web sites	http://www.prenhall.com/floyd/

Specific Course Information

a. Brief description of the content of the course (Catalog Description)
This course focuses on advanced digital electronic circuits, including the architecture of Microprocessors and microcontrollers. Architecture of a specific 16 bit processor. Introduction to assembly language programming. Processor interface with memory and input/output interfacing techniques. Applications of microprocessors in biomedical instruments.
b. Prerequisites (P) or Co-requisites (C)
(P) Biomedical Digital Electronics 1 - BMTS 355
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:

- Use of microprocessor and microcontroller as part of complete sensor systems. (b)
- Recognize the assembly language programming instruction set and employ it to write machine programs. (b)
- Analyze and develop application of microprocessor and microcontroller in biomedical instruments. (d)
- Work in groups to implement particular applications. (e)
- Relate the development of digital technology to the health care improvement. (j)

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
Introduction	1	4
Architecture of microprocessor	2	8
Architecture of microcontroller	2	8
Architecture of 16 microprocessor	2	8
Assembly language programming	2	8
Interfacing of microprocessor	2	8
Application of microprocessor & microcontroller in biomedical instruments	3	12
Impact of digital technology in the health care improvement	1	4