Course Syllabus

Second Semester – 2013/2014

General Information

Course name	Course code	Credits	Contact hours
Digital Equipment Design	BMTS592	2 lecture+1 lab	2 lecture+2 lab

Instructors/ Coordinators

	Instructor	Coordinator
Name	Dr. Hedi Guesmi	Dr. Hedi Guesmi
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Ext	2819	2819

Text Book

Title	The 8088 and 8086 Microprocessors: Programming, Interfacing, Software, Hardware, and Applications
Author/Year	Walter A. Triebel and Avtar Singh / 2002

Supplemental materials

Recommended Textbooks and Reference Material	
Title	INTEL Microprocessors 8086/8088, 80186/80188, 80286, 80386, 80486, Pentium, Prentium ProProcessor, Pentium II
Author/Year	Barry B. Brey / 2005
Electronic Materials (eg. Web Sites, Social Media, Blackboard, etc.)	
Web sites	http://80864beginner.com/ http://matthieu.benoit.free.fr/cross/data_sheets/8086_family_Users_Manual.pdf

Specific Course Information

a. Brief description of the content of the course (Catalog Description)
This course covers both software and hardware aspects of an 8086/8088 microcomputer system, including the microprocessor structure, its operation and control, the organization and interface requirements for a microcomputer system, the structures and operations of standard hardware components associated with a microcomputer system, assembly language programming and structure of the machine codes. Lab experiments associated with this course involve assembly program development, digital circuit design, fabrication, and testing.
b. Prerequisites (P) or Co-requisites (C)
None
c. Course type (Mandatory or Elective)
Elective

Specific Goals

a. Specific outcomes of instruction

By the end of this course, the student should be able to:

- Practice the basics of digital system design based on microprocessor and microcontroller. (a)
- Write correctly an assembly language programs. (b)
- Analyze and design various microprocessor and microcontroller applications. (d)
- Participate within small teams in digital circuit design, fabrication, and testing. (e)
- Illustrate microprocessor and microcontroller circuits using standard symbols. (g)
- Use correctly microprocessor and microcontroller datasheet to implement applications. (g)

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
Architecture of 8086/8088	1	4
System Bus and Pin Description	2	8
Functional Description	1	4
Instruction formats	1	4
Instruction Sets of 8086/8088	1	4
Assembly language programming of 8086/8088	2	8
Addressing modes of 8086/8088	1	4
Difference between Microprocessor and Microcontroller	1	4
Sample Programs	2	8
Interfacing 8086/8088	1	4
Applications of Microprocessor and Microcontroller	2	8