

1403450 (Microcomputers System Design) Syllabus - Part 1

General Information

Course Number	1403450
Credit Hours	3/1/4 (Theory credit hours = 3; Lab. credit hours = 1; Total credit hours = 4)
Prerequisites	Microprocessors
Course Coordinator	Omar Sonbul

Course Objective

The objective of this course is to provide the knowledge of microcomputer based system design

Catalog Description

Microcomputer based architecture, assembly language of PIC, microcomputer interfacing

Course Contents

1. Introduction to microcontroller/microcomputer based system design - 2. PIC18 family Architecture and program development - 3. PIC18 family instruction set and assembly language programming - 4. PIC18 family hardware specifications - 5. Basic input outputs and interrupts - 6. Controlling Systems and advanced topics

Text Book

Barry B. Brey, Applying PIC18 Microcontrollers; Architecture, Programming and Interfacing using C and Assembly, Pearson Education, Inc., 2008

Reference Material

Computer Organization and design: The hardware/Software Interface, The Morgan Kaufmann Series in Computer Architecture and Design, 4th Edition, 2008

1403450 (Microcomputers System Design) Syllabus - Part 2

Course Learning Outcomes

Course Learning Outcome (CLO)	
1	An ability to comprehend the knowledge of microcomputer/microcontroller based systems [BL 2, Topics 1, 2]
2	An ability to use PIC18 instruction set architecture for assembly language programming [BL 3, Topic 3]
3	An ability to apply the knowledge of PIC 18 hardware and interfacing peripherals to design a microcomputer based system [BL 3, Topics 4,5,6,]
4	An ability to design a system or component through a hardware project in the area of microcomputer/microcontroller based system [Instructor will evaluate the project on the basis of se
5	An ability to design and conduct experiments in the area of microcomputer/microcontroller based systems [BL 3]

CLO-SO Map

CLO ID	SO IDs										
	a	b	c	d	e	f	g	h	i	j	k
CLO 1	1	0	0	0	0	0	0	0	0	0	0
CLO 2	1	0	0	0	1	0	0	0	0	0	0
CLO 3	1	0	1	0	0	0	0	0	0	0	0
CLO 4	0	0	0	1	0	0	0	1	1	0	0
CLO 5	0	1	0	0	0	0	0	0	0	0	1

Approvals

Prepared by	Abdellatif Semeia
Approved by	Curriculum Committee
Last Update	28 April, 2016