



Hashemite University
College of Engineering
Department of Mechatronics
Microprocessors and Microcontrollers Laboratory 110405425
(1 Credit Hours)

Instructor

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Office:	
Office hours:	TBA

Grading info

Experiments	30
Mid	30
Final	40

Class Info

Days	Tue , Wed
Time	1-4
Location	E2070

Course

Course Number:	
Prerequisite:	Microcontroller and Microprocessor 110405424
Textbook:	PIC 18FXX2 data sheet, 2002Microchip Technology
Course Description (as in the catalog):	This course aims to provide the students with the ability to successfully use the microcontroller by building different circuitry and write the suitable code to make the system work .
Specific Outcomes of Instruction (Course Outcomes):	1.Analyze the needed task(regulation, controlling certain measure, measuring...etc) . (Outcomes c) 2.Design the appropriate electrical circuit for the task . (Outcome e) 3.Write the code that guarantee the system would work and use different software's such as MPLab . (Outcome i,k) 4. Assemble the whole system(Hardware and software). (Outcomes e and c)
Important material	

References: Microchip Pic18FXX2 Data Sheet

Major Topics Covered and Schedule in Weeks:

Topic	# Weeks	# Contact hours
1. Introduction (Chapter 1)	1	6
2. Introduction to MPLab and Instruction set	2	6
3. Input /output port for PIC18f452 , Hardware design (simple circuit)Software Design, Peripherals such as A/D PWM , Interrupt....	3,4,5,6,7,8	30
4. Mid Exam	5	2
5. Final Exam	7	2
Total	15	46

Course Policy

- Attendance is mandatory and absence is allowed up to 15% of the lectures; around 8 one-hour lectures		
- Experiments [30 Points]		
- Mid [30] Points TBD		
- Final [40 Points] TBD		

Student Outcomes (SO) Addressed by the Course:

#	<i>Outcome Description</i>	<i>Contribution</i>
(a)	an ability to apply knowledge of mathematics, science, and engineering	
(b)	an ability to design and conduct experiments, as well as to analyze and interpret data	
(c)	an ability to design a system, component, or process to meet desired needs within realistic constraints such as economic, environmental, social, political, ethical, health and safety, manufacturability, and sustainability	<i>M</i>
(d)	an ability to function on multidisciplinary teams	
(e)	an ability to identify, formulate, and solve engineering problems	<i>M</i>
(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 societal context	<i>L</i>
(i)	a recognition of the need for, and an ability to engage in life-long learning	
(j)	a knowledge of contemporary issues	
(k)	an ability to use the techniques, skills, and modern engineering tools necessary for engineering practice	<i>M</i>

H=High, M= Medium, L=Low