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Department of Computer Engineering	
Microcontroller Lab. (66496)	
Total Credits	**1**
major compulsory	
Prerequisites	P1 : Microcontrollers (66426)

Course Contents

Emphasis on practical application of developing platforms using Microcontroller architectures, peripherals, embedded operating systems, device drivers, compilers, debuggers, timer, interrupt systems, interfacing of devices and communications.

	Intended Learning Outcomes (ILO's)	Student Outcomes (SO's)	Contribution
1	The ability to Build PIC16F877 and 8051 applications using C language	B	50 %
2	The ability to handle different peripherals (e.g. Graphical LCD) using the PIC microcontroller	C	30 %
3	The ability to deal with and develop complex systems, which involves hardware/software co-design.	E	20 %

Textbook and/ or Refrences

Lab Experiments, Books and materials used in the Prerequisite course.

Assessment Criteria	Percent (%)
Laboratory Work	60 %
Final Exam	40 %

Course Plan

Week	Topic
1	Introduction
2	ChipKIT Pro and I/O Control
3,4	Universal Asynchronous Receiver Transmitter
5	Bluetooth Interface
6	Positioning Satellites (GPS)
7	Keypad Handling
8	Timers &Interrupts
9	Controlling a DC Motor
10	Frequency Measurement Using Input Capture
11	Controlling a Stepper Motor
12,13	Garage Door Control
14,15	Design Challenge