

# EE361 Syllabus

## Fall 2009

**Textbook K** Sid Katzen, The Quintessential PIC Microcontroller,  
Springer, New York, New York, 2005.

**P** PIC16F882/883/884/886/887 Data Sheet 28/40/44-Pin,  
Enhanced Flash-Based 8-Bit CMOS Microcontrollers with nanoWatt  
Technology, Microchip Technology Inc., 2008.

Lesson #	Date	Topic	Reading Assignment
1	Monday 24-Aug-09	Introduction and Overview	
3 & 4	2 Wednesday 26-Aug-09	Digital Logic Review	K 1-3, P 1-2,4
	Thursday 27-Aug-09 Lab	PIC16F874 Architecture/Machine Language and Assembly Language	K 4, P 15
	5 Friday 28-Aug-09	Arithmetic Instructions	K 5
6	Monday 31-Aug-09	Logic Instructions	
7	Wednesday 2-Sep-09	Testing for Conditions	K 6
	Thursday 3-Sep-09 Lab	PIC16F874 Programming Introduction — Part I	K 10
8	Friday 4-Sep-09	PIC16F874 I/O Ports	K 11-12, P 3
	Monday 7-Sep-09	Labor Day	
9	Tuesday 8-Sep-09	Subroutines, Functions, and Branching	
10	Wednesday 9-Sep-09 Quiz 1	Light-Emitting Diodes and 7-Segment Displays	
	Thursday 10-Sep-09 Lab	PIC16F874 Programming Introduction — Part II	
11	Friday 11-Sep-09	Debugging with the Debugger and the Oscilloscope	
12	Monday 14-Sep-09	Structured Programming	K 8-9 PIC16 Programming Supplement
13	Wednesday 16-Sep-09	Macros	
	Thursday 17-Sep-09 Lab	Using LEDs and 7-Segment Display — Part I	
14	Friday 18-Sep-09	Handling Interrupts	K 7, P 14.3-14.4
15	Monday 21-Sep-09	Stepper Motors	Stepper Motor Supplement
16	Wednesday 23-Sep-09	PIC16874 Timing Programs	PIC16 Timing Supplement K 13, P 5
	Thursday 24-Sep-09 Lab	Using LEDs and 7-Segment Display — Part II	
17	Friday 25-Sep-09	PIC16F874 Timers 0 and 1	
	Monday 28-Sep-09	Review for Test 1	
	Wednesday 30-Sep-09	Test 1	
	Thursday 1-Oct-09 Lab	Motor Control with the PIC16F874 — Part I	
18	Friday 2-Oct-09	Input from Switches, Knobs, Sliders, & Sensors	
19	Monday 5-Oct-09	C: Review of Types, Operators, and Expressions	
20	Wednesday 7-Oct-09	C: Review of Control Flow (Conditions, Switches, Loops)	
	Thursday 8-Oct-09 Lab	Motor Control with the PIC16F874 — Part II	
21	Friday 9-Oct-09	C: Review of Functions and Programs	
	Monday 12-Oct-09	Columbus Day	
22	Wednesday 14-Oct-09	C: Review of Pointers and Structures	
	Thursday 15-Oct-09 Lab	Motor Control with the PIC16F874 — Part III	
23	Friday 16-Oct-09	Using C with the PIC Processor	
24	Monday 19-Oct-09	Combining Assembly Language with C	
25	Wednesday 21-Oct-09 Quiz 2	A/D and D/A Conversion I	K 14, P 9
	Thursday 22-Oct-09 Lab	C Programming Lab	
26	Friday 23-Oct-09	A/D and D/A Conversion II	
27	Monday 26-Oct-09	PIC16F874 Timer 2 & Capture/Compare	P 11
28	Wednesday 28-Oct-09	Comparator Module	P 8
	Thursday 29-Oct-09 Lab	Design Project Lab — Part I	
29	Friday 30-Oct-09	Using PWM for D/A Conversion	
	Monday 2-Nov-09	Review for Test 2	
	Wednesday 4-Nov-09	Test 2	
	Thursday 5-Nov-09 Lab	Design Project Lab — Part II	
30	Friday 6-Nov-09	Asynchronous Serial I/O I	P 12
31	Monday 9-Nov-09	Asynchronous Serial I/O II	

Lesson #	Date	Topic	Reading Assignment
	Wednesday 11-Nov-09	Veterans' Day	
	Thursday 12-Nov-09 Lab	Design Project Lab — Part III	
32	Friday 13-Nov-09	Synchronous Serial I/O: SPI	P 13
33	Monday 16-Nov-09	Synchronous Serial I/O: I <sup>2</sup> C	
34	Wednesday 18-Nov-09	Memory Types	
	Thursday 19-Nov-09 Lab	Design Project Lab — Part IV	
35	Friday 20-Nov-09	Microprocessor-Based Systems I	Microprocessor-Based Systems Supplement
36	Monday 23-Nov-09	Microprocessor-Based Systems II	
37	Wednesday 25-Nov-09 Quiz 3	Microprocessor-Based Systems III	
	Thursday 26-Nov-09	Thanksgiving	
	Friday 27-Nov-09	Thanksgiving	
38	Monday 30-Nov-09	Using EEPROM in the PIC16F874	K 15
39	Wednesday 2-Dec-09	Memory: Error detection & correction	Error Detection & Correction
	Thursday 3-Dec-09 Lab	Design Project Lab — Part V	
40	Friday 4-Dec-09 Quiz 4	Watch Dog Timers	P 14.5
	Monday 7-Dec-09	Project Presentations/Demonstrations	
	Wednesday 9-Dec-09	Project Presentations/Demonstrations	Design Project Lab — Part II
	Thursday 10-Dec-09 Lab	Project Presentations/Demonstrations	
	Friday 11-Dec-09	Final Exam Review/Course Wrap Up	