

Instructor: Sherilyn Keaton
Office: 256 A
Office Hours: MWF 10:00 – 11:00 am and 12:30 – 1:30 and by appointment
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Class: MWF 2:00 – 2:50 pm, Chavez 400
Lab: ENGR 256
Prerequisites: ENGR 102 and ENGR 211M or ECE 207
Website: D2L

Description: Boolean Algebra, combinational and sequential logic circuits, finite state machines, simple computer architecture, assembly and C/C++ language programming and real-time computer control.

Software: We will use the Arduino IDE (Integrated Development Environment) to write C/C++ based sketches (programs). We will work together in class to review the software and installation instructions and do a live download and setup when we need to start using the software.

Grading: Regular grades are awarded for this course: A B C D E. Grade distribution:

20% Homework

30% Lab Assignments

25% Midterm Exam

25% Final Exam

Textbook: None

Reference:

Arduino Online Reference Pages

Contemporary Logic Design, Katz, Randy H. and Borriello, Gaetano, 2nd Edition, Pearson Prentice Hall, 2005.

Course Objectives:

Understanding of number systems, Boolean Algebra, Karnaugh Maps and digital logic,
Translate software implementation of a system into a hardware implementation or vice versa,
Design, develop, debug, deploy and run software on the Arduino platform,
Use a microcontroller to interface with external hardware devices.