Mr.D (Don Wilcher)
Microprocessors – ET355, Winter Qtr, 2009
Wednesday 6:00pm-10:30pm
Email address: mrdon219@aol.com
Website: <http://www.family-science.net>

Course Outline and Objective:
This course is intended to introduce the CEET (Computer & Electronics Engineering Technology) student to Embedded Systems using the 8051 microcontroller. Digital Technology will be discussed as it relates to the architecture of microprocessors and microcontrollers, I/O interfacing and Assembly Language programming. Also, a brief history and evolution of the 8051 microcontroller will be presented along discussions on high end embedded systems using x86 microprocessors.

The materials presented in class will illustrate microcontrollers, microprocessors and I/O circuit blocks can be applied to real world consumer and industry applications. The **emphasis** of this course is **hands-on:** In other words this class is about **building** practical control and detection devices and writing embedded software in Assembly Language. I encourage all students to build the circuits so the experience of identifying pin outs, component orientation, troubleshooting, and operating electronic measurement instrumentation can be incorporated within your CEET tool box of knowledge. This course will demand out of class activities via the software simulation studies and debugging techniques as well as writing detail lab reports and research assignments using the ITT Tech Virtual Library. The skills obtained in this course are essential to having a successful career in Electrical, Electronics, and/or Computer Engineering. Therefore, it is imperative that total participation of the student is required to fulfill this career-training goal.

Course Requirements:
Regular attendance of each class session per week for 10 weeks

- Quizzes
- Homework Problem Sets, Pre-Lab Assignments and Virtual Library Assignment(s)
- 2 Exams

- Lab Projects & Reports
- Lab Notebook
- Final Exam
- Final Lab Project

Course Themes:
New Product Development Techniques, Design for Empowerment, and DIY Discovery through Innovation

Grading scheme:
Quizzes: 10%
Homework [Pre-Labs + Homework Assignments + Virtual Library Assignments] 15%
Exams: 20%
Lab Projects + Lab Notebook+ Lab Reports 30%
Final Exam: 15%
Final Lab Project: 10%

Grading Scale:
A 90 - 100%: 4.0
B+ 85 - 89%: 3.5
B 80 - 84%: 3.0
C+ 75 – 79%: 2.5
C 70 - 74%: 2.0
D+ 65 - 69%: 1.5
D 60 - 64%: 1.0
F <60%: 0.0

Electronics Lab Ground Rules:

1. **No food is allowed in the lab.**
2. **No horse play will be tolerated while conducting lab experiments**
3. **Respect of classmates and the educational institution's property is required of each student at all times.**

Note: A 1 time warning of the above restrictions will be given to the student. 2nd time offense will require school disciplinary action.

Pre-Lab and Lab Report Turn In Requirements

1. Pre-Labs are due the day of the Lab.
2. Lab reports a week after performing the experiment.
3. In the event of an absence, the Pre-Lab and Lab report can be emailed or turned in ahead of time prior to arrange time made by the student and the instructor.

Additional Information:

- Attendance is essential to doing well in the course. The Final Exam is comprehensive and will focus primarily on material presented in the lecture/homework assignments and lab exercises.
- **ALL ASSIGNMENTS WILL BE POSTED ON THE INSTRUCTOR'S WEBSITE.** If you are unable to attend a lab session, it is your responsibility to obtain the material from other students, or instructor's website.
- Completion of all elements of the Grading Scheme is required in order to receive a passing grade.
- Should you encounter any problems please contact the instructor ahead of time via email.
- Full credit at the beginning of class on the due date.
- **A 2week grace period for excused late assignments will be granted by the instructor. If late assignment is granted, 30pts will be taken from the assignment. No late assignments will be taken after the 3rd week of the quarter.**