

MrDon (Don Wilcher)

**Digital Electronics II** - ET285, June Qtr, 2009

Tuesday 6:00pm-10:30pm

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### **Course Outline and Objective:**

This course is intended to introduce the CEET (Computer & Electronics Engineering Technology) student to Digital Counters (Asynchronous & Synchronous), Shift Registers, Memory and Storage, DSP (Digital Signal Processing), and Combinational & Sequential Logic Programming and their electrical characteristics and behaviors. Also, there is a Design Project and Presentation that is required of this course as well. These physical attributes will be investigated via hands-on experimentation, testing and circuit simulation. You will have the opportunity of exploring Digital IC technology operation using solderless breadboards, ac & dc power supplies, oscilloscopes, signal generators, logic probes, PLD (Programmable Logic Devices) programmers, and digital multimeters. Circuit simulation software will be used as a pre-lab thereby allowing you the opportunity to investigate and experiment with the target circuit prior to the lab session

The materials presented in class will illustrate how the basic electrical and electronic circuit blocks can be applied to real world consumer and industry applications. The **emphasis** of this course is **hands-on**. 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 pre-lab circuit simulation studies as well as writing detail lab reports. 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.

### **Documentation Development**

The following class documentation will be the responsibility of the student to create, manage, and submit for final grades.

- Lab Reports
- Lab Project Notebook - Compilation of all Lab Projects bound in a folder.

- Virtual Assignments - Research & Analysis Papers on Engaging Themes Investigations.

**Course Requirements:**

- Regular attendance of each class session per week for 10 weeks
- Homework and Pre lab assignments
- Lab reports, Lab Project Notebook, and Virtual Assignments
- 2 Exams
- Final Exam
- Quizzes
- Design Project

**Grading scheme:**

Quizzes: 10%

Homework [Pre-Labs + Homework Assignments + Bonus Points] 15%

Exams: 15%

Lab Exercises (Lab Reports): 30%

Final Exam: 15%

Lab Project: 15%

**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.

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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. 2<sup>nd</sup> 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. Points Pre-Labs
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 will focus primarily on material presented in the labs and all 3 exams.
- **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, email/website or instructor.
- 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
- 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 accepted after the 3<sup>rd</sup> week of the quarter.**