Tentative Syllabus for Physics 432
Advanced Electronics
Spring 2015

Catalog Description:

PHYS 432 - Advanced Electronics
Hours: Three

Embedded system design and programming. Topics include microcontroller selection, peripheral interfacing, programming languages, and microcontroller development tools.

Cross Listed/ Same As Same as CSci 497(432)

Goals of the Course: Students learn the interfacing principles and real-time system design using microcontrollers. Weekly assignments teach the fundamentals of transducer and actuator interfacing and embedded computing. After these skills are mastered, each student completes project based using these skills. Reports are written for the weekly exercises and the term project.

Texts:
1. Arduino Cookbook 2nd edition
   by Michael Margolis

2. Make: Electronics
   by Charles Platt

optional texts:

PIC Microntrollers
by John Peatman

Embedded C Programming and the Microchip PIC
by Barnett, Cox, and O'Cull

Practical Electronics for Inventors
by Paul Scherz

Art of Electronics
by Paul Horowitz and Winfield Hill

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Grading Procedure and Scale:
The course grade is determined from homework, three hour exams, weekly exercises, a term project, and the final exam as outlined below.

- Homework, attendance, and pop quizzes — 100 points
- Each hour exam – — 100 points (total 300 points)
- Term Project — 100 points
- Final exam (comprehensive) — 100 points

Course Grade: The course grade is determined from the weighted average of the lecture and lab grades according to the schedule below.

90% and up	A
80% to 90%	B
60% to 80%	C
50% to 60%	D
less than 50%	F

Lecture Time and Place: TBA Science Room 114

Instructor: **C**harles Rogers Office S-238 or Research Lab S-108
Phones 886-5486 or 3091
charles_rogers@tamu-commerce.edu

Office Hours: One half hour before and after all my classes and by appointment at other times. Typically, I am also available for help most afternoons and many evenings.

Attendance and Tardiness: Students are expected to be on-time and present for all class meetings. Excused absences can be arranged prior to the class period being missed for appropriate activities as determined by the instructor. If an emergency results in an absence, the student should contact the instructor as soon as possible informing the instructor of the emergency and inquiring about ways to make up the missed class. The instructor will make judgments on how to handle the situation. Possible reasons for an excused absence are listed in the " Student's Guidebook" under class attendance policy. Attendance and tardy records will be maintained and both may result in deductions from your overall grade.

Classroom Behavior: Disorderly conduct which interferes with the normal classroom atmosphere will not be tolerated. The classroom instructor is the judge of such behavior and may instruct a disorderly student to leave the room with an unexcused absence or in more serious situations a student may be removed from the class with a failing grade.

Cheating and other Breaches of Academic Conduct: Academic cheating, plagiarism, and other forms of academic misconduct may result in removal of the student from class with a failing grade or may in extreme cases result in suspension or expulsion from the University as described in the "Code of Student Conduct" section of the " Student's Guidebook".

ADA Eligible Students: ADA eligible students should make arrangements with the instructor in the first week of the semester about special arrangements needed for classroom or testing facilities and procedures to accommodate the disability.

Evaluation of Instruction: Students will be given opportunities to evaluate instruction near the end of the semester. The physics department utilizes a scantron graded questionnaire with statements regarding various elements of instruction and in addition utilizes an open ended form where students can make comments on all elements of the classroom. These comments are given to the instructor and department head soon after the grades are recorded.