Tentative Syllabus for Phys 552
Advanced Microelectronics
SPRING 2015

Catalog Description:

Phys 552 – Advanced Microelectronics
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 552

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. Then each student completes a term project based upon these skills. Reports are written for the weekly exercises and the term project.

Texts:

1. Arduino Cookbook, 2nd Edition
   by Michael Margolis

2. Hacking Raspberry Pi
   by Timothy L. Warner

optional supporting texts include:

Programming Arduino Next Steps: Going Further with Sketches
by Simon Monk

Raspberry Pi Cookbook: Software and Hardware Problems and Solutions
by Simon Monk

Practical Electronics for Inventors, 3rd edition
by Paul Scherz and Simon Monk

Art of Electronics
by Paul Horowitz and Winfield Hill

Grading Procedure and Scale:
The course grade is determined from homework, weekly exercises, a term project, midterm exam and the final exam with the following weights.

- Homework, attendance, and pop quizzes 100 points
- Midterm exam 100 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@tamuc.edu

Office Hours: M 10:30-11am, T 9-9:30am, R 9-9:30am, F 12:30-1pm or by appointment at other times. I am also available in my lab most days before and after classes.

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.