

University of Texas at El Paso

EE 4230 Senior Projects II

Fall 2017

Professor: Rodrigo Romero, Ph.D.

Email: raromero2@utep.edu

Phone: (915) 747-6090

Office Hours: TR12:30 PM – 1:30 PM or by appointment

Teacher Assistant: TBD

Email: tbd

Other times by appointment

Required Textbook: Design for Electrical and Computer Engineers—Theory, Concepts, and Practice, R. M. Ford and C.S. Coulston, ISBN 978-0-07-338035-3, McGraw-Hill

Course Objectives:

1. To develop an electronic functional system that incorporates and demonstrates competency in the four concentration areas (Computer Engineering, Fields and Devices, Systems/Communications, and General Electrical Engineering) of the Bachelor of Science in Electrical Engineering degree. The system should be capable of processing inputs in order to generate usable outputs. It should include a minimum:
 - a. Microcomputer or microprocessor or microcontroller
 - b. User interface
 - c. Sensors
 - d. Design and fabrication of a printed circuit board
2. Develop the proper documentation required to support and duplicate the project.
3. Effectively communicate, orally and in writing, the project work to faculty, project sponsors and other students.
4. SP I design is concluded in EE 4230.

Grading:

A = 90 – 100%

B = 80 – 90%

*C = 70 – 80%

D = 60 – 69%

F = Below 60^

***Passing Grade of C or better is required**

I. Assignments

1. Must be:
 - a. Typewritten and should include name, title of assignment, due date, and pages numbered sequentially.
 - b. Staped on the upper left-hand corner of paper.
 - c. Bring two copies to class, and send one electronic copy to the Instructor and T.A.'s via email.

2. Spelling, punctuation, grammar, and neatness count 20%. There will be no make-up work or extra credit assignments during the semester.

II. Miscellaneous

1. You are encouraged to pick up your assignments, quizzes, etc... If they are not picked up after two weeks, they will be destroyed
3. This syllabus is subject to change at any with prior notice.

III. Incompletes

1. Are not granted in this course.

Work to be completed by the end of the first Senior Projects semester:

1. Attend all lab sessions as an integrated group. *No more than 2 unjustified absences will be allowed. The student will be dropped from the course if 2 or more unjustified absences are accumulated during the semester.*
2. All electronic circuit designs must be simulated & completed.
3. All electronic computer simulations done via Proteus
4. All circuit components to be used in the final system properly identified, including vendors and prices.
5. All circuit components purchased.
6. All mechanical, optical, acoustical, etc. designs completed.
7. All non-electrical parts sources identified. Costs established and parts ordered.
8. Commercial software identified and ordered.
9. New coded software completed and tested.
10. Laboratory Notebooks completed.
11. All subsystems functional and operational on breadboard.
12. *Technical Report* Completed.

Fall 2017 Deliverables

NOTES

1. Fully integrated system
2. Gap Analysis
3. PCB Layout
4. PCB Checkout
5. User Manual
6. One-sheet project description
7. Final Poster
8. Final Presentation
9. Full System Demonstration