1. Course number and name
   • EE 4230: Senior Project Laboratory II

2. Credits and contact hours
   • 2 credits, 4 contact hours

3. Instructor’s or course coordinator’s name
   • Rodrigo Romero

4. Text book, title, author, and year
   • Design for Electrical and Computer Engineers—Theory, Concepts, and Practice,

5. Specific course information
   a. brief description of the content of the course (catalog description)
      i. Laboratory development of special projects concerned with various electrical systems. Small group or individual semester projects are stressed.
   b. prerequisites or co-requisites
      i. Prerequisites For general engineering option: EE 4220 and EE 4210.
         For computer engineering option: EE 4220 and EE 4142, or EE 4178, each with a grade of "C" or better.
   c. indicate whether a required, elective, or selected elective (as per Table 5-1) course in the program
      i. Required Course

6. Specific goals for the course
   a. specific outcomes of instruction (e.g. The student will be able to explain the significance of current research about a particular topic.)
      i. 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. (ABET 1a through 7b). It should include a minimum:
         • Computational Component (Laptop, Microcomputer, microprocessor, or microcontroller)
         • User interface
         • Sensors
         • Design and fabrication of a printed circuit board
      ii. Develop the proper documentation required to support and duplicate the project (ABET 3a, 3b).
      iii. Effectively communicate, orally and in writing, the project work to faculty, project sponsors, and other students (ABET 3a, 3b, 4a, 4b, 5a).
      iv. EE4220 design is concluded in EE 4230 (ABET 5a, 5b).
b. explicitly indicate which of the student outcomes listed in Criterion 3 or any other outcomes are addressed by the course.

i. Student Outcome 1c, “an ability to identify, formulate, and solve complex engineering problems by applying principles of engineering, science, and mathematics”

ii. Student Outcome 2b, “an ability to apply engineering design to produce solutions that meet specified needs with consideration of public health, safety, and welfare, as well as global, cultural, social, environmental, and economic factors”

iii. Student Outcome 3a, 3b, “an ability to communicate effectively with a range of audiences”

iv. Student Outcome 5a, 5b, “an ability to function effectively on a team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives”

v. Student Outcome 6a-6c, “an ability to develop and conduct appropriate experimentation, analyze and interpret data, and use engineering judgment to draw conclusions”

vi. Student Outcome 7a,7b, “an ability to acquire and apply new knowledge as needed, using appropriate learning strategies”

7. Brief list of topics to be covered

- Gap analysis
- Testing
- Ethical and legal aspects
- Printed circuit board
- System documentation
  - User Manual
  - One-sheet project description
  - project report
  - Project Poster
- Final Presentation
- Full System Public Demonstration