



Course Description

EET4166C | Senior Design 2 | 2.00 credits

Senior Design 2 is a project-based experience course in which students apply all of the skills they have acquired to analyze, design, simulate, synthesize, and test a complete system. Prerequisite EET4165C. Department approval required.

Course Competencies

Competency 1: The student will demonstrate the ability to analyze system requirements by:

1. Identifying system goals
2. Outlining system performance requirements
3. Defining project specifications
4. Performing relevant theoretical analysis
5. Evaluating ethical issues related to the implementation and use of the system
6. Assessing the environmental impact of the system

Competency 2: The student will demonstrate the ability to design and simulate an electronic/electrical system by:

1. Creating an appropriate block diagram of system
2. Defining each block as a schematic representation
3. Translating schematic representations into simulation models
4. Identifying appropriate systems, components, materials necessary to meet the system requirements
5. Defining printed circuit board (PCB) layouts for the system

Competency 3: The student will demonstrate the ability to synthesize and test the final electronics/electrical system by:

1. Assembling components on PCB(s)
2. Building additional structures to house the system(s)
3. Integrating additional parts (motors, transducers, sensors, etc.) to complete the system(s)
4. Verifying the system to ensure its functionality as specified in the project design
5. Reevaluating system performance and modifying as needed to satisfy project requirements

Competency 4: The student will demonstrate the ability to document and present final system implementation by:

1. Presenting a system demonstration with fellow team members in a peer review environment consisting of faculty and other student teams
2. Documenting the project life cycle to include analysis, design, synthesis, and testing of the project

Learning Outcomes:

- Communicate effectively using listening, speaking, reading, and writing skills
- Solve problems using critical and creative thinking and scientific reasoning
- Use computer and emerging technologies effectively