Undergraduate Degree Program
Program - CEC Computer Engineering SLO (BS)

Mission Statement
The mission of the School of Electrical, Computer and Enterprise Engineering is to provide excellence in undergraduate education so that our graduates become critical thinkers, creative problem solvers, and lifelong learners; to further the quality of our graduate programs by conducting impact-oriented research that responds to the needs of the State of Florida, in particular, and the nation, in general; and to serve our community.

Electrical and Computer Engineering

Outcomes
FIU graduates should be able to achieve the following:

<table>
<thead>
<tr>
<th>Content Knowledge and Skills (including Technology)</th>
<th>Direct Measures</th>
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<tbody>
<tr>
<td>Knowledge of mathematics</td>
<td>Procedure:</td>
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<tr>
<td>Graduates will be able to apply knowledge of mathematics to solve problems related to the area of computer engineering.</td>
<td>Assessment Instrument: Closed-ended Exam</td>
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<td>Assessment Method: A comprehensive exam is given to all senior CpE (Computer Engineering) students enrolled in &quot;EEL 4620 Senior Design I &quot; at the end of Fall and Spring semesters.</td>
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<td>The exam consists of a set of CpE related problems, which covers the knowledge of (a) Probability &amp; Statistics, (b) Complex variables &amp; Differential Equations.</td>
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<td>The CpE UPAC (Undergraduate Program Assessment Committee), consisting of three faculty members in the area, reviews the results and recommends possible actions to the ECE faculty for approval. The Undergraduate Program Director chairs the committee. Assessment results will be reviewed yearly.</td>
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<tr>
<td></td>
<td>The scale used is given below.</td>
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<td></td>
<td>4: excellent</td>
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<td></td>
<td>3: good</td>
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<td>2: average</td>
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<tr>
<td></td>
<td>1: poor</td>
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<td></td>
<td>Course Assessed: EEL 4620</td>
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<td></td>
<td>Sampling: All students in&quot;EEL 4620 Senior Design I</td>
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<td></td>
<td>Minimum Criteria for Success: Students will score a 2.5 or better.</td>
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<tr>
<th>Technology</th>
<th>Procedure:</th>
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<tbody>
<tr>
<td>Graduates demonstrate the ability to develop software for hardware interface in computer engineering practice.</td>
<td>Assessment Instrument: Rubric</td>
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<td>Assessment Method: All of the design projects in &quot;EEL 4921C Senior Design II: Project Implementation&quot; are presented on Senior Project Day at the end of Fall and Spring semesters.</td>
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<tr>
<td></td>
<td>The proficiency of using (1) modern design tools and (2) problem solving is evaluated by comprehensive exam results plus results from the Industrial Advisory Board (IAB name changed to Academic Assessment Advisory Board AAA in 2012) and program alumni using a designed rubric.</td>
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<tr>
<td></td>
<td>The CE UPAC analyzes the collected information and proposes</td>
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</table>
Students will score a 2 or better on a 4-point rubric. The scale used is given below.

4: excellent
3: good
2: average
1: poor

**Course Assessed:** EEL 4921C  
**Sampling:** All the students in EEL 4921C.

**Minimum Criteria for Success:** Students will score an overall average of 2 or better on a 4-point rubric.

### Critical Thinking

**Graduates will be able to select and evaluate different versions of design with various design methodologies and technologies.**

**Procedure:**

- **Assessment Instrument:** Rubric
- **Assessment Method:** All Senior Design proposals include two sections:
  - (a) Design: discuss and compare various design tools, methodologies, and technologies for the proposed system design
  - (b) Solve: justify the selected methodology and technology using experiments and results.

The CE UPAC reviews these two sections and makes recommendations of actions to the ECE faculty meeting to enhance student learning. Actions will be implemented yearly.

The scale used is given below.

4: excellent
3: good
2: average
1: poor

**Course Assessed:**  
**Sampling:** All students in "EEL 4620 Senior Design I"

**Minimum Criteria for Success:** Students will score an overall average score of 2 or better.

### Communication (Oral or Written)

**Graduates will be able to write effectively.**

**Procedure:**

- **Assessment Instrument:** Rubric
- **Assessment Method:** 1) All the senior design project reports from EEL 4921C is evaluated at the end of Fall and Spring semesters. This evaluation is done by the Senior Design Coordinator and the Academic Assessment Advisory Board (AAA) by using the designed rubric.
  
The CpE UPAC members review the evaluation results and make recommendations of actions to the ECE faculty.

Rubric:

The scale used is given below.

4: excellent
3: good
2: average
1: poor

**Course Assessed:** EEL 4921C  
**Sampling:** All students in EEL 4921C.

**Minimum Criteria for Success:** Students will score an overall average score of 2 or better.
<table>
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<tr>
<th>Oral Communication</th>
<th>Procedure:</th>
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| Graduates will be able to communicate technical concepts effectively in verbal formats. | **Assessment Instrument:** Rubric  
**Assessment Method:** 1) All students present their senior design project at the Senior Design Showcase Event, at the end of each semester. Their presentation and oral communication skills are evaluated by the Academic Assessment Advisory Board (AAA) and the Senior Design Coordinator, using the designed rubric, at the end of Fall and Spring semesters.  
The CpE UPAC members review the evaluation results and make recommendations of actions to the ECE faculty.  
**Rubric:**  
The scale used is given below.  
4: excellent  
3: good  
2: average  
1: poor  
**Course Assessed:** EEL 4921C  
**Sampling:** All students in EEL 4921C.  
**Minimum Criteria for Success:** Students will score an overall average score of 2 or better. |