## Mission Statement

The mission of the Department of Civil & Environmental Engineering (CEE) is to teach, conduct research and serve the community through professional development and technology transfer. The CEE pursues excellent teaching by providing quality education that will enable its graduates to demonstrate their technical proficiency, their ability to communicate effectively, their responsible citizenship, their lifelong learning, and their ethical behavior in their career and professional practice. The CEE also encourages activities that enrich the student potential for career and professional achievement and leadership. The CEE is committed to providing graduates who improve the quality of life, meet the needs of industry and government, and contribute to the economic competitiveness of Florida and the nation. The CEE strives to attain a level of research and scholarly productivity befitting a major research university and warranting national and international recognition for excellence.

## Civil and Environmental 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><strong>Content Knowledge - Environmental Engineering</strong></td>
<td><strong>Procedure:</strong></td>
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</table>
| Graduates will be able to formulate, and solve complex engineering problems by applying principles of engineering, science, and mathematics. | **Assessment Instrument:** Rubric  
**Assessment Method:** A three member panel (faculty and practitioners) will use a Content Knowledge Rubric to assess the senior design project report prepared by the student teams in ENV 4891 Environmental Engineering Senior Design Project course.  

The Content Knowledge Rubric is broken down into 3 areas:  
(1) Application of theoretical concepts  
(2) Use of mathematical and/or scientific principles to describe processes (chemical, physical and/or biological)  
(3) Formulation of the design solution and analysis of alternatives  

Each area will be rated on a 4-point scale where 1 corresponds to weak and 4 to excellent.  

The final score will be the average of the three scores on a 4-point scale where 1 corresponds to weak and 4 to excellent.  

**Course Assessed:** ENV 4891  
**Sampling:** All senior design team projects will be assessed every semester the course is offered.  
**Minimum Criteria for Success:** Student teams will achieve a minimum of 2.5. |

<table>
<thead>
<tr>
<th>Critical Thinking</th>
<th>Direct Measures</th>
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<td><strong>Critical Thinking - Environmental Engineering</strong></td>
<td><strong>Procedure:</strong></td>
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</table>
| Graduates will be able to compare the performance of competing options, analyze and interpret results, and propose solutions for an environmental engineering design problem. | **Assessment Instrument:** Rubric  
**Assessment Method:** A three member panel (faculty and practitioners) will use a Critical Thinking Rubric to assess the senior design project report prepared by the student teams in ENV 4891 Environmental Engineering Senior Design Project course. |
The Critical Thinking Rubric is broken down into 3 areas:
(1) Development of design strategy, including a plan, subtasks, timetable
(2) Interpretation of results and comparison of alternatives
(3) Considerations of public health, safety, and welfare, as well as global, cultural, social, environmental, and economic factors

Each area will be rated on a 4-point scale where 1 corresponds to weak and 4 to excellent.

The final score will be the average of the three scores on a 4-point scale where 1 corresponds to weak and 4 to excellent.

**Course Assessed:** ENV 4891  
**Sampling:** All senior design team projects will be assessed every semester that the course is offered.  
**Minimum Criteria for Success:** Student teams will achieve a minimum of 2.5.

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<tr>
<th>Communication (Oral or Written)</th>
<th>Direct Measures</th>
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<tbody>
<tr>
<td>Written Communication - Environmental Engineering</td>
<td>Procedure:</td>
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</table>
| Graduates will be able to write using appropriate organization, grammar, and graphs to explain information. | **Assessment Instrument:** Rubric  
**Assessment Method:** A three member panel (faculty and practitioners) will use a Written Communication Rubric to assess the senior design project report written by the student teams in ENV 4891 Environmental Engineering Senior Design Project course.  
The Written Communication Rubric is broken down into 3 areas:  
(1) Organization and logical sequence  
(2) Grammar and spelling  
(3) Use of graphs, tables, and diagrams are to explain, interpret, and assess information  
Each area will be rated on a 4-point scale where 1 corresponds to weak and 4 to excellent.  
The final score will be the average of the three scores on a 4-point scale where 1 corresponds to weak and 4 to excellent.  
**Course Assessed:** ENV 4891  
**Sampling:** All senior design team projects will be assessed every semester that the course is offered.  
**Minimum Criteria for Success:** Student teams will achieve a minimum of 2.5. |

Oral Communication - Environmental Engineering | Procedure: |
Graduates will be able to demonstrate knowledge of technical content through the use of verbal and nonverbal skills orally. | **Assessment Instrument:** Rubric  
**Assessment Method:** A three member panel (faculty and practitioners) will use an Oral Communication Rubric to assess the senior design project report written by the student teams in ENV 4891 Environmental Engineering Senior Design Project course.  
The Oral Communication Rubric is broken down into 3 areas:  
(1) Content: Organization and technical content  
(2) Nonverbal skills: eye contact, body language, poise  
(3) Verbal skills and use of visual aids: elocution, use of visual aids (ppt slides, print size, color, illustrations)
Each area will be rated on a 4-point scale where 1 corresponds to weak and 4 to excellent.

The final score will be the average of the three scores on a 4-point scale where 1 corresponds to weak and 4 to excellent.

Course Assessed: ENV 4891

Sampling: All senior design team projects will be assessed every semester that the course is offered.

Minimum Criteria for Success: Student teams will achieve a minimum of 2.5.