**Mission Statement**

The B.S. in chemistry prepares students for graduate study or a professional career as a chemist in industry, in government service, or in secondary school teaching.

**Chemistry and Biochemistry Outcomes**

FIU graduates should be able to achieve the following:

<table>
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<tr>
<th>Content Knowledge and Skills (including Technology)</th>
<th>Direct Measures</th>
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<tbody>
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<td><strong>Content Knowledge</strong></td>
<td><strong>Procedure:</strong></td>
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</table>
| Graduates will demonstrate competency in the subject knowledge of Chemistry in the areas of Physical Chemistry, Organic Chemistry, Inorganic Chemistry, Analytical Chemistry and Biochemistry. | **Assessment Instrument:** Closed-ended Exam  
**Assessment Method:** The DUCK (Diagnostic of Undergraduate Chemistry Knowledge) exam will be given in the capstone course for this program, Senior Seminar (CHM 4930). This exam provides a national norm for assessing student performance. All B.S. majors are required to take CHM 4930 in their senior year, and all of them will take the exam.  
**Course Assessed:** CHM 4930  
**Sampling:** All B.S. majors in CHM 4930.  
**Minimum Criteria for Success:** Students will score above the national average. |

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<th><strong>Critical Thinking</strong></th>
<th><strong>Procedure:</strong></th>
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| B. S. graduates will be able to identify and summarize a problem or question, analyze and examine ideas and research findings, assess the influence of context, and construct and interpret information within Chemistry. | **Assessment Instrument:** Rubric  
**Assessment Method:** A four-member faculty panel will use a rubric (5-point rating scale; 20-point maximum) to evaluate the 4 indicators of critical thinking (identifies & summarized, analyzes & examines, assesses the influence of context, and constructs & interprets) on the research paper required in the capstone course. Two faculty members will assess the work of half of the students, and the other two faculty members will assess the work of the other half of the students. A mean score for each student will be obtained from the faculty ratings.  
**Course Assessed:** CHM 4930  
**Sampling:** A sample of 10% of graduating students or a minimum of 10 students (whichever is higher) will be assessed in the department's capstone course, CHM 4930 (Senior Seminar).  
**Minimum Criteria for Success:** Graduates will attain an average minimum score of 14 on the critical thinking rubric. |

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<tr>
<th><strong>Communication (Oral or Written)</strong></th>
<th><strong>Procedure:</strong></th>
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| **Oral Communication Skills**                       | **Assessment Instrument:** Rubric  
**Assessment Method:** A four-member faculty panel will use the rubric (5-point rating scale; 20-point maximum) describing 4 indicators of oral communication (subject knowledge, organization, connection to audience, and delivery) to assess the research talk required in the capstone course. Two faculty |


A mean score for each student will be obtained from the faculty ratings.

**Course Assessed:** CHM 4930  
**Sampling:** A sample of 10% of graduating students or a minimum of 10 students (whichever is higher) will be assessed in the department's capstone course, CHM 4930 (Senior Seminar).

**Minimum Criteria for Success:** Graduates will attain an average minimum of 14 points on the oral communication rubric.

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<tr>
<th>Written Communication Skills</th>
<th>Procedure</th>
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| B.S. graduates will be able to develop ideas, organize information, demonstrate a command of the written language, and using the conventions of language and documentation appropriately. | **Assessment Instrument:** Rubric  
**Assessment Method:** A four-member faculty panel will use the attached rubric (5-point rating scale; 20-point maximum) describing 4 indicators of written communication (content & development, organization, language, conventions) to assess the research paper required in the capstone course. Two faculty members will assess the work of half of the students, and the other two faculty members will assess the work of the other half of the students.  
A mean score for each student will be obtained from the faculty ratings.  
**Course Assessed:** CHM 4930  
**Sampling:** A sample of 10% of graduating students or a minimum of 10 students (whichever is higher) will be assessed in the department's capstone course, CHM 4930 (Senior Seminar).  
**Minimum Criteria for Success:** Graduates will attain an average minimum score of 14 points on the written communication rubric. |