### Undergraduate Degree Program

#### Biochemistry - BS

#### Mission Statement
The B.S. in Biochemistry prepares students for graduate study or a professional career as a biochemist in industry, in government service, or in secondary school teaching.

#### Student Learning Outcomes

**FIU Biochemistry - BS graduates should be able to achieve the following:**

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<th>Content/Discipline Knowledge Skills</th>
<th>Direct Measures</th>
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<td>Demonstrate competency in the subject knowledge of Biochemistry in the areas of biochemistry, analytical chemistry, organic chemistry, and physical chemistry.</td>
<td><strong>Procedure:</strong> The Major Field Test for Chemistry, developed by the Educational Testing Service and administered nationally will be given in the capstone course for this program, Senior Seminar (CHM 4930). This exam provides a national norm for assessing student performance.</td>
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| **Sampling:** | All B.S. majors are required to take CHM 4930 in their senior year, and all of them will take the exam. |

| **Minimum Criteria for Success:** | Students will be expected to score at the 40th percentile or higher. |

**Technology Integration:**

| Procedure: |  |
A four member faculty panel will use the attached rubric describing 4 indicators of technology skills (5 point rating scale; 20 point maximum) to assess the research talk 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 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).

**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:**
A mean score for each student will be obtained from the faculty ratings. Graduates will attain an average minimum of 12 points on the technology skills rubric.

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**Critical Thinking Skills**
Demonstrate their ability to think critically in terms of identifying and summarizing a problem or question, analyzing and examining ideas and research findings, assessing the influence of context, and constructing and interpreting information within Biochemistry.

**Direct Measures**

**Procedure:**
A four member faculty panel will evaluate the 4 indicators of critical thinking (5 point rating scale; 20 point maximum) to assess the research paper required in the capstone course. Two of the faculty will assess the work of half of the students, and the other two faculty will assess the work of the other half of the students.

**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:**
A mean score for each student will be obtained from the faculty ratings. Graduates will attain an average minimum score of 12 on the critical thinking rubric.

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**Communication Skills**
Graduates will demonstrate competency in using technology to present ideas by using PowerPoint and other multimedia tools.

**Direct Measures**

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| **Procedure:** | A four-member faculty panel will use the attached rubric describing 4 indicators of oral communication (5 point rating scale; 20 point maximum) to assess the research talk required in the capstone course. Two of the faculty will assess the work of half of the students, and the other two faculty will assess the work of the other half of the students. |
| **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:** | A mean score for each student will be obtained from the faculty ratings. Graduates will attain an average minimum of 12 points on the technology skills rubric. |

B.S. graduates will demonstrate effective oral communication skills through their subject knowledge of chemistry, organization of ideas, adequate connection to an audience, efficient delivery, and appropriate use of technology.