<table>
<thead>
<tr>
<th>Chemistry BA/BS Program Learning Outcomes¹</th>
<th>Intro Advanced</th>
<th>ULG²</th>
<th>Faculty</th>
<th>Direct Measures</th>
<th>Results that indicate success</th>
<th>F12</th>
<th>S13</th>
<th>F14</th>
<th>S15</th>
<th>F16</th>
<th>S17</th>
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<tbody>
<tr>
<td>1 Demonstrate understanding of core concepts and to effectively solve problems in inorganic chemistry.</td>
<td>1A/B 145,146</td>
<td>1.1.2.2, 3.1.3.2, 4.1.4.2, 4.3</td>
<td>Cheruzel, Muller, Silber, Singmaster</td>
<td>Chem 1B - ACS standardized test,</td>
<td>Chem 1B - Performance at or above the national average on the ACS test</td>
<td>C</td>
<td>C</td>
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<td>2 Demonstrate understanding of core concepts and to effectively solve problems in organic chemistry.</td>
<td>1A/B 112A/B, 113A/B, 114</td>
<td>1.1.3.1, 3.2.4.1, 4.2.4.3</td>
<td>Okuda, Straus, Brook</td>
<td>Chem 112B - ACS standardized test, need something else maybe associated with 112A</td>
<td>Performance at or above the national average on the ACS test</td>
<td>C</td>
<td>C</td>
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<td>3 Demonstrate understanding of core concepts and to effectively solve problems in analytical chemistry.</td>
<td>1A/B 101 55, 101, 155</td>
<td>1.1.3.1, 3.2.4.1, 4.2.4.3</td>
<td>Pesek, Terrill</td>
<td>Chem 1B - ACS standardized test; Chem 161A - Exam questions on selected core concepts; Chem 161B - ACS standardized test</td>
<td>75+% score on exam questions on selected core concepts; Performance at or above the national average on the ACS test</td>
<td>C</td>
<td>E</td>
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<td>4 Demonstrate understanding of core concepts and to effectively solve problems in physical chemistry.</td>
<td>1A/B 101 160 161A/B 162L</td>
<td>1.1.3.1, 3.2.4.1, 4.2.4.3</td>
<td>van Wyngarden, Stone, Singmaster</td>
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<td>5 Demonstrate understanding of core concepts and to effectively solve problems in biochemistry.</td>
<td>1A/B 130 A/B/C 131A/B</td>
<td>1.1.3.1, 3.2.4.1, 4.2.4.3</td>
<td>D’Alarcao, Eggers, Rascon</td>
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<td>6 Answer questions regarding safe practices in the laboratory and chemical safety.</td>
<td>1A/B 120S 121S 162L 146, 155</td>
<td>1.1, 4.2</td>
<td>All lab coordinators and instructors</td>
<td>Performance on lab safety quiz</td>
<td>Scores of 80% or higher on safety quizzes</td>
<td>C</td>
<td>E</td>
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<td>7 Demonstrate safe laboratory skills (including proper handling of materials and chemical waste) for particular laboratory experiments.</td>
<td>1A/B 55, 155, 113A/B, 114, 131A/B, 162L, 180</td>
<td>4.1 4.2</td>
<td>All lab coordinators and instructors</td>
<td>Monitor accident reports</td>
<td>No accidents</td>
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<td>8 Effectively present a scientific paper in a poster session, as per at an American Chemical Society symposium.</td>
<td>100W 180 162L</td>
<td>1.1.2.1, 3.1.3.2, 4.1.4.2, 4.3</td>
<td>100W instructor; van Wyngarden, Terrill, Stone</td>
<td>Poster presentations evaluated with an appropriate rubric</td>
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<td>9 Effectively present a scientific paper orally, as per at an American Chemical Society symposium.</td>
<td>100W 131B, 146, 162L, 180</td>
<td>1.1.2.1, 3.1.3.2, 4.1.4.2, 4.3</td>
<td>100W instructor, van Wyngarden, Terrill, 131B and 146 instructors</td>
<td>Oral reports evaluated with an appropriate rubric</td>
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<td>10 Write a formal scientific laboratory report, using the format and style of an article in a peer-reviewed American Chemical Society journal</td>
<td>100W 131B, 146, 162L, 180</td>
<td>1.1.2.1, 3.1.3.2, 4.1.4.2, 4.3</td>
<td>100W instructor, van Wyngarden, Terrill, 131B and 146 instructors</td>
<td>Written reports evaluated with an appropriate rubric</td>
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Notes

1 - Requirement for BA and BS degrees are similar except that the BA requires a minor and the BS requires more advanced math course work to support PLO 5.

2 - University Learning Goals 2.3, 5.1 and 5.2 not addressed in a detailed manner by Chemistry Program PLOs but are purposefully address by GE course work required by the degrees.

Introductory work (Chem 1A/B) also addresses 2.2 and 5.1 as applied to chemical problems

C-Collection, E-Evaluated; Report submitted to CoS

Prepared by Karen Singmaster 10/29/2013