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| **Unit/Program Name** | Chemistry |
| **Office of Primary Responsibility** | Department of Physical Sciences |
| **Assessment Coordinator** | David Gardner |
| **Submission Date of this Report** | May 10, 2017 |

1. **Unit/Program Goal**: Demonstrate an understanding of modern scientific concepts related to organic, inorganic, analytical and physical chemistry.

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| **Strategic Goal Supported** |  |
| **Indicator of Success/ Student Learning Outcome****AND****Summary of Data** | Indicator/Learning Outcome | AY 2012 - 2013 | AY 2013 - 2014 | AY 2014-2015 | AY 2015-2016 | AY 2016-2017 |
|  | **1.** | Demonstrate an understanding of modern scientific concepts and issues related to organic, inorganic, analytical and physical chemistry by scoring greater than 2 on the departmental rubric which is scaled 0 to 3 where 3 is the highest. | 2.14(n = 10) | 1.93(n=13) | 2.09(n=9) | 2.31(n=9) | 2.38(n=7) |
|  | **2.** | Demonstrate an understanding of modern scientific concepts and issues related to organic, inorganic, analytical and physical chemistry by scoring greater than 2 on the departmental rubric which is scaled 0 to 3 where 3 is the highest. | 2.85(n = 2) | 2.38(n=3) | 2.08(n=3) | 2.80(n=9) | 2.29(n=7) |
|  | **3.** | Demonstrate an understanding of modern scientific concepts and issues related to organic chemistry by scoring a mean above the 40th percentile on the organic chemistry section of the MFT. | 37(50th%tile)(n = 8) | 40(62nd %tile)(n=13) | 39(26th%tile)(n=9) | 40(44th %tile)\*\*(n=9) | 49.71(51st %tile)# (n=7) |
|  | **4.** | Demonstrate an understanding of modern scientific concepts and issues related to inorganic chemistry by scoring a mean above the 40th percentile on the inorganic chemistry section of the MFT . | 44(38 %tile)(n = 8) | 41(54th %tile)(n=13) | 44(44th%tile)(n=9) | 50(56th %tile)\*\*(n=9) | 43.43(37th %tile)# (n=7) |
|  | **5.** | Demonstrate an understanding of modern scientific concepts and issues related to analytical chemistry by scoring a mean above the 40th percentile on the analytical chemistry section of the MFT. | 38(38 %tile)(n = 8) | 41(62nd%tile)(n=13) | 45(41st%tile)(n=9) | 48(44th% tile)\*\*(n=9) | 45.43(41st %tile)# (n=7) |
|  | **6..** | Demonstrate an understanding of modern scientific concepts and issues related to physical chemistry by scoring a mean above the 40th percentile on the physical chemistry section of the MFT. | 42(50 %tile)(n = 8) | 41(69th%tile)(n=13) | 45(42nd%tile)(n=9) | 47(33rd %tile)\*\*(n=9) | 45.29(42nd %tile)# (n=7) |
| **Assessment Instrument(s) and Frequency of Assessment** | Instrument | Frequency |
|  | **1.** | New (starting in 2014) seminar rubric-six questions (#9, #10, #11, #12, #13, #14) on the rubric measure various aspects relating to the students' depth of knowledge in areas of organic, inorganic, analytical, and physical chemistryOld Seminar Rubric (prior to 2014)-three questions (#5,#6, and #7) on the rubric measure the knowledge and depth of the knowledge in the areas of organic, inorganic, analytical and physical chemistry  | Annually - used to evaluate student presentations in PSCI-499 |
|  | **2.** | Research/Internship Rubric-three questions (#5,#6, and #7) on the rubric measure the knowledge and depth of the knowledge in the areas of organic, inorganic, analytical and physical chemistry  | Annually - used to evaluate student presentations or posters in Research (CHEM-407, 408, 409, 410) and Internship (CHEM -490) |
|  | **3.** | Major Field Test (MFT) organic chemistry sub-score from ETS | Annually - Seniors in PSCI-499 |
|  | **4.** | Major Field Test (MFT) inorganic chemistry sub-score from ETS | Annually - Seniors in PSCI-499 |
|  | **5.** | Major Field Test (MFT) analytical chemistry sub-score from ETS | Annually - Seniors in PSCI-499 |
|  | **6.** | Major Field Test (MFT) physical chemistry sub-score from ETS | Annually - Seniors in PSCI-499 |
| **Expected Outcome** | Met(3) | Partially Met(2) | Not Met(1) |
|  | **1.** | The average score of all student scores is greater than 2.0 indicating excellent or acceptable performance on the sub-part of the rubric addressing this Indicator of Success. | The average score of all student scores is between 2.0 and 1.5 indicating acceptable performance on the sub-part of the rubric addressing this Indicator of Success. | The average score of all student scores is less than 1.5 indicating unacceptable performance on the sub-part of the rubric addressing this Indicator of Success. |
|  | **2.** | Average of all student scores is greater than 2.0 indicating excellent or acceptable performance on the sub-part of the rubric addressing this Indicator of Success. | The average score of all student scores is between 2.0 and 1.5 indicating acceptable performance on the sub-part of the rubric addressing this Indicator of Success. | The average score of all student scores is less than 1.5 indicating unacceptable performance on the sub-part of the rubric addressing this Indicator of Success. |
|  | **3.** | The Lander mean sub-score on the organic chemistry section of the MFT is above the 40th percentile when compared to individual student sub-scores nationally. | The Lander mean sub-score on the organic chemistry section of the MFT is between the 20th and the 40th percentile when compared to individual student sub-scores nationally. | The Lander mean sub-score on the organic chemistry section of the MFT is less than the 20th percentile when compared to individual student sub-scores nationally. |
|  | **4.** | The Lander mean sub-score on the inorganic chemistry section of the MFT is above the 40th percentile when compared to individual student sub-scores nationally. | The Lander mean sub-score on the inorganic chemistry section of the MFT is between the 20th and the 40th percentile when compared to individual student sub-scores nationally. | The Lander mean sub-score on the inorganic chemistry section of the MFT is less than the 20th percentile when compared to individual student sub-scores nationally. |
|  | **5.** | The Lander mean sub-score on the analytical chemistry section of the MFT is above the 40th percentile when compared to individual student sub-scores nationally. | The Lander mean sub-score on the analytical chemistry section of the MFT is between the 20th and the 40th percentile when compared to individual student sub-scores nationally. | The Lander mean sub-score on the analytical chemistry section of the MFT is less than the 20th percentile when compared to individual student sub-scores nationally. |
|  | **6.** | The Lander mean sub-score on the physical chemistry section of the MFT is above the 40th percentile when compared to individual student sub-scores nationally. | The Lander mean sub-score on the physical chemistry section of the MFT is between the 20th and the 40th percentile when compared to individual student sub-scores nationally. | The Lander mean sub-score on the physical chemistry section of the MFT is less than the 20th percentile when compared to individual student sub-scores nationally. |
| **Review of Results and Actions Taken** | **1.** | 2016-2017The expected outcome for this indicator was met with a score fo 2.38. We will continue to monitor the effectiveness of this rubric going forward2015-2016The expected outcome for this indicator was met with a score fo 2.31. We will continue to monitor the effectiveness of this rubric going forward.2014-2015The expected outcome for this indicator was met with a score of 2.09. The rubric used for the PSCI 499 senior seminar presentations was slightly adjusted by no longer tying the evaluation of "graduate level work" to the highest measure of 3.0. This small change impacts the number of presentations evaluated as excellent. Going forward, we will continue to montior the effectiveness of this rubric.2013-2014The expected outcome was partially met. The new rubric is more comprehensive and in greater detail than the old rubric. The nature of the assignment for the PSCI 499 presentation was changed and made much more difficult. Students are now expected to develop an original proposal idea.The general consensus is that the presentations in PSCI 499 were much better than previous years, even though there is a decrease in the score on this rubric. Again, this is a function that the rubric was changed and is now a much higher bar to meet. It is possible that the new rubric was too ambitious with regards to achievability in that a score of 3.0 represents graduate level work. Few students will ever be able to meet such a high standard as an undergrad. Furthermore, a very good presentation would only be scored at a 2.0. The new rubric will be continued to be adjusted. 2012-2013The expected outcome was met. The average score of all student scores on question #5 and #6 of the rubric, understanding of modern scientific concepts and issues, was 2.14 for the ten students presenting seminars. The changes made to PSCI 499 previously CHEM 499 in 2009-2010 are showing positive effects. The average scores on the question #5 have improved each year since 2009-2010. |
|  | **2.** | 2016-2017The expected outcome was met. The average score for the 7 students for this was 2.29.2015-2016The expected outcome was met. The average score for the 9 students for this was 2.80.2014-2015The expected outcome was met. The average score of the 3 students for this was 2.08. 2013-2014The expexted outcome was met. The average score of the students on questions #5, 6, 7 was 2.38 for the 3 students presenting research posters.2012-2013The expected outcome was met. The average score of the students on question #4 of the rubric was 2.85. Both students did presentations. The rubric currently being used must be addressed at the first Departmental meeting as it currently is designed for posters and not presentations. |
|  | **3.** | 2016-2017The expected outcome was met. The average score of 49.71 on the organic section of the MFT placed the students in the 51st percentile. #(Note: ETS has changed made changes to how information is reported. In addition, they have not updated percentile information regarding individual subsections since June 2015. We will need to adjust this particular outcome.) 2015-2016The expected outcome was met. The average score of 40 on the organic section of the MFT placed the students in the 44th percentile. \*\*(Note: the fully updated percentile information will not be available until July of 2016.)2014-2015The expected outcome of this was only partially met. The average score of 39 on the organic section of the MFT placed the students in the 26th percentile. It is important to note that the score of 39 on this section is consistent with scores in previous years and that the comparetive data from ETS seems to fluctuate strongly from year to year.2013-2014The expected outcome was met. The average score of 40 on the organic section of the MFT placed the students in the 62nd percentile.2012-2013The expected outcome was met. The average score of 37 on the organic section of the MFT placed the students in the 50th percentile. |
|  | **4.** | 2016-2017The expected outcome was partially met. The average score of 43.43 on the inorganic section of the MFT placed the students in the 37th percentile. One particular point about the ETS report is that inorganice scores of 41, 42, and 43 all correspond to the 37th percentile, where as a score of 44 corresponds to the 44th percentile. Thus, it is quite likely that our score of 43.43 actually meets our goal of 40th percentile. #(Note: ETS has changed made changes to how information is reported. In addition, they have not updated percentile information regarding individual subsections since June 2015. We will need to adjust this particular outcome.) 2015-2016The expected outcome was met. The average score of 50 on the inorganic section of the MFT placed the students in the 56th percentile. \*\*(Note: the fully updated percentile information will not be available until July of 2016.)2014-2015The expected outcome was met. The average score of 44 on the inorganic section of the MFT places the students in the 44th percentile.2013-2014The expected outcome was met. The average score on the inorganic chemsitry section of the MFT placed the students in the 54th percentie.2012-2013The expected outcome was partially met. The average score of 44 on the inorganic chemistry section of the MFT placed the students in the 38th percentile. This fall the deparment will be discussing possible improvements and will continue to monitor the students progress in this area. The students that took the MFT had yet to complete the course in inoragnic cehmistry at the time which may have influenced the scores.  |
|  | **5.** | 2016-2017The expected outcome was met. The average score of 45.43 on the analytical section of the MFT placed the students in the 41st percentile. #(Note: ETS has changed made changes to how information is reported. In addition, they have not updated percentile information regarding individual subsections since June 2015. We will need to adjust this particular outcome.) 2015-2016The expected outcome was met. The average score of 48 on the analytical section of the MFT placed the students in the 44th percentile.\*\* (Note: the fully updated percentile information will not be available until July of 2016.) 2014-2015The expected outcome was met. The average score of 45 on the analytical section of the MFT placed the students in the 41st percentile. 2013-2014The expected outcome was met. The average score of 41 on the analytical section of the MFT placed the students in the 62nd percentile.2012-2013The outcome was partially met. The average score of 38 on the analytical chemistry section of the MFT placed the students in the 38th percentile. The department will be discussing possible improvements this fall as well as continue to anaylze the results. The analytical course CHEM 330 has altered some laboratories to hopefully improve the students understanding of the techniques and material necessary for analytical chemsitry. The effect of this will be monitored next year. |
|  | **6.** | 2016-2017The expected outcome was met. The average score of 45.29 on the physical section of the MFT placed the students in the 45th percentile. #(Note: ETS has changed made changes to how information is reported. In addition, they have not updated percentile information regarding individual subsections since June 2015. We will need to adjust this particular outcome.) 2015-2016The expected outcome of this was only partially met. The average score of 47 on the physical section of the MFT placed the students in the 33rd percentile. It is important to note that the score of 47 on this section is consistent with and also higher than scores in previous years and that the comparetive data from ETS seems to fluctuate strongly from year to year.\*\*(Note: the fully updated percentile information will not be available until July of 2016.)2014-2015The expected outcome was met. The average score of 45 on the physical chemistry section of the MFT placed the students in the 42nd percentile. 2013-2014The expected outcome was met. The average score of 41 on the physical chemistry section of the MFT placed the students in the 69th percentile.2012-2013The expected outcome was met. The average score of 42 on the physical chemsitry section of the MFT placed the students in the 50th percentile. |
|  | **Sum** | 2016-2017Student quality continues to be strong as indicated by the scores on the rubrics and the nationally normed MFT scores. Because the univeristy adopted a new mission and vision statement in 2016, we will look at making sure that these indicators and outcomes are aligned with and consistent with this new vision.2015-2016We continue to monitor and evaluate the changes made in the last couple of years. Student quality continutes to be strong as indicated by the scores on the rubric and the MFT scores, which are nationally normed. As noted in previous years, the percentile rankings seem to fluctuate on a yearly basis, while the raw scores themselves continue to be consistent with previous years.2014-2015A minor adjustment to the presentation rubric used in PSCI 499 was made to slightly ease the difficulty of socre. This change makes it easier to acknowledge very high quality work in the presentation as being deemed excellent as the evaluation no longer implies that only graduate level work can be considered excellent. Our raw scores on the MFT sections are reasonably stable, but the comparitive data from ETS seem not to be as our perctile rankings fluctuate strongly from year to year. We will continue to monitor the new rubric used in PSCI 499.2013-2014The rubric for presentations in PSCI 499 will be considered with regards to the level of difficulty of score. The presentations this spring were generally considered by the faculty to be better than previous years, although the officially reported score on this evaluation has decreased to the "partially met" status. Concerns about the scores in inorganic and analytical chemistry on the MFT have dissipated since all MFT scores this year met expectations. 2012-2013The internship/research rubric will be looked at in the fall by the department to better reflect that the students are choosing presentations over posters. The department will need to also monitor the two subject areas in which the criteria were only partially met, inorganic chemsitry and analytical chemistry. The deaprtment will discuss these at the first departmental meeting in the fall. |
| **Outcomes** | Indicator of Success Evaluation | Indicator of Success Score |
|  | **1.** |  |  |
|  | **2.** |  |  |
|  | **3.** |  |  |
|  | **4.** |  |  |
|  | **5.** |  |  |
|  | **6.** |  |  |
| **Additional Resources Required to Achieve or Sustain Results** | $0.00Explanation |

1. **Unit/Program Goal**: Demonstrate appropriate scientific communication skills to prepare and present a seminar presentation on a literature topic or undergraduate research experience.

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| **Strategic Goal Supported** |  |
| **Indicator of Success/ Student Learning Outcome****AND****Summary of Data** | Indicator/Learning Outcome | AY 2012 - 2013 | AY 2013-2014 | AY 2014-2015 | AY 2015-2016 | AY2016-2017 |
| **1.** | Demonstrate appropriate communication skills to organize information in a seminar presentation on a literature topic by scoring an average greater than 2.0 in the 0-3 scale (3 as the highest) | 2.48(n = 10) | 2.21(n=13) | 2.42(n=9) | 2.67(n=9) | 2.56(n=7) |
| **2.** | Demonstrate appropriate communication skills to organize information in a poster on an undergraduate research experience by scoring an average greater than 2.0 in the 0-3 scale (3 as the highest) | N/A | 2.77(n=3) | 2.70(n=3) | 2.93(n=9) | 2.64(n=7) |
| **3.** | Demonstrate appropriate communication skills to engage the audience during a seminar presentation on a literature topic by scoring an average greater than 2.0 in the 0-3 scale (3 as the highest) | 2.17(n = 10) | 1.99(n=13) | 2.24(n=9) | 2.46(n=9) | 2.44(n=7) |
| **4.** | Demonstrate appropriate communication skills to engage the viewer of a poster on an undergraduate research experience by scoring an average greater than 2.0 in the 0-3 scale (3 as the highest) | N/A | 2.50(n=3) | 2.40(n=3) | 2.87(n=9) | 2.36(n=7) |
| **5.** | Demonstrate appropriate verbal communication skills during a seminar presentation on a literature topic by scoring an average greater than 2.0 in the 0-3 scale (3 as the highest) | 2.15(n = 10) | 2.19(n=13) | 2.45(n=9) | 2.48(n=9) | 2.51(n=7) |
| **6..** | Demonstrate appropriate communication skills to prepare visually appealing poster on an undergraduate research experience by scoring an average greater than 2.0 in the 0-3 scale (3 as the highest) | N/A | 2.70(n=3) | 2.57(n=3) | 2.87(n=9) | 2.55(n=7) |
| **7.** | Demonstrate appropriate communication skills to prepare visual materials used during a seminar presentation on a literature topic by scoring an average greater than 2.0 in the 0-3 scale (3 as the highest) | 2.25(n = 10) | 2.13(n=13) | 2.58(n=9) | 2.70(n=9) | 2.68(n=7) |
| **Assessment Instrument(s) and Frequency of Assessment** | Instrument | Frequency |
| **1.** | Seminar Rubric- Question #8 (2014 and after) [Question #1 2013 and before) | Annually - seniors in PSCI-499 |
| **2.** | Research/Internship Rubric Question #1 | Annually - used to evaluate student presentations or posters in Research (CHEM-407, 408, 409, 410) and Internship (CHEM -490) |
| **3.** | Seminar Rubric- Question #2 | Annually - seniors in PSCI-499 |
| **4.** | Research/Internship Rubric-Question #2 | Annually - used to evaluate student presentations or posters in Research (CHEM-407, 408, 409, 410) and Internship (CHEM -490) |
| **5.** | Seminar Rubric- Questions #1,3,&4 (2014 and after) [Question #3 2013 and before) | Annually - seniors in PSCI-499 |
| **6.** | Research/Internship Rubric Question #4 | Annually - used to evaluate student presentations or posters in Research (CHEM-407, 408, 409, 410) and Internship (CHEM -490) |
| **7.** | Seminar Rubric- Questions #5,6 (2014 and after) [Question #4 2013 and before) | Annually - seniors in PSCI-499 |
| **Expected Outcome** | Met(3) | Partially Met(2) | Not Met(1) |
| **1.** | The average score of all student scores is greater than 2.0 on the sub-part of the rubric addressing this Indicator of Success. | The average score of all student scores is between 2.0 and 1.5 on the sub-part of the rubric addressing this Indicator of Success. | The average score of all student scores is less than 1.5 on the sub-part of the rubric addressing this Indicator of Success. |
| **2.** | The average score of all student scores is greater than 2.0 on the sub-part of the rubric addressing this Indicator of Success. | The average score of all student scores is between 2.0 and 1.5 on the sub-part of the rubric addressing this Indicator of Success. | The average score of all student scores is less than 1.5 on the sub-part of the rubric addressing this Indicator of Success. |
| **3.** | The average score of all student scores is greater than 2.0 on the sub-part of the rubric addressing this Indicator of Success. | The average score of all student scores is between 2.0 and 1.5 on the sub-part of the rubric addressing this Indicator of Success. | The average score of all student scores is less than 1.5 on the sub-part of the rubric addressing this Indicator of Success. |
| **4.** | The average score of all student scores is greater than 2.0 on the sub-part of the rubric addressing this Indicator of Success. | The average score of all student scores is between 2.0 and 1.5 on the sub-part of the rubric addressing this Indicator of Success. | The average score of all student scores is less than 1.5 on the sub-part of the rubric addressing this Indicator of Success. |
| **5.** | The average score of all student scores is greater than 2.0 on the sub-part of the rubric addressing this Indicator of Success. | The average score of all student scores is between 2.0 and 1.5 on the sub-part of the rubric addressing this Indicator of Success. | The average score of all student scores is less than 1.5 on the sub-part of the rubric addressing this Indicator of Success. |
| **6.** | The average score of all student scores is greater than 2.0 on the sub-part of the rubric addressing this Indicator of Success. | The average score of all student scores is between 2.0 and 1.5 on the sub-part of the rubric addressing this Indicator of Success. | The average score of all student scores is less than 1.5 on the sub-part of the rubric addressing this Indicator of Success. |
| **7.** | The average score of all student scores is greater than 2.0 on the sub-part of the rubric addressing this Indicator of Success. | The average score of all student scores is between 2.0 and 1.5 on the sub-part of the rubric addressing this Indicator of Success. | The average score of all student scores is less than 1.5 on the sub-part of the rubric addressing this Indicator of Success. |
| **Review of Results and Actions Taken** | **1.** | 2016-2017The expected outcome was met for the indicator on the rubric with an average score of 2.56 for the 7 students. In an attempt to help students to give better presentations, we are creating new lower level seminar courses at the 100 level. This academic year, we offered CHEM 198 and CHEM 199, new courses designed to teach students give effective presentations. The final course in this new sequence, CHEM 299, will be offered next year. Much of this material is contained in PSCI 499. The eventual goal is to move the instruction on how to give effective presentations into these lower level courses and remove this from the 499 course. However, for the next couple of years, instruction on giving effective presentations will be present in both the new courses and also in 499. The increase in this score gives indication that the new textbook should be very beneficial to the students.2015-2016The expected outcome was met for the indicator on the rubric with an average score of 2.67 for the 9 students. In an attempt to help students to give better presentations, we are creating new lower level seminar courses at the 100 level. The 2016 PSCI 499 course pulled heavily from the textbook that will be used for those new courses. The eventual goal is to move the instruction on how to give effective presentations into these lower level courses and remove this from the 499 course. However, for the next couple of years, instruction on giving effective presentations will be present in both the new courses and also in 499. The increase in this score gives indication that the new textbook should be very beneficial to the students.2014-2015The expected outcome was met for the indicator on the rubric with an average score of 2.42 for the 9 students. 2013-2014The expected outcome was met for the indicator on the rubric. The average score of the 13 students was 2.21 on the rubric. This is a new rubric for 2013-2014 to better reflect changes made to the senior seminar presentation in PSCI 499. 2012-2013The expected outcome was met for this indicator on the rubric. The average score of the ten students was 2.48 on question #1 of the rubric. |
| **2.** | 2016-2017The expected outcome for this indicator was met with an average score of 2.64.2015-2016The expected outcome for this indicator was met with an average score of 2.93.2014-2015The expected outcome for this indicator was met with an average score of 2.70. 2013-2014 After a discussion on the pedagogical benefits of the students creating a poster or a presentation, the decision was made to require the students to create a poster after completing an internship or research project. The expected outcome for this indicator was met with an average score of 2.77.2012-2013There was no data for this indicator in the rubric as the students who particpated in research this year presented their results in presentations rather than posters. The department will be looking at modifying this indicator to reflect both posters and presenatations in the fall since more students are opting for presentations of their research. |
| **3.** | 2016-2017The expected outcome was met for the indicator on the rubric with an average score of 2.44 for the 7 students. In an attempt to help students to give better presentations, we are creating new lower level seminar courses at the 100 level. This academic year, we offered CHEM 198 and CHEM 199, new courses designed to teach students give effective presentations. The final course in this new sequence, CHEM 299, will be offered next year. Much of this material is contained in PSCI 499. The eventual goal is to move the instruction on how to give effective presentations into these lower level courses and remove this from the 499 course. However, for the next couple of years, instruction on giving effective presentations will be present in both the new courses and also in 499. The increase in this score gives indication that the new textbook should be very beneficial to the students.2015-2016The expected outcome was met for the indicator on the rubric with an average score of 2.46 for the 9 students. In an attempt to help students to give better presentations, we are creating new lower level seminar courses at the 100 level. The 2016 PSCI 499 course pulled heavily from the textbook that will be used for those new courses. The eventual goal is to move the instruction on how to give effective presentations into these lower level courses and remove this from the 499 course. However, for the next couple of years, instruction on giving effective presentations will be present in both the new courses and also in 499. The increase in this score gives indication that the new textbook should be very beneficial to the students.2014-2015The expected outcome for this indicator was met with an average score of 2.24 for the 9 students giving senior seminar presentations. The new rubric will continue to be monitored.2013-2014The expected outcome was partially met for this indicator on the rubric. The average score of the 13 students was 1.99 on the rubric. This is a new rubric for 2013-2014 to better reflect the changes to the senior seminar presentation in PSCI 499. The evaluations on the rubric are more rigorous than in previous years. This indicator will be monitored going forward. 2012-2013The expected outcome was met for this indicator on the rubric. The average score of the ten students was 2.17 on #2 of the rubric. |
| **4.** | 2016-2017The expected outcome on this indicator was met with an average score of 2.36 for the 7 students who present research posters.2015-2016The expected outcome was met for this indicator with an average score of 2.87.2014-2015The expected outcome for this indicator was met with an average score of 2.40 for the 3 students giving research posters. We will continue to require students doing research to present posters.2013-2014After a discussion on the pedagogical benefits of the students creating a poster or a presentation, the decision was made to require the students to create a poster after completing an internship or research project. The expected outcome was met for this indicator with an average score of 2.5 on the rubric.2012-2013There was no data for this indicator in the rubric as the students who particpated in research this year presented their results in presentations rather than posters. The department will be looking at modifying this indicator to reflect both posters and presenatations in the fall since more students are opting for presentations of their research. |
| **5.** | 2016-2017The expected outcome was met for the indicator on the rubric with an average score of 2.51 for the 7 students. In an attempt to help students to give better presentations, we are creating new lower level seminar courses at the 100 level. This academic year, we offered CHEM 198 and CHEM 199, new courses designed to teach students give effective presentations. The final course in this new sequence, CHEM 299, will be offered next year. Much of this material is contained in PSCI 499. The eventual goal is to move the instruction on how to give effective presentations into these lower level courses and remove this from the 499 course. However, for the next couple of years, instruction on giving effective presentations will be present in both the new courses and also in 499. The increase in this score gives indication that the new textbook should be very beneficial to the students.2015-2016The expected outcome was met for the indicator on the rubric with an average score of 2.48 for the 9 students. In an attempt to help students to give better presentations, we are creating new lower level seminar courses at the 100 level. The 2016 PSCI 499 course pulled heavily from the textbook that will be used for those new courses. The eventual goal is to move the instruction on how to give effective presentations into these lower level courses and remove this from the 499 course. However, for the next couple of years, instruction on giving effective presentations will be present in both the new courses and also in 499. The increase in this score gives indication that the new textbook should be very beneficial to the students.2014-2015The expected outcome for this indicator was met with an average score of 2.45 for the 9 students giving senior seminar presentations. 2013-2014The expected outcome was met for this indicator on the rubric. The average score of the 13 students was 2.19 on the rubric. This is a new rubric for 2013-2014 to better reflect the changes to the senior seminar presentation in PSCI 499. The evaluations on the rubric are more rigorous than in previous years.2012-2013The expected outcome was met for this indicator on the rubric. The average score for the ten students was 2.15 on question #3 on the rubric. |
| **6.** | 2016-2017The expected outcome on this indicator was met with an average score of 2.55 for the 7 students who present research posters.2015-2016The expected outcome on this indicator was met with an average score of 2.87 for the 9 students who present research posters.2014-2015The expected outcome on this indicator was met with an average score of 2.57 for the 3 students who presented research posters. 2013-2014After a discussion on the pedagogical benefits of the students creating a poster or a presentation, the decision was made to require the students to create a poster after completing an internship or research project. The expected outcome was met for this indicator with an average score of 2.70 on the rubric.2012-2013There was no data for this indicator in the rubric as the students who particpated in research this year presented their results in presentations rather than posters. The department will be looking at modifying this indicator to reflect both posters and presenatations in the fall since more students are opting for presentations of their research. |
| **7.** | 2016-2017The expected outcome was met for the indicator on the rubric with an average score of 2.68 for the 7 students. In an attempt to help students to give better presentations, we are creating new lower level seminar courses at the 100 level. This academic year, we offered CHEM 198 and CHEM 199, new courses designed to teach students give effective presentations. The final course in this new sequence, CHEM 299, will be offered next year. Much of this material is contained in PSCI 499. The eventual goal is to move the instruction on how to give effective presentations into these lower level courses and remove this from the 499 course. However, for the next couple of years, instruction on giving effective presentations will be present in both the new courses and also in 499. The increase in this score gives indication that the new textbook should be very beneficial to the students.2015-2016The expected outcome was met for the indicator on the rubric with an average score of 2.70 for the 9 students. In an attempt to help students to give better presentations, we are creating new lower level seminar courses at the 100 level. The 2016 PSCI 499 course pulled heavily from the textbook that will be used for those new courses. The eventual goal is to move the instruction on how to give effective presentations into these lower level courses and remove this from the 499 course. However, for the next couple of years, instruction on giving effective presentations will be present in both the new courses and also in 499. The increase in this score gives indication that the new textbook should be very beneficial to the students.2014-2015The excpected outcome for this indicator was met with an average score of 2.58 for the 9 students who gave senior seminar presentations.2013-2014The expected outcome was met for this indicator on the rubric. The average score of the 13 students was 2.13. This is a new rubric for 2013-2014 to better reflect the changes to the senior seminar presentation in PSCI 499. The evaluations on the rubric are more rigorous than in previous years.2012-2013The expected outcome was met for this indicator on the rubric. The average score of the ten students was 2.25 on question #4 on the grading rubric. |
| **Sum** | 2016-2017All expected outcomes were met. In an attempt to help students to give better presentations, we are creating new lower level seminar courses at the 100 level. This academic year, we offered CHEM 198 and CHEM 199, new courses designed to teach students give effective presentations. The final course in this new sequence, CHEM 299, will be offered next year. Much of this material is contained in PSCI 499. The eventual goal is to move the instruction on how to give effective presentations into these lower level courses and remove this from the 499 course. However, for the next couple of years, instruction on giving effective presentations will be present in both the new courses and also in 499. The increase in this score gives indication that the new textbook should be very beneficial to the students.2015-2016All outcomes were met. In an attempt to help students to give better presentations, we are creating new lower level seminar courses at the 100 level. Ths 2016 PSCI 499 course pulled heavily from the textbook that will be used for those new courses. The eventual goal is to move the instruction on how to give effective presentations into these lower level courses and remove this from the 499 course. However, for the next couple of years, instruction on giving effective presentations will be present in both the new courses and also in 499. The increase in this score gives indication that the new textbook should be very beneficial to the students. We shall monitor the impact of these changes in the upcoming years.2014-2015All outcomes were met. The PSCI 499 course will continue to be monitored and evaluated. In addition, the department will continue to find new ways of providing more opportunites for presentations (both written and oral) to students. 2013-2014After a discussion on the pedagogical benefits of the students creating a poster or a presentation, the decision was made to require the students to create a poster after completing an internship or research project. Also, adjustments were made to the rubrics used to evaluate the PSCI 499 senior seminar presentations to better reflect the changes that have been made in the course. 6 of th 7 outcomes were met. One outcome (#3) was only partially met with a score of 1.99 and just missed being fully met bya a mere one hundreth of a point. The deparment continues to look for ways for students to get more practice at giving presentations.2012-2013The outcomes were all met. The PSCI 499 course will continue to be monitored. The department will be discussing at the first fall meeting the changes that need to be made to reflect the students choosing presentations of posters for the internship and research courses. |
| **Outcomes** | Indicator of Success Evaluation | Indicator of Success Score |
| **1.** |  |  |
| **2.** |  |  |
| **3.** |  |  |
| **4.** |  |  |
| **5.** |  |  |
| **6.** |  |  |
| **7.** |  |  |
| **Additional Resources Required to Achieve or Sustain Results** | $0.00Explanation |

1. **Unit/Program Goal**: Demonstrate skills necessary for safe and appropriate collection, analysis, and interpretation of data in chemistry laboratory experiements.

|  |  |
| --- | --- |
| **Strategic Goal Supported** |  |
| **Indicator of Success/ Student Learning Outcome****AND****Summary of Data** | Indicator/Learning Outcome | AY 2012 - 2013 | AY 2013-2014 | AY 2014-2015 | AY 2015-2016 | AY2016-2017 |
| **1.** | Demonstrate critical thinking skills necessary for appropriate collection, analysis, and interpretation of data in chemistry laboratory experiments by scoring above the 40th percentile on the MFT as compared to the students taking the test nationwide | 35(24%tile)(n = 8) | 35(18th%tile)(n=13) | 38(25th%tile)(n=9) | 42\*\*(n=9) | 43#(n=7) |
| **2.** | Demonstrate skills necessary for appropriate collection and analysis of data in chemistry laboratory experiments by scoring greater than 2.0 on the 0 to 3 scale on the rubric where 3 is the highest. | 1.93(n = 10) | 1.92(n=13) | 2.07(n=9) | 2.30(n=9) | 2.38(n=7) |
| **3.** | Demonstrate skills necessary for appropriate collection and analysis of data in chemistry laboratory experiments by scoring greater than 2.0 on the 0 to 3 scale on the rubric where 3 is the highest. | 2.63(n = 2) | 2.50(n=3) | 2.00(n=3) | 2.79(n=9) | 2.26(n=7) |
| **4.** | Demonstrate the depth of knowledge necessary for appropriate interpretation of data in chemistry laboratory experiments by scoring greater than 2.0 on the 0 to 3 scale on the rubric where 3 is the highest. | 2.08(n = 10) | 1.99(n=13) | 2.05(n=9) | 2.26(n=9) | 2.30(n=7) |
| **5.** | Demonstrate the depth of knowledge necessary for appropriate interpretation of data in chemistry laboratory experiments by scoring greater than 2.0 on the 0 to 3 scale on the rubric where 3 is the highest. | 2.81(n = 2) | 2.27(n=3) | 2.17(n=3) | 2.77(n=9) | 2.24(n=7) |
| **6..** | Demonstrate skills necessary for safe collection of data in chemistry laboratory experiments by scoring greater than 2.0 on the 0 to 3 scale on the rubric where 3 is the highest. | 2.84(n = 2) | 2.17(n=3) | 2.87(n=3) | 2.92(n=9) | 2.79(n=7) |
| **Assessment Instrument(s) and Frequency of Assessment** | Instrument | Frequency |
| **1.** | Major Field Test (MFT) critical thinking sub-score from ETS | Annually - Seniors in PSCI 499. |
| **2.** | Seminar Rubric- Question #9 & 10 (2014) (Question #6 in 2013 and before) | Annually - used to evaluate student presentations in PSCI 499.  |
| **3.** | Research/Internship Rubric- Question #6 | Annually - used to evaluate student presentations in Research (CHEM 407, 408, 409, 410) and Internship (CHEM 490). |
| **4.** | Seminar Rubric- Question #12 (Question #7 in 2013 and before) | Annually - used to evaluate student presentations in PSCI 499.  |
| **5.** | Research/Internship Rubric- Question #7 | Annually - used to evaluate student presentations in Research (CHEM 407, 408, 409, 410) and Internship (CHEM 490). |
| **6.** | Research/Internship Rubric -Question #8 | Annually - used to evaluate student presentations in Research (CHEM 407, 408, 409, 410) and Internship (CHEM 490). |
| **Expected Outcome** | Met(3) | Partially Met(2) | Not Met(1) |
| **1.** | The Lander mean sub-score on the critical thinking section of the MFT is above the 40th percentile when compared to individual student sub-scores nationally. | The Lander mean score on the critical thinking section of the MFT is between the 20th and 40th percentile when compared to individual student sub-scores nationally. | The Lander mean score on the critical thinking section of the MFT is less that the 20th percentile when compared to individual student sub-scores nationally. |
| **2.** | The average score of all student scores is greater than 2.0 on the sub-part of the rubric addressing this Indicator of Success. | The average score of all student scores is between 2.0 and 1.5 on the sub-part of the rubric addressing this Indicator of Success. | The average score of all student scores is less than 1.5 on the sub-part of the rubric addressing this Indicator of Success. |
| **3.** | The average score of all student scores is greater than 2.0 on the sub-part of the rubric addressing this Indicator of Success. | The average score of all student scores is between 2.0 and 1.5 on the sub-part of the rubric addressing this Indicator of Success. | The average score of all student scores is less than 1.5 on the sub-part of the rubric addressing this Indicator of Success. |
| **4.** | The average score of all student scores is greater than 2.0 on the sub-part of the rubric addressing this Indicator of Success. | The average score of all student scores is between 2.0 and 1.5 on the sub-part of the rubric addressing this Indicator of Success. | The average score of all student scores is less than 1.5 on the sub-part of the rubric addressing this Indicator of Success. |
| **5.** | The average score of all student scores is greater than 2.0 on the sub-part of the rubric addressing this Indicator of Success. | The average score of all student scores is between 2.0 and 1.5 on the sub-part of the rubric addressing this Indicator of Success. | The average score of all student scores is less than 1.5 on the sub-part of the rubric addressing this Indicator of Success. |
| **6.** | The average score of all student scores is greater than 2.0 on the sub-part of the rubric addressing this Indicator of Success. | The average score of all student scores is between 2.0 and 1.5 on the sub-part of the rubric addressing this Indicator of Success. | The average score of all student scores is less than 1.5 on the sub-part of the rubric addressing this Indicator of Success. |
| **Review of Results and Actions Taken** | **1.** | 2016-2017Because of how ETS now reports the percentile data, it is not known if this indicator has been met. However, based on the trend in recent years, it is assumed that this indicator will be only partially met. The average score of critical thinking on the MFT was a 43, although the percentile is currently unknown. We continue to make improvements and adjustments to the general chemistry labs to focus more on teaching students critical thinking skills in lab. This year, we switched to a new textbook in CHEM 111 and CHEM 112. The new textbook has many differences in ordering of topics, causing a shuffling of the corresponding lab activities. In addition, we continue to make other minor changes in upper-level labs. We will continue to monitor the effect of these changes over the next few years as it relates to cricial thinking skills. #(Note: ETS has changed made changes to how information is reported. In addition, they no longer include percentile information regarding critical thinking subsection since June 2015. We will need to adjust this particular outcome.) 2015-2016Because of how ETS now reports the percentile data, it is not known if this indicator has been met. However, based on the trend in recent years, it is assumed that this indicator will be only partially met. The average score of critical thinking on the MFT was a 42, although the percentile is currently unknown. We continue to overhaul the general chemistry labs to focus more on teaching students critical thinking skills in lab. The focus this year was the CHEM 112 labs along with other minor changes in upper-level labs and further tweaking of the CHEM 111 labs. We will continue to monitor the effect of these changes over the next few years as it relates to cricial thinking skills. \*\* (Note: the fully updated percentile information will not be available until July of 2016.)2014-2015The expected outcome was only partial met. The average score of critical thinking on the MFT was 38 which placed the students in the 25th percentile. This past year, we overhauled the CHEM 111 labs to focus more on teaching students critical thinking skills in lab. The focus for next year will be to overhaul the CHEM 112 labs along with other minor changes in upper-level labs. We will continue to monitor the effect of these changes over the next few years as it relates to cricial thinking skills.2013-2014The expected outcome was not met for this indicator of critical thinking. The raw score has not fluctuate much, but the percentile comparison has fluctuated causing this indicator to drop from "partially met" to "not met." Improving critiical thinking skills is not something that can be simply addressed in the capstone PSCI 499 course. Thus, we are looking at changes throughout the curriculum. Beginning in the fall of 2014, we are completely overhauling the structure of the lab components of CHEM 111 to increase the emphasis on critical thinking skils. Changes to other lab courses to emphasize critical thinking skills will also start to be implemented. It is expected that this evaluating these changes will take several years as the seniors taking the MFT for the next couple of years will be little impacted by the changes that are being made. 2012-2013The expected outcome was partially met. Analysis will continue in the fall as we are continueing to evaluate course modification to PSCI 499 as well as other compoments of the curiculum. Continued monitoring will occurr in order to determine if further modification need to be made. |
| **2.** | 2016-2017The expected outcome was met for this indicator of data collection and analysis with an average score of 2.38 for the 7 students giving the senior seminar presentations. Improvements in critical thinking skills such as data collection and analysis will continue to be a point of emphasis during the next few years as modifications are implemented throughout the curriculum.2015-2016The expected outcome was met for this indicator of data collection and analysis with an average score of 2.30 for the 9 students giving the senior seminar presentations. Improvements in critical thinking skills such as data collection and analysis will continue to be a point of emphasis during the next few years as modifications are implemented throughout the curriculum.2014-2015The expected outcome was met for this indicator of data collection and analysis with an average score of 2.07 for the 9 students giving the senior seminar presentations. Improvements in critical thinking skills such as data collection and analysis will be a point of emphasis during the next few years as modifications are implemented throughout the curriculum.2013-2014The expected outcome was partially met for this indicator on the rubric. The average score was 1.92. This indicator has only been partially met for several years in a row. As with the comment stated in the immediately preceeding indicator, improving critical thinking skills in general (such as data collection and analysis) is not something that can be easily fixed in only the capstone PSCI 499 course. We will start to implement changes to improving critical thinking skills in lab throughout the curriculum, beginning with overhauling the lab portion of CHEM 111. It is expected that these changes will not be apparent in the assessments of the seniors for several years.2012-2013The expected outcome was partially met for this indicator on the rubric. The average score of all student scores on Question #6, analysis and interpretation of chemical data, was 1.93 for the ten students. Analysis of these results will continue. |
| **3.** | 2015-2016The expected outcome for this indicator of data collection and analysis was met with an average score fo 2.26 for the 7 students presenting their work on student research projects.2015-2016The expected outcome for this indicator of data collection and analysis was met with an average score fo 2.79 for the 9 students presenting their work on student research projects.2014-2015The expected outcome for this indicator of data collection and analysis was met with an average scoe of 2.00 for the 3 students presenting their work on student research projects. 2013-2014The expected outcome for this indicator was met with an average score of 2.50 on the rubric.2012-2013The average score for the two students presenting research was 2.63 on question #5 on the rubric. The expected outcome was therefore met. |
| **4.** | 2016-2017The expected outcome was met for this indicator of depth of knowledge with an average score of 2.30 for the 7 students giving senior seminar presentations.2015-2016The expected outcome was met for this indicator of depth of knowledge with an average score of 2.26 for the 9 students giving senior seminar presentations.2014-2015The expected outcome was met for this indicator of depth of knowledge with an average score of 2.05 for the 9 students giving senior seminar prentations. The rubric used in PSCI 499 had a minor modification to slightly ease the level of difficuly associated with achivieving the highest rating of excellence. The rubric will continue to be monitored.2013-2014The expected outcome was partially met for this indicator in the rubric. The average score of the 13 students was 1.99 on the rubric. This is a new rubric for 2013-2014 to better reflect the changes to the senior seminar presentation in PSCI 499. The evaluations on the rubric are more rigorous than in previous years.2012-2013The expected outcome was met for this indicator in the rubric. The average score of question #6 was 2.08 for the ten students. |
| **5.** | 2016-2017The expected outcome for this indicator of depth of knowledge was met with an average score of 2.24 for the 7 students giving research poster presentations.2015-2016The expected outcome for this indicator of depth of knowledge was met with an average score of 2.77 for the 9 students giving research poster presentations.2014-2015The expected outcome for this indicator of depth of knowledge was met with an average score of 2.17 for the 3 students giving research poster presentations.2013-2014The expected outcome on this indicator was met with an average score of 2.27 on the rubric.2012-2013The average score for the two students was 2.81 on question #6 on the rubric. The expected outcome was met. |
| **6.** | 2016-2017The expected outcome for this indicator of safety was met with an average score of 2.79 for the 7 students that presented research posters.2015-2016The expected outcome for this indicator of safety was met with an average score of 2.92 for the 9 students that presented research posters.2014-2015The expected outcome for this indicator of safety was met with an average score of 2.87 for the 3 students engaged in the research poster presentations.2013-2014The expected outcome for this indicator was met with an average score of 2.17 on the rubric.2012-2013The average score for the two students was 2.84 on question #7, laboratory safety. The expected outcome was met. |
| **Sum** | 2016-2017We are continuing to engage in a long term effort to increase the ability of our students to think critically and effectively, especially as it relates to data collection and analysis of lab data. This year, we switched to a new textbook in CHEM 111 and CHEM 112. The new textbook has many differences in ordering of topics, causing a shuffling of the corresponding lab activities. In addition, we continue to make other minor changes in upper-level labs. We will continue to monitor the effect of these changes over the next few years as it relates to cricial thinking skills. 2015-2016We are continuing to engage in a long term effort to increase the ability of our students to think critically and efectively, especially as it relates to data collection and analysis in the lab. Last year, we focused on overhauling the CHEM 111 labs. This year, our focus was on the CHEM 112 labs. In addition, there have been minor modifications at the upper levels. We will continue to tweak and adjust the labs in CHEM 111 and 112 and monitor the impacts of these changes.2014-2015We are currently engaged in a long term effort to increase the ability of our students to think critically and effectively, especially as it relates to data collection and analysis in the lab. This past year we overhauled the lab component of CHEM 111. Next year, we plan to overhall the lab component of CHEM 112. In addition, there are modifications happening in some of the upper level labs that should also help emphasize the importance of critical thinking skills. In the coming years, these changes will continue to be monitored, although we do not expect the impact of these changes will be readily apparent for several years.2013-2014The trend on these indicators is that we are not consistently meeting our goals related to critical thinking, escpeically as it relates to data collection and analysis. Improving critical thinking skills in general is not something that can be easily fixed in only the capstone PSCI 499 course. We will start to implement changes to improving critical thinking skills in lab throughout the curriculum, beginning with overhauling the lab portion of CHEM 111. It is expected that theses changes will not be apparent in the assessments of the seniors for several years2012-2013The students partially met the expected outcome on critical thinking on the MFT. The students also only partially met the expected outcome on the depth of knowledge during the PSCI 499 presentations. The other expected outcome were met. The department will be reviewning and anaylzing this data during the fall. 2011-2012This is the second year of teaching PSCI 499 in its new form (3 hours course expanded from one hour and letter grades are given). As the data set is still small it would be premature to draw conclusions about the structure of the course affecting the learning outcomes. The faculty will continue to review the data and the faculty assigned to teach the course may examine strategies to improve student learning. |
| **Outcomes** | Indicator of Success Evaluation | Indicator of Success Score |
| **1.** |  |  |
| **2.** |  |  |
| **3.** |  |  |
| **4.** |  |  |
| **5.** |  |  |
| **6.** |  |  |
| **Additional Resources Required to Achieve or Sustain Results** | $0.00Explanation |

1. **Unit/Program Goal**: To comply with program productivity standards as defined by the South Carolina Commission on Higher Education

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| --- | --- |
| **Strategic Goal Supported** |  |
| **Indicator of Success/ Student Learning Outcome****AND****Summary of Data** | Indicator/Learning Outcome | 2006-2010 Rolling Average | 2007-2011 Rolling Average | 2008-2012 Rolling Average | 2009-2013 Rolling Average | 2020-2014 Rolling Average |
| **1.** | Chemistry: Degrees Conferred | 8.8 |       |       |       |       |
| **2.** | Chemistry: Major Headcount | 57.8 |       |       |       |       |
| **3.** |       |       |       |       |       |       |
| **4.** |       |       |       |       |       |       |
| **5.** |       |       |       |       |       |       |
| **6..** |       |       |       |       |       |       |
| **Assessment Instrument(s) and Frequency of Assessment** | Instrument | Frequency |
| **1.** | South Carolina Commission on Higher Education Management Information System (CHEMIS) and the Commission's Academic Degree Program Inventory (Lander University Fact Book) | Annually |
| **2.** | South Carolina Commission on Higher Education Management Information System (CHEMIS) and the Commission's Academic Degree Program Inventory (Lander University Fact Book) | Annually |
| **3.** |       |       |
| **4.** |       |       |
| **5.** |       |       |
| **6.** |       |       |
| **Expected Outcome** | Met(3) | Partially Met(2) | Not Met(1) |
| **1.** | Baccalaurate Degrees awarded greater than or equal to 5.0 | N/A | Baccalaurate Degrees awarded less than 5.0 |
| **2.** | Baccalaureate Major enrollment is greater than or equal to 12.5 | N/A | Baccalaureate Major enrollment is less than 12.5 |
| **3.** |       |       |       |
| **4.** |       |       |       |
| **5.** |       |       |       |
| **6.** |       |       |       |
| **Review of Results and Actions Taken** | **1.** | 2013-2014This indicator of success was met.2012-2013This indicator of success was met. |
| **2.** | 2013-2014This indicator of success was met.2012-2013This indicator of success was met. |
| **3.** |       |
| **4.** |       |
| **5.** |       |
| **6.** |       |
| **Sum** | 2012-2013The Chemistry Program is again this year struggling to add laboratory sections of several key courses to serve the demand in the Chemistry major and other majors that require particular chemistry courses. Even though University enrollment is not growing, the number of students requiring chemistry courses is continuing to rise, these include Biology majors, Environmental Science majors, PEES majors, and nursing majors. |
| **Outcomes** | Indicator of Success Evaluation | Indicator of Success Score |
| **1.** |  |  |
| **2.** |  |  |
| **3.** |  |  |
| **4.** |  |  |
| **5.** |  |  |
| **6.** |  |  |
| **Additional Resources Required to Achieve or Sustain Results** |            |

1. **Unit/Program Summary**

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| --- | --- | --- | --- |
| **Unit/Program Goal** | **Strategic Goal Supported** | **Unit/Program Goal Outcome** | **Additional Resources Required to Achieve or Sustain Results** |
|  |  | **Score** | **Evaluation****Met: 3.00 – 2.01****Partially Met: 2.00 – 1.01****Not Met: 1.00 – 0.01****Not Evaluated: 0.00** |  |
| 1. Develop an understanding of modern scientific concepts related to organic, inorganic, analytical and physical chemistry.
 |  | 2.83 |  | $0.00 |
| 1. Demonstrate appropriate scientific communication skills to prepare and present a seminar presentation on a literature topic or undergraduate research experience.
 |  | 3.00 |  | $0.00 |
| 1. Demonstrate skills necessary for safe and appropriate collection, analysis, and interpretation of data in chemistry laboratory experiements.
 |  | 2.83 |  | $0.00 |
| 1. To comply with program productivity standards as defined by the South Carolina Commission on Higher Education
 |  | 3.00 |  | $0 |
| 1.
 |  | 0.00 |  | $0.00 |
| 1.
 |  | 0.00 |  | $0.00 |
| 1.
 |  | 0.00 |  | $0.00 |
| 1.
 |  | 0.00 |  | $0.00 |
| 1.
 |  | 0.00 |  | $0.00 |
| 1.
 |  | 0.00 |  | $0.00 |
| **UNIT/PROGRAM TOTALS** | **2.92** |  | **$0.00** |