

Mission

This is the Chemistry mission statement. It will need to be revised later. *(This statement was added simply to fill in this field.)*

Academic Year 2024-2025

Chemistry, BS Learning Outcomes

Goal 1: Understand Chemistry Content

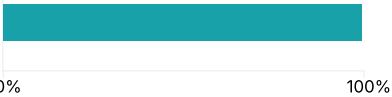
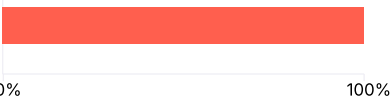
Demonstrate overall understanding of chemistry. Students perform well on national assessment (used the Diagnostic of Undergraduate Chemistry Knowledge (DUCK) published by the American Chemical Society).

MEASURES	RESULTS	ACTIONS										
<p>Diagnostic of Undergraduate Chemistry Knowledge (DUCK) published by the American Chemical Society</p> <p>Diagnostic of Undergraduate Chemistry Knowledge (DUCK) published by the American Chemical Society.</p> <p>We formally used the MFT for many years as it is nationally normed. The MFT is an overall exam at the very end of the program. Thus, it can sometimes be nearly 3 years since a student will have learned a concept that is covered on this exam. This causes difficulty because while these data are easily collected, it is not clear how to use them to improve the program as the only percentile information is now associated with the overall score, not the individual subsections. Additionally, the MFT is computer based and the department and assessment committee are unable to review questions to verify if the questions reflect our student learning goals for each course.</p> <p>To be able to better assess the questions and subsections on the exam, the Diagnostic of Undergraduate Chemistry Knowledge (DUCK) published by the American Chemical Society was utilized.</p> <p>Direct - Exam (Course)</p> <p>Target</p> <p>Met = Average score on DUCK18 is 50th percentile or higher.</p> <p>Partially met = Average score on DUCK18 is 25th - 49th percentile</p> <p>Not met = Average score on DUCK18 is below 25th percentile</p>	<p>PARTIALLY MET</p> <p>Diagnostic of Undergraduate Chemistry Knowledge (DUCK) published by the American Chemical Society</p> <p>■ Exceed ■ Met ■ Approached</p> <table border="1"> <tr> <td>Exceed:</td> <td>17%</td> </tr> <tr> <td>Met:</td> <td>50%</td> </tr> <tr> <td>Approached:</td> <td>33%</td> </tr> <tr> <td>Met Total:</td> <td>67%</td> </tr> <tr> <td>Not Met Total:</td> <td>33%</td> </tr> </table> <p>Analysis</p> <p>Current goals are set for all students to meet or exceed expectations.</p>	Exceed:	17%	Met:	50%	Approached:	33%	Met Total:	67%	Not Met Total:	33%	<p>Revise Measurement / Assessment</p> <p>Not Started</p> <p>Our goal is to review questions on the standardized exam to verify the questions on the DUCK exam accurately reflect course student learning outcomes in the major and department learning goals. The threshold for "met" will be reexamined upon evaluation of the questions on the DUCK exam.</p>
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Goal 2a: Practices of Science - Chemical and laboratory safety

Students understand and can apply principles of chemical and laboratory safety

MEASURES	RESULTS	ACTIONS
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<p>Viewing, completing, and signing laboratory safety material</p> <p>All students have a laboratory safety video that is shown appropriate to the laboratory course. After viewing the safety material, all students complete a safety verification (RAMP, safety quiz within the lab, varies by course), and is kept on file for the duration of the laboratory course.</p> <p>Direct - Assignment</p> <p>Target</p> <p>Met - All chemistry laboratory courses contain the safety outline described.</p> <p>Partially Met - half of the chemistry laboratory courses contain the safety outline described.</p> <p>Not met- less than half of chemistry laboratory courses contain the safety outline described.</p>	<p>PARTIALLY MET</p> <p>Viewing, completing, and signing laboratory safety material</p> <p>■ Met</p>  <p>0% 100%</p> <p><i>Values are not shown when too close to each other. Click or use arrow keys to see details.</i></p> <p>Met: 100%</p> <p>Met Total: 100%</p> <p>Not Met Total:</p> <p>Summary</p> <p>Not all courses currently meet the expectation. Additionally the metric is quite vague.</p> <p>Analysis</p> <p>Most laboratory classes provide some level of visual laboratory safety instruction appropriate laboratory safety relevant to the course. After viewing the safety material, most students complete a safety verification. This verification is kept on file for the duration of the laboratory course for all students who maintain enrollment.</p> <p>We are still defining as a department what our expectations are for this metric.</p>	<p>Revise Measurement / Assessment</p> <p>IN PROGRESS</p> <p>We are still defining as a department what our expectations are for this metric. Further discussion is planned for the Fall 2025 to fully implement in the 2026-2027 academic year. In future, we hope to unify the safety curriculum. Previous discussions have focused on using ACS RAMP.</p> <p>Recommended Due Date: 05/01/2026</p>
<p>ASC safety training</p> <p>Direct - Assignment</p>	<p>NOT MET</p> <p>ASC safety training</p> <p>■ Not Met</p>  <p>0% 100%</p> <p><i>Values are not shown when too close to each other. Click or use arrow keys to see details.</i></p> <p>Not Met: 100%</p> <p>Met Total:</p> <p>Not Met Total: 100%</p> <p>Analysis</p> <p>ACS RAMP was discussed as a safety training module, but not implemented in courses consistently.</p>	<p>Revise Measurement / Assessment</p> <p>Not Started</p> <p>Determine if ACS RAMP is the method of assessment that the department desires to use and to what extent it should be implemented - all laboratory classes, upper level courses, etc.</p> <p>Recommended Due Date: 02/01/2026</p>

Goal 2b: Practices of science - analyze data

Students will learn how to analyze data

MEASURES	RESULTS	ACTIONS
<p>We do not have a measurement for this</p> <p>Direct - Other</p> <p>Target</p> <p>We do not have a metric for this goal.</p>	<p>NOT MET</p> <p>We do not have a measurement for this</p> <p>■ Not Met</p> <p>0% 100%</p> <p><i>Values are not shown when too close to each other. Click or use arrow keys to see details.</i></p> <p>Not Met: 100%</p> <p>Met Total: Not Met Total: 100%</p>	<p><i>No actions have been added.</i></p>



Goal 3: Scientific communication **PARTIALLY MET**

Students are able to communicate scientific information

MEASURES	RESULTS	ACTIONS
<p>Senior seminar presentation - Intent</p> <p>From the ELIPSS rubric for formal communication:</p> <p>"Clearly conveys the purpose, and the content is well-aligned towards this intent"</p> <p>We want students to score at least 4 on this category from the ELIPSS rubric</p> <p>Performance for individual student:</p> <ul style="list-style-type: none"> • Not met = score is 0-2 • Approaching = score is 3 • Met = score is 4 • Exceeds = score is 5 <p>Direct - Presentation</p> <p><i>Senior Seminar: PSCI 499</i></p> <p>Target</p> <p>Performance for the whole course:</p> <p>Not met = less than 50% of students achieve score of 4 or higher Partially met = 50-74% of students score 4 or higher Met = 75% or more of students score 4 or higher</p>	<p>PARTIALLY MET</p> <p>Senior seminar presentation - Intent</p> <p>■ Exceed ■ Met ■ Approached ■ Not Met</p> <p>0% 100%</p> <p>Exceed: 17%</p> <p>Met: 50%</p> <p>Approached: 25%</p> <p>Not Met: 8%</p> <p>Met Total: 67%</p> <p>Not Met Total: 33%</p>	<p>Other - [test action item]</p> <p>Not Started</p> <p>This is example of action item associated with achieving only a partially met on the "Intent" rubric for student presentations</p>

<p>Senior seminar presentation - Audience</p> <p>From the ELIPSS rubric for formal communication:</p> <p>"Uses language and delivery style that is consistent with the norms of the subject area and suitable for the audience"</p> <p>We want students to score at least 4 on this category from the ELIPSS rubric</p> <p>Performance for individual student:</p> <ul style="list-style-type: none"> • Not met = score is 0-2 • Approaching = score is 3 • Met = score is 4 • Exceeds = score is 5 <p><i>Senior Seminar: PSCI 499</i></p> <p>Target</p> <p>Performance for the whole course:</p> <p>Not met = less than 50% of students achieve score of 4 or higher Partially met = 50-74% of students score 4 or higher Met =75% or more of students score 4 or higher</p>	<p>MET</p> <p>Senior seminar presentation - Audience</p> <p>■ Exceed ■ Met ■ Approached</p> <table border="0"> <tr> <td>Exceed:</td> <td>17%</td> </tr> <tr> <td>Met:</td> <td>67%</td> </tr> <tr> <td>Approached:</td> <td>16%</td> </tr> <tr> <td>Met Total:</td> <td>83%</td> </tr> <tr> <td>Not Met Total:</td> <td>17%</td> </tr> </table>	Exceed:	17%	Met:	67%	Approached:	16%	Met Total:	83%	Not Met Total:	17%	<p><i>No actions have been added.</i></p>
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<p>Senior seminar presentation - Organization</p> <p>From the ELIPSS rubric for formal communication:</p> <p>"Presents ideas in a logical and cohesive manner"</p> <p>We want students to score at least 4 on this category from the ELIPSS rubric</p> <p>Performance for individual student:</p> <ul style="list-style-type: none"> • Not met = score is 0-2 • Approaching = score is 3 • Met = score is 4 • Exceeds = score is 5 <p><i>Senior Seminar: PSCI 499</i></p> <p>Target</p> <p>Performance for the whole course:</p> <p>Not met = less than 50% of students achieve score of 4 or higher Partially met = 50-74% of students score 4 or higher Met =75% or more of students score 4 or higher</p>	<p>MET</p> <p>Senior seminar presentation - Organization</p> <p>■ Exceed ■ Met ■ Approached</p> <table border="0"> <tr> <td>Exceed:</td> <td>17%</td> </tr> <tr> <td>Met:</td> <td>42%</td> </tr> <tr> <td>Approached:</td> <td>41%</td> </tr> <tr> <td>Met Total:</td> <td>58%</td> </tr> <tr> <td>Not Met Total:</td> <td>42%</td> </tr> </table>	Exceed:	17%	Met:	42%	Approached:	41%	Met Total:	58%	Not Met Total:	42%	<p><i>No actions have been added.</i></p>
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<p>Senior seminar presentation - Visual representation</p> <p>From the ELIPSS rubric for formal communication:</p> <p>"Constructs and uses visual representations effectively and appropriately"</p> <p>We want students to score at least 4 on this category from the ELIPSS rubric.</p> <p>Performance for individual student:</p> <ul style="list-style-type: none"> • Not met = score is 0-2 • Approaching = score is 3 • Met = score is 4 • Exceeds = score is 5 <p>Direct - Presentation</p> <p>Senior Seminar: PSCI 499</p> <p>Target</p> <p>Performance for the whole course:</p> <p>Not met = less than 50% of students achieve score of 4 or higher Partially met = 50-74% of students score 4 or higher Met =75% or more of students score 4 or higher</p>	<p>MET</p> <p>Senior seminar presentation - Visual representation</p> <p>■ Exceed ■ Met ■ Approached</p> <table border="1"> <tr> <td>Exceed:</td> <td>58%</td> </tr> <tr> <td>Met:</td> <td>25%</td> </tr> <tr> <td>Approached:</td> <td>17%</td> </tr> <tr> <td>Met Total:</td> <td>83%</td> </tr> <tr> <td>Not Met Total:</td> <td>17%</td> </tr> </table>	Exceed:	58%	Met:	25%	Approached:	17%	Met Total:	83%	Not Met Total:	17%	<p><i>No actions have been added.</i></p>
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<p>Senior seminar presentation - Format and Style</p> <p>From the ELIPSS rubric for formal communication:</p> <p>"Selects a format and style that enhances the effectiveness of the communication"</p> <p>We want students to score at least 4 on this category from the ELIPSS rubric.</p> <p>Performance for individual student:</p> <ul style="list-style-type: none"> • Not met = score is 0-2 • Approaching = score is 3 • Met = score is 4 • Exceeds = score is 5 <p>Direct - Presentation</p> <p>Senior Seminar: PSCI 499</p> <p>Target</p> <p>Performance for the whole course:</p> <p>Not met = less than 50% of students achieve score of 4 or higher Partially met = 50-74% of students score 4 or higher Met =75% or more of students score 4 or higher</p>	<p>MET</p> <p>Senior seminar presentation - Format and Style</p> <p>■ Exceed ■ Met ■ Approached</p> <table border="1"> <tr> <td>Exceed:</td> <td>67%</td> </tr> <tr> <td>Met:</td> <td>25%</td> </tr> <tr> <td>Approached:</td> <td>8%</td> </tr> <tr> <td>Met Total:</td> <td>92%</td> </tr> <tr> <td>Not Met Total:</td> <td>8%</td> </tr> </table>	Exceed:	67%	Met:	25%	Approached:	8%	Met Total:	92%	Not Met Total:	8%	<p><i>No actions have been added.</i></p>
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<p>Senior seminar presentation - Mechanics (written words)</p> <p>From the ELIPSS rubric for formal communication:</p> <p>"Uses expected writing conventions for the form of communication"</p> <p>We want students to score at least 4 on this category from the ELIPSS rubric.</p> <p>Performance for individual student:</p> <ul style="list-style-type: none"> • Not met = score is 0-2 • Approaching = score is 3 • Met = score is 4 • Exceeds = score is 5 <p>Direct - Presentation</p> <p>Senior Seminar: PSCI 499</p> <p>Target</p> <p>Performance for the whole course:</p> <p>Not met = less than 50% of students achieve score of 4 or higher Partially met = 50-74% of students score 4 or higher Met =75% or more of students score 4 or higher</p>	<p>MET</p> <p>Senior seminar presentation - Mechanics (written words)</p> <p>■ Exceed ■ Met ■ Approached ■ Not Met</p>  <table border="1"> <tr> <td>Exceed:</td> <td>17%</td> </tr> <tr> <td>Met:</td> <td>50%</td> </tr> <tr> <td>Approached:</td> <td>25%</td> </tr> <tr> <td>Not Met:</td> <td>8%</td> </tr> <tr> <td>Met Total:</td> <td>67%</td> </tr> <tr> <td>Not Met Total:</td> <td>33%</td> </tr> </table>	Exceed:	17%	Met:	50%	Approached:	25%	Not Met:	8%	Met Total:	67%	Not Met Total:	33%	<p><i>No actions have been added.</i></p>
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Not Met:	8%													
Met Total:	67%													
Not Met Total:	33%													
<p>Senior seminar presentation - Delivery (oral)</p> <p>From the ELIPSS rubric for formal communication:</p> <p>"Uses voice and body language to convey the intended message in a clear and engaging manner"</p> <p>We want students to score at least 4 on this category from the ELIPSS rubric.</p> <p>Performance for individual student:</p> <ul style="list-style-type: none"> • Not met = score is 0-2 • Approaching = score is 3 • Met = score is 4 • Exceeds = score is 5 <p>Direct - Presentation</p> <p>Senior Seminar: PSCI 499</p> <p>Target</p> <p>Performance for the whole course:</p> <p>Not met = less than 50% of students achieve score of 4 or higher Partially met = 50-74% of students score 4 or higher Met =75% or more of students score 4 or higher</p>	<p>MET</p> <p>Senior seminar presentation - Delivery (oral)</p> <p>■ Exceed ■ Met ■ Approached ■ Not Met</p>  <table border="1"> <tr> <td>Exceed:</td> <td>17%</td> </tr> <tr> <td>Met:</td> <td>50%</td> </tr> <tr> <td>Approached:</td> <td>25%</td> </tr> <tr> <td>Not Met:</td> <td>8%</td> </tr> <tr> <td>Met Total:</td> <td>67%</td> </tr> <tr> <td>Not Met Total:</td> <td>33%</td> </tr> </table>	Exceed:	17%	Met:	50%	Approached:	25%	Not Met:	8%	Met Total:	67%	Not Met Total:	33%	<p><i>No actions have been added.</i></p>
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General Outcome Actions

ACTIONS
<p>Revise Measurement / Assessment</p> <p>Not Started</p> <p>In PSCI 499 (spring 2026), the rubric for student assessments will more closely match the ELIPSS rubric creating a more direct mapping onto the goal outcomes</p>

Conclusion

Students are generally meeting expectations. However, full integration of the new rubric has not been completed. Future results from the rubric will hopefully reflect actual student performance more accurately. (We think there is inflation of performance based on our current implementation of the new rubric.)

Chemistry, BS NonLearning Outcomes

Success #1: Program productivity - Major enrollment **MET**

Using a five-year rolling average, the number of students enrolled in the major is greater than or equal to 12.5

MEASURES	RESULTS	ACTIONS
<p>Number of students enrolled in measure</p> <p>Five-year rolling average of the number of students enrolled in the Chemistry major. From the SC CHE perspective, all the other various chemistry emphases are counted as "chemistry." Thus, none of the other emphases will need productivity measures.</p> <p>Direct - Counts</p> <p>Target</p> <p>Five-year rolling average is 12.5 or higher</p>	<p>MET</p> <p>Summary</p> <p>During the 2024-2025 academic year, the Chemistry B.S. program had a 5-year rolling average of 63.6 students.</p> <p>Copy of Program Productivity Report 822 25.xlsx</p> <p>Analysis</p> <p>We successfully have more than the 12.5 minimum required by the state.</p>	<p><i>No actions have been added.</i></p>

Conclusion

We meet the productivity standards for enrollment.

Success #2: Program Productivity - Degree completions **MET**

Using a five-year rolling average, the number of degrees awarded is greater than or equal to 8

MEASURES	RESULTS	ACTIONS
<p>Five-year rolling average of degree completions</p> <p>The five-year rolling average number of students to earn any chemistry degree. From</p>	<p>MET</p> <p>Summary</p> <p>For the 2024-2025 academic year, the five-year rolling average of chemistry degrees completed was 12.2.</p>	<p><i>No actions have been added.</i></p>

Chemistry, BS

<p>the SC CHE perspective, all the other various chemistry emphases are counted as "chemistry." Thus, none of the other emphases will need productivity measures.</p> <p>Direct - Counts</p> <p>Target</p> <p>Five-year rolling average for number of chemistry graduates is at least 8 or greater</p>	<p>Copy of Program Productivity Report 822 25.xlsx</p> <p>Analysis</p> <p>With a five-year rolling average of 12.2, we are meeting the requirement that we have at least 8 graduates per year.</p>	
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Conclusion

We meet the productivity standard for degree completions