

## Core Curriculum Annual Assessment

Year	2022-23
Course number and Name:	CHEM 1311, CHEM 1312, CHEM 1306
Component area:	Chemistry
Number of sections offered:	20 sections
Number of students enrolled:	939 students
Contact Person (include email & Phone#)	Ozge Gunaydin, <a href="mailto:osen@lamar.edu">osen@lamar.edu</a> 409-880-8275

### Summary of Continuous Improvement Efforts since Last Report

*Provide a brief description of how assessment results have been used for core course improvement. Point to a specific example of how an assessment provided the department with data it could use for improvement and what that improvement was, if possible, also show evidence of the improvement. You may look at data from the two previous academic years to support this case.*

### Course highlights Since Last Report

- Supplemental instructor support was provided for the students. Student Tutoring & Retention Services helps to arrange it and pays a student to hold supplemental problem-solving sessions to the students.
- Instructors started to have more in class problem solving activities and one semester two of them held supporting sessions for all sections of the course.
- In one pilot section the instructor tried a different book which has a different approach in teaching the order of the concepts.
- Final exam format was also changed for all sections, 5 fundamental questions to evaluate critical thinking skills and empirical/quantitative skills were asked from each chapter and those were used for assessments.

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**Table 1. Assessment Results and Analysis for Current Cycle**

Stage 1: PLAN			STAGE 2: DO		Stage 3: STUDY	
General Education Competencies Addressed in this Course:	Assessment Method(s) – e.g. pre/post tests, embedded questions, portfolio evaluation, rubric-scored essay; list only activities for which you are reporting assessment data	Proficiency – e.g. the proficient student will correctly answer 5 out of the 6 embedded questions on the final exam	Benchmark – e.g. 80% of students taking the final exam will correctly answer 5 of the 6 embedded questions on the final exam	Results of course assessment(s)	Analysis of results – e.g. strengths and weaknesses What does this data tell you? How will you use this data? How were data from the last cycle used to make changes during this cycle, and what were the results of those changes?	Recommendations for Course based on assessment
Communication (required)	Final exam questions were used.	Evaluation of the selected final exam questions	70% of the students will correctly answer 2 out of 3 questions	70% of the students correctly answered 2 out of 3 questions	Our target, based on the assessment results, is met. We plan to use this data to reevaluate our teaching approaches. We selected fundamental questions from the final exam which helps to assess the communication. The selected question(s) evaluated the ability for students to explain chemistry concepts using	We will continue to communicate the subject matter and implement assessment by choosing questions from fundamental chemistry concepts. We plan to increase the number of questions and reorganize the questions from the final exam as a posttest to

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					appropriate scientific language and articulate chemical information clearly.	assess communication. We will add a pretest and use those questions to see the improvement after the class is over.
Critical Thinking (required)	Final exam questions were used	Evaluation of the selected final exam questions	70% of the students will correctly answer 2 out of 3 questions	70% of the students correctly answered 2 out of 3 questions	Our target, based on the assessment results, is met. We plan to use this data to reevaluate our teaching approaches. We selected fundamental questions from the final exam which helps to assess the critical thinking. The selected question(s) evaluated the ability for students to analyze the problem, develop a logical plan, and arrive at appropriate solutions.	We will continue to address the critical thinking approach and implement assessment by choosing questions from fundamental chemistry concepts. We plan to reorganize the questions from the final exam as a posttest to assess critical thinking. We will add a pretest and use those questions to see the improvement

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						after the class is over.
<b>Select One:</b> <input type="checkbox"/> Empirical & Quantitative Skills <input type="checkbox"/> Teamwork <input type="checkbox"/> Social responsibility <input type="checkbox"/> Personal Responsibility	Final exam questions were used	Evaluation of the selected final exam questions	70% of the students will correctly answer 2 out of 3 questions	70% of the students correctly answered 2 out of 3 questions	Our target, based on the assessment results, is met. We plan to use this data to reevaluate our teaching approaches. We selected fundamental questions from the final exam which helps to assess the empirical & quantitative skills. The selected question(s) evaluated the ability for students to perform calculations by applying appropriate formula, manipulate units, and draw conclusion based on the available data.	We will continue to address the empirical & quantitative skills and implement assessment by choosing questions from fundamental chemistry concepts. We plan to reorganize the questions from the final exam as a posttest to assess empirical & quantitative skills. We will add a pretest and use those questions to see the improvement after the class is over.
<b>Select One:</b> <input type="checkbox"/> Empirical & Quantitative Skills <input type="checkbox"/> Teamwork	Never assessed					We will add question(s) to the posttest related to class

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_*_Social responsibility ____Personal Responsibility						related activities to start assessing social responsibility.
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Table 2. Continuous Improvement Results Since Last Report

STAGE 4: ACT		
<b>Actions/Goals based on data results</b> <i>*copy last cycles actions/goals and report on progress toward continuous improvement on those here</i>	<b>Status</b> <i>C=Complete</i> <i>P=Progressing</i> <i>N=No action taken</i>	<b>Discussion of status</b> <i>If C, describe efforts that led to accomplishment of actions/goals</i> <i>If P, provide update on progress made toward accomplishing actions/goals and what tasks remain</i> <i>If N, discuss why action toward accomplishing actions/goals has been delayed and what work will be initiated toward accomplishment.</i>