

Chemistry

Annual Program Report Template

Year:	2021-2022
Program:	BA/BS in Chemistry & Forensic Chemistry
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Summary of Continuous Improvement Efforts since Last Report

Provide a brief description of how assessment results have been used for program improvement. Point to a specific example of how an assessment provided the program 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.

Respond here:

Our main goal is to provide students with skills required for them to succeed as working chemists. The learning outcomes involve demonstrating competency in oral communication skills, expertise in scientific writing and ability to effectively perform chemical research. Our assessments for each category have been used for program improvement all described in table1. One specific example on how an assessment provided evidence for improvement is on scientific writing. 50% of the students averaged 3.3 or above in 2020-2021 increased to 70% in 2021-2022 (See table 1). Another one is research in which the data is above the benchmark expectations. It is important to note that there is a small number of students for research, and we will continue evaluating chemical research performance as well as oral communication skills and scientific writing.

Program Highlights Since Last Report

Identify and briefly discuss any programmatic curriculum changes made since the last report (e.g. new courses, course changes, SLO changes, course deletions).

NA

Respond here:

Table 1. Assessment Results and Analyses for Current Cycle.

STAGE 1: PLAN				STAGE 2: DO		STAGE 3: STUDY
Departmental Student Learning Goal	Program Student Learning Outcome	Assessment	Assessment Method/Location	Benchmark Expectations	Data Results	Actions/Goals Based on Data Results* What do the 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?
The goal is to provide students with the skills required for them to succeed as working chemists.	Undergraduate Chemistry students will demonstrate competency in oral communication skills.	Undergraduate students participating in research will make a formal presentation at the end of the course. A committee of external reviewers will evaluate the presentations using the following assessment rubric developed by the chemistry faculty members. This was chosen because these are skills in which our undergraduates must exhibit competency as	Undergraduate students participating in research will make a formal presentation at the end of the course. A committee of external reviewers will evaluate the presentations using the following assessment rubric developed by the chemistry faculty members. This was chosen because these are skills in which our undergraduates must exhibit competency as	80% of students will score an average of 3.3 on the rubric.	<p>2020-2021</p> <p>86% of students score an average of 3.3 or above.</p> <p>2021-2022</p> <p>100% of students score an average of 3.3 or above.</p>	The students were affected during covid pandemic and it got improved.

		working chemists.	working chemists.			
The goal is to provide students with the skills required for them to succeed as working chemists.	Undergraduate Chemistry students will demonstrate expertise in standard scientific writing and the use of English in preparing reports.	In CHEM 4x71 Introduction to Research, and CHEM 4381 Chemical Communication s, Scientific writing skills of undergraduate students will be evaluated .In addition to that they prepare a final presentation. These presentations will be evaluated by a committee of external reviewers using an assessment rubric developed by the chemistry faculty members.	In CHEM 4x71 Introduction to Research, and CHEM 4381 Chemical Communication s, Scientific writing skills of undergraduate students will be evaluated .In addition to that they prepare a final presentation. These presentations will be evaluated by a committee of external reviewers using an assessment rubric developed by the chemistry faculty members. Analysis was done using the methodology described above by evaluating their writing communication	80% of students will score an average of 3.3 on the rubric.	2020-2021 50% of the students scored an average of 3.3 or above. 2021-2022 70% of the students scored an average of 3.3 or above.	The assignments to evaluate writing skills were more focused on biochemistry topics this year. The action plan is to have two tracks of topics to be covered, one will more focus on chemistry and the other one to biochemistry. We anticipate that this will impact the average score and the percentage of students who score 3.3 and above will increase. Although target still not met, there was an increase in student scores from 2020-2021 to the current 21-22 AY

			skills in their presentation. Rubric was utilized to get the findings.			
The goal is to provide students with the skills required for them to succeed as working chemists.	Our students will be able to effectively perform chemical research at an introductory level.	Chemistry majors in CHEM 4x71 (Introduction to Research courses where x = 2, 3, 4 credit hours) are trained to function as professional chemists. An external review committee will evaluate a representative section of final research presentations using the following assessment rubric developed by the chemistry faculty members. This was chosen because these are skills in which our undergraduates must exhibit competency as	Chemistry majors in CHEM 4x71 (Introduction to Research courses where x = 2, 3, 4 credit hours) are trained to function as professional chemists. An external review committee will evaluate a representative section of final research presentations using the following assessment rubric developed by the chemistry faculty members. This was chosen because these are skills in which our undergraduates must exhibit competency as	80% of students will score an average of 3.3 on the rubric.	2020-2021 And 2021-2022 100% of students scored an average of 3.3 on the rubric.	

		working chemists.	<p>working chemists.</p> <p>Analysis was done using the methodology described above by evaluating their research skills in their presentation via quality of their data collection/analysis and how it was concluded. Rubric was utilized to get the findings.</p>			
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Table 2. Continuous Improvement Results Since Last Report

Stage 4: ACT		
Actions/Goals Based on Data Results <i>*Copy last cycle's actions/goals and report on progress toward continuous improvement on those here.</i>	Status <i>C=Complete P=Progressing N=No Action Taken</i>	Discussion of Status <i>If C, describe efforts that led to accomplishment of actions/goals. If P, provide update on progress made toward accomplishing actions/goals and what tasks remain If N, discuss why action toward accomplishing actions/goals has been delayed and what work will be initiated toward accomplishment.</i>
The goal is to provide students with the skills required for them to succeed as working chemists.		
Outcomes include demonstrating competency in oral communication skills, expertise in standard scientific writing and use of English preparing reports and effectively perform research at an introductory level.	P	We will continue our actions to evaluate writing skills (described in tabel1). Our actions show also there is an increase in assessment results between two different years. We plan to add tasks to evaluate some of the upper level classes for scientific writing and oral communication skills in the future as well.