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Assurance of Student Learning
2019-2020

Ogden College of Science and Engineering

Chemistry Department

Chemistry MS (059)

Use this page to list learning outcomes, measurements, and summarize results for your program. Detailed information must be completed in the subsequent pages.

Student Learning Outcome 1: Our graduates will have the ability to communicate effectively in written form.

Instrument 1 Literature reviews written by the students in CHEM 516 (Chemical Literature Review)

Based on your results, circle or highlight whether the program met the goal Student Learning Outcome 1.

Met

Not Met

Student Learning Outcome 2: Our graduates will have the ability to communicate effectively in oral form.

Instrument 1 Oral presentation of literature review in CHEM 598 (Graduate Seminar)

Instrument 2 Oral presentation of students' research results in CHEM 598 (Graduate Seminar)

Based on your results, circle or highlight whether the program met the goal Student Learning Outcome 2.

Met

Not Met

Student Learning Outcome 3: Our graduates will have the ability to design and propose effective experiments.

Instrument 1 Research proposals written by the students in CHEM 588 (Research Proposal)

Based on your results, circle or highlight whether the program met the goal Student Learning Outcome 3.

Met

Not Met

Program Summary (Briefly summarize the action and follow up items from your detailed responses on subsequent pages.)

1. Evaluation of first draft vs. final report using the Written Communication Rubric (Outcome 1; Instrument 1 and Outcome 3; Instrument 1)
2. Evaluation of literature oral presentation vs. research presentation using the Oral Communication Rubric (Outcome 2; Instrument 1 and 2)

Student Learning Outcome 1

Student Learning Outcome	Our graduates will have the ability to communicate effectively in written form.		
Measurement Instrument 1	Our graduates will have the ability to communicate effectively in written form. First drafts and final reports will be scored for students taking CHEM 516 Chemical Literature Review using a Written Communication Rubric. The instructors that taught this course will score their respective students.		
Criteria for Student Success	There should be an increase in rubric scores from the first paper drafts to the final paper. Students should score an average of 2.6 out of 4 on the final report.		
Program Success Target for this Measurement	75%	Percent of Program Achieving Target	89%
Methods	All 9 students that took this course during the 2018-2019 AY were evaluated by their respective instructor of record.		
Based on your results, circle or highlight whether the program met the goal Student Learning Outcome 2.			Met
Actions (Describe the decision-making process and actions planned for program improvement. The actions should include a timeline.)			
For future classes, students will be provided a modified AACU rubric that better coincides with the requirements for scientific writing in CHEM 516. Students in this course will be given two example reports. One that is deemed a 1 on the rubric and the other a 4. Students will receive a rubric score for his/her first draft with details on how to improve the report for the final paper.			
Follow-Up (Provide your timeline for follow-up. If follow-up has occurred, describe how the actions above have resulted in program improvement.)			
The AACU rubric will be refined to fit the requirements for scientific writing.			

Student Learning Outcome 2

Student Learning Outcome	Our graduates will have the ability to communicate effectively in oral form.		
Measurement Instrument 1	Oral presentation of literature review in CHEM 598 (Graduate Seminar) Students taking CHEM 598 will be scored using an Oral Communication Rubric. The instructors that teach this course and audience faculty will score these students.		
Criteria for Student Success	Students will receive an average rubric number that will be compared to their research presentation rubric number from Instrument 2.		
Program Success Target for this Measurement		Percent of Program Achieving Target	
75%			
Methods	All 15 of the students that took this course during the 2019-2020 AY were evaluated by faculty that attended the respective seminar presentation.		
Measurement Instrument 2	Oral presentation of students' research results in CHEM 598 (Graduate Seminar)		
Criteria for Student Success	There should be an increase in rubric scores from the literature review presentation compared to the research presentation. Students should score an average of 2.6 out of 4 on the research presentation.		
Program Success Target for this Measurement	75%	Percent of Program Achieving Target	73%
Methods	Thirteen students that took this course during the 2018-2019 AY were evaluated by their respective instructor of record.		
Based on your results, circle or highlight whether the program met the goal Student Learning Outcome 2.			Met
Not Met			
Actions (Describe the decision-making process and actions planned for program improvement. The actions should include a timeline.)			
For future classes, students will be provided a refined AACU rubric that better coincides with the requirements for CHEM 598. Students will receive this refined rubric and rubric score for his/her first oral presentation with details on how to improve the research presentation.			
Follow-Up (Provide your timeline for follow-up. If follow-up has occurred, describe how the actions above have resulted in program improvement.)			
The AACU oral communication rubric will be refined to fit the requirements for scientific presentations.			

Student Learning Outcome 3

Student Learning Outcome	Our graduates will have the ability to design and propose effective experiments.		
Measurement Instrument 1	Research proposals written by the students in CHEM 588 (Research Proposal) Students will demonstrate through a written report and an oral research proposal defense their ability to formulate independent experimental plans based on their thesis topic.		
Criteria for Student Success	Students scoring and A or B in this class will be considered achieving this outcome.		
Program Success Target for this Measurement	100%	Percent of Program Achieving Target	100%
Methods	Twelve students took this course during the 2018-2019 AY and grades were tabulated.		
Based on your results, circle or highlight whether the program met the goal Student Learning Outcome 3.			Met
Actions (Describe the decision-making process and actions planned for program improvement. The actions should include a timeline.)			
The student's research committee will attend the oral research proposal defense and read the corresponding written report beforehand. Students that received a grade of A or B will be considered to have achieved this outcome.			
Follow-Up (Provide your timeline for follow-up. If follow-up has occurred, describe how the actions above have resulted in program improvement.)			