

Program Plan and Findings: Four Column Layout

Program (CAS) - CHEM - Chemistry (MS) - 045

Program Mission Statement: The Department of Chemistry at Oklahoma State University: promotes the advancement and dissemination of knowledge that is central to many science reliant degree programs both within A&S and across College lines; nurtures the growth of future scientists through undergraduate and graduate research; supports creative endeavors in innovative instruction paradigms and scientific research by faculty and staff; enriches civilization by contributing to education and new technological developments.

Program Information

2019 - 2020

Program Information

Assessment Coordinator's Name: Jacinta Mutambuki, Ph.D.

Assessment Coordinator's E-mail Address: jacinta.mutambuki@okstate.edu

Number of Students Enrolled in the Program: 2

Total Number of Students Graduated: 0

Number of Student Graduates from Stillwater Campus: 0

Number of Student Graduates from Tulsa Campus: 0

Were university assessment funds used by the department/program for assessment activities?: No

If yes, describe how funds were used and the contribution the funds had on the assessment process: N/A

Annual Executive Summaries

2019 - 2020

Program Assessment Coordinator: Jacinta Mutambuki, Ph.D.

Plan Review and Approval

Date Current Plan Was Reviewed and Approved: 04/14/2016

Date of Future Plan Review and Approval: 04/14/2021

Summary of Assessment Findings

Describe overall assessment findings and faculty members' interpretation of the assessment results: Only two MS students were enrolled in the program during the assessment period. One student was at the advanced level in the program, while the other student was a first-year in the program; thus, assessment opportunities were limited for this program. However, assessment was one SLO, Teaching Skills. Based on the OSU's Teaching and Evaluation Survey, results on students' evaluations of the two MS students serving as GTAs during 2019-2020 revealed that the students exceeded the program expectations as the overall mean rating scores on the teaching skills were

4.7 out of 5 compared to the learning benchmark of 4 out of 5. These results imply that the MS GTAs demonstrated advanced teaching skills. However, the sample size is too small and results should be interpreted with caution.

Dissemination of Findings

Describe the individual(s) or committee responsible for reviewing and interpreting assessment data: Drs. Jacinta Mutambuki and Christopher Fennell.

Describe the process for sharing and discussing assessment findings with program faculty: Findings will be disseminated to faculty during the general faculty meetings.

Program Improvements Based on Assessment

Based on data collected this year, what changes are being considered or planned for the program?: No changes since the sample size is too small and not many SLOs were assessed for this program.

Based on this year's findings, what (if any) changes are planned for the assessment process?: For assessment of the GTAs' Teaching Skills, we note that while the original assessment plan was to administer a supervisor evaluation survey in which the GTAs are assessed by their course supervisor. The Assessment Committee piloted the survey during spring 2020; however, the data were not representative to allow for statistical analysis. Importantly, the data revealed necessary modifications of the survey items. The assessment committee will refine the survey for administration during the 2020-2021 assessment period.

Given the current Assessment Committee members have less than two years of experience in assessing the program, the process has been helpful in identifying areas of improvements on both the articulated SLOs and the corresponding assessment tools. Unfortunately, some modifications are needed to revise the SLOs and modify the assessment tools for better measurable and achievable outcomes.

Describe the process for implementing these changes/planned program improvements: For the new Teaching Evaluation Survey, the Assessment Committee will review the collected responses and reach out to faculty for insights on what other observable behaviors could be measured to help them provide constructive feedback and effective mentoring to the GTAs they supervise.

The Assessment Committee will plan a meeting with the Assessment advisors or council to discuss potential revisions on the SLOs and some of the assessment plans.

Program Improvements Made in the Last Year: Revised Assessment Plan

"Other" Improvements:

Goals for the Coming Year: Collect quality data and come up with effective assessment plans for assessing many of the SLOs that end up unaddressed due to lack of better assessment plans or tools.

Is this Summary Report Complete?: Yes

List all individuals associated with this report preparation: Drs. Jacinta Mutambuki and Christopher Fennell.

<i>Outcomes</i>	<i>Assessment Methods</i>	<i>Findings</i>	<i>Use of Findings (Actions)</i>
<p>Communication - C2 : Oral communication skills: Program graduates will be able to apply the scientific method and effectively communicate their scientific findings in oral presentations in a formal professional environment.</p> <p>Outcome Status: Active</p> <p>Planned Assessment Year: 2016 - 2017, 2018 - 2019, 2019 - 2020</p> <p>Start Date:</p> <p>Archived Date:</p>	<p>Faculty used a rubric (see end of this document) that had been developed during the 2014 – 2015 academic year. The rubric identified four characteristics: Organization, Delivery, Subject Knowledge, and Ability to answer questions. Both students enrolled in the course and faculty attending the seminar completed the rubric. Following each seminar completed rubric responses were collected and used</p>	<p>Reporting Period: 2019 - 2020</p> <p>Conclusion: 3 - Meets Program Expectations (Proficient)</p> <p>The program had only two students during 2019-2020. No assessment activities were relevant for these students to assess the outcome. One student is near to completion of the MS program and the other student is in second year. However, these students are proficiently meeting the program requirements. (09/12/2020)</p> <p>Number of Students Assessed: 0</p> <p>Number of Successful Students: 0</p> <p>How were students selected to participate in the assessment of this outcome?: N/A</p>	<p>Use of Findings (Actions): No recommendations are offered since there was no assessment conducted for this SLO. (09/12/2020)</p>

<i>Outcomes</i>	<i>Assessment Methods</i>	<i>Findings</i>	<i>Use of Findings (Actions)</i>
<p>Outcome Type: Skills Reason for Archival:</p>	<p>in a conference with the student to identify strengths and weaknesses in the presentation. * Learning Outcome Goal/Benchmark: Since the 5011 is a course taught by a faculty member the goal is determined by the faculty member responsible for the class. All feedback is collected and used in the conference with the student to identify their strengths and weaknesses. Timeline for Assessment: Yearly Other Assessment Type:</p>	<p>What do the findings suggest about student achievement of this learning outcome?: N/A</p>	
<p>Teaching Skills - C5: Teaching Assistants (TAs) will demonstrate effective teaching skills, effective facilitation of laboratory activities, and execution of other TA assignments, such as grading, proctoring, and facilitating discussions outside classroom. Outcome Status: Active Planned Assessment Year: 2019 - 2020 Start Date: 03/16/2020 Archived Date: Outcome Type: Skills Reason for Archival:</p>	<p>Survey - Chemistry GTAs are assigned to teach laboratory chemistry courses under the supervision of the instructor-of-record for the course. We note that while the original assessment plan was to include supervisor evaluations on the GTAs, for the first in assessing this learning outcome, we piloted the survey this semester and data that were collected are not representative to allow for statistical analysis. Importantly, the data revealed necessary modifications of the survey items to allow for measurable behaviors by the course supervisors and the primary instructors. Nevertheless, we capitalized on the OSU's Teaching Evaluation Survey to assess the teaching skills and effectiveness of the GTAs on their assignments. Therefore, the assessment of this SLO involved analyzing student evaluations of their assigned GTAs. The survey comprises six</p>	<p>Reporting Period: 2019 - 2020 Conclusion: 4 - Exceeds Program Expectations (Advanced) Results showed that the overall mean rating score on the MS GTAs' teaching effectiveness was 4.7 ± 0.1 out of 5; thus, exceeding the program expectation for this learning outcome. The overall mean ratings indicated that the GTAs demonstrated excellent teaching skills on all the categories. (09/12/2020) Number of Students Assessed: 2 Number of Successful Students: 2 How were students selected to participate in the assessment of this outcome?: MS students who served as served as GTAs during the 2019-2020 academic year were included in the assessment. What do the findings suggest about student achievement of this learning outcome?: Results suggest that the MS students demonstrated advanced teaching skills around the six teaching dimensions assessed on the survey. Additionally, the students are exceeding the program expectation.</p>	<p>Use of Findings (Actions): Although the MS students meet the program requirement in terms of teaching expectations, they can benefit from a formal teaching development program on effective teaching practices. (09/13/2020)</p>

Outcomes	Assessment Methods	Findings	Use of Findings (Actions)
		<p>dimensions: Preparation and organization, Effort devoted, Presentation of the instructional material, Knowledge of the subject-matter, Ability to explain, and Positive attitude. These dimensions were measured on a Likert Scale (1 = Poor to 5 = Outstanding).</p> <p>* Learning Outcome</p> <p>Goal/Benchmark: 80% of the student TAs included in the assessment will receive a mean rating score of 4 out of 5 on the overall teaching effectiveness.</p> <p>Timeline for Assessment: Yearly</p> <p>Other Assessment Type:</p>	