

Program: GPNS Chemistry-MSDate: December 11, 2012Completed by: Mel Druelinger

Please complete this form for each undergraduate, minor, certificate, and graduate program (e.g., B.A., B.S., M.S.) in your department and return it to Erin Frew, [erin.frew@colostate-pueblo.edu](mailto:erin.frew@colostate-pueblo.edu) as an email attachment before June 1, 2012. You'll also find the form at the assessment website at <http://www.colostate-pueblo.edu/Assessment/Resources/Pages/default.aspx>. Thank you.

**I. Program student learning outcomes (SLOs) assessed in this cycle, processes, results, and recommendations.**

A. Which of the program SLOs were assessed during this cycle? Please include the outcome(s) verbatim from the assessment plan.	B. When was this SLO last assessed?	C. What method was used for assessing the SLO? Please attach a copy of any rubrics used in the assessment process.	D. Who was assessed? Please fully describe the student group.	E. What is the expected achievement level and how many students should be at it?	F. What were the results of the assessment?	G. What were the department's conclusions about student performance?	H. What changes/improvements to the <u>program</u> are planned based on this assessment?
#1 – Chemistry-MS students will be able to evaluate the scientific literature and to use it in their courses and research	5/11	Thesis Plan - CHEM 510, Faculty Evaluations – CHEM 593, Thesis Defense – CHEM 589	C593 - Two (2) students in this course; C510 – three (3) students	Mastery and all students should attain mastery by completion of their degree	C593 - 2 of 2 students were successful in developing an approved Thesis Plan. C510 - 3 of 3 students completed this aspect of the Chem	Assessment cycle was to be completed by discussions in the department during the annual department Advance in the summer – unfortunately time at that event did not permit full	A more formal and complete assessment of all aspects of the program, including this element, will be conducted during the spring 2013 semester. It will include these and subsequent students.

					510 course where this element was an integral part. There were no students in C589	consideration of the MS Chemistry program; however the informal discussions agree that this has been achieved by these students.	
#2 – Chemistry MS students will be able to effectively communicate scientific research, both their own and information from the research literature, in written and oral fashions	5/11	Thesis Plan – C510, Faculty evaluations in C593, Thesis Defense – C589	C593 - Two (2) students in this course; C510 – three (3) students	Mastery and all students should attain mastery by completion of their degree	C510 - 2 of 2 students were successful in developing an approved Thesis Plan. C510 - 3 of 3 students successfully completed this aspect of the course where this element was an integral part. * see comment section	Assessment cycle was to be completed by discussions in the department during the annual department Advance in the summer – unfortunately time at that event did not permit full consideration of the MS Chemistry program; however the informal discussions agree that this has been achieved by these students.	A more formal and complete assessment of all aspects of the program, including this element, will be conducted during the spring 2013 semester. It will include these and subsequent students.
#3 – Chemistry MS students will develop and master the scientific problem	5/11	Thesis Plan – C510, Faculty evaluations in C593, Thesis Defense – C589	C593 - Two (2) students in this course; C510 – three (3) students	Mastery and all students should attain mastery by completion	3 of 3 students were successful in developing an approved	Assessment cycle was to be completed by discussions in the department during the annual	A more formal and complete assessment of all aspects of the program, including this element, will be conducted during the

solving skills required to define and solve basic or applied original scientific questions using the scientific method				of their degree	Thesis Plan. However it is recognized that continual evaluation is required to assess the students ability to solve problems that arise during the research progress	department Advance in the summer – unfortunately time at that event did not permit full consideration of the MS Chemistry program; however the informal discussions agree that this has been achieved by these students.	spring 2013 semester. It will include these and subsequent students.
#4 – Chemistry MS students will actively engage in collaborative research/internships and discourse with the faculty in the Chemistry Department and other STEM disciplines	5/11	Thesis Plan – C510, Research C592, Thesis Research C599, respective graduate committee meetings	Students and faculty	Required for a student to successfully complete their degree. At least 75% of the Chemistry faculty, based on a 3 year rolling average will be engaged with at least 1 student's Chemistry MS or other GPNS	100% of the students who entered and are continuing under the new Chemistry program are engaged in collaborative research. 100% of the Chemistry faculty are currently serving on one or more	Assessment cycle was to be completed by discussions in the department during the annual department Advance in the summer – unfortunately time at that event did not permit full consideration of the MS Chemistry program; however the informal discussions agree that this has been	A more formal and complete assessment of all aspects of the program, including this element, will be conducted during the spring 2013 semester. It will include these and subsequent students.

				Committee	graduate student committees.	achieved by these students.	
#5 – Chemistry MS students and faculty will disseminate the products of the Chemistry-MS program within the CSU-Pueblo community and communities outside the university in activities using their professional expertise	5/11	Review activities with faculty	Students and faculty	At least 50% of the Chemistry-MS students and faculty, based on a three year rolling average will be engaged in these professional outreach activities	100% of the faculty have engaged in these types of activities. 1 of 2 students have engaged in professional outreach via seminars and research *see comment section	Assessment cycle was to be completed by discussions in the department during the annual department Advance in the summer – unfortunately time at that event did not permit full consideration of the MS Chemistry program; however the informal discussions agree that this has been achieved by these students.	A more formal and complete assessment of all aspects of the program, including this element, will be conducted during the spring 2013 semester. It will include these and subsequent students.

Comments:

As this is only the second year of the report cycle (2011-12), we have a very small number of students to assess in the specified ways but these numbers are expected to increase slightly as more students (~ 3 per year) complete their degrees. Some students take more than the expected and desired two years to complete the degree because of outside jobs or other commitments. In the fall of 2010 a cohort of only two students were admitted to the program. In the fall of 2011 an additional two were added. Unfortunately one of these students did not continue in the fall of 2012 for a second year because of grade and other academic difficulties which led to his removal from the program. This particular student, because of the aforementioned problems, did not complete the C510 course with a satisfactory grade. Taking this situation into account 100% of our continuing students in the program have met all expectations as outlined. At the moment we have a total of seven students overall

in the program including part time students who may be taking only one course per semester. This includes one 3+2 student. Two to three students are expected to graduate by May of 2013. With numbers this small, it is difficult to gain statistically meaningful results on many measures. The Chemistry Department is engaged in a number of discussions regarding the current and future nature of the MS Chemistry program. Students aspiring to a Biochemistry-MS program are also engaged within the department but that program (GPNS – MS-Biochemistry) is assessed in a different document. We have no internship students and generally discourage this except in certain circumstances; instead, we strongly promote the thesis track as generally stronger for students in most cases.

**B. Follow-up (closing the loop) on results and activities from previous assessment cycles. In this section, please describe actions taken during this cycle that were based on, or implemented to address, the results of assessment from previous cycles.**

A. What SLO(s) did you address? Please include the outcome(s) verbatim from the assessment plan.	B. When was this SLO last assessed?	C. What were the recommendations for change from the previous assessment?	D. Were the recommendations for change acted upon? If not, why?	E. What were the results of the changes? If the changes were not effective, what are the next steps or the new recommendations?

Comments:

As noted in Item H in the assessment rubric, the overall program is being reviewed in the department as an ongoing activity and will be over the course of the 2012-2013 academic year and especially during the spring semester. Again, it is difficult to deal with the relatively small numbers of students in the program and there are efforts underway to increase the number of applicants. We feel that the students in the program are gaining the necessary elements to successfully join the workforce and/or go on to graduate school (PhD). We are increasingly selective in admitting students and are upholding academic standards as revealed but the removal of a student from our program this past year.