

Program: _____ Biology B.S. _____

Date: _May 29, 2012_____

Completed by: ___Helen Caprioglio, Chair_____

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 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) Students will develop a broad-based knowledge of concepts and terminology in molecular, cellular, organismal and ecological biology.	AY 2009-2010	ETS Biology MFT exam	All senior Biology majors enrolled in BIOL 493 Seminar for AY 2010-11 and 2011-12.	National percentile for institutional average should be ≤50%. (Desired range: 40%-60%.)	Biology Dept overall score average ranked at 66% nationally. Subscores ranged from 40% to 71% percentile, but only one <50%.	Results met or exceeded our expectations. CSU-Pueblo students are learning biology knowledge and concepts well compared to their peers. The lowest scoring was in an area less emphasized in our core curriculum, so not surprising.	A re-evaluation of content coverage in core courses will be done. The College Biology sequence continues to be optimized. Consider raising expectation to ≥50% overall and in most subscore areas, since our students appear to be meeting it.

2) Students will develop a supporting knowledge of concepts and terminology in the related fields of mathematics, physics and chemistry.	AY 2009-2010	ACS exam on chemistry sequences administered in CHEM 122 (Gen CHEM II) and CHEM 302 (Organic Chem II) (Also see ETS MFT exam results above.)	Biology students (81) completing CHEM 122 during Fall semesters 2009-2011 and students (123) in CHEM 302 during Fall 2009 and Spring semesters 2009-2011.	National percentiles should be near 50 th percentile.	The average national percentile for Biology students was 47% in Organic chem II and 35% in General chem II.	Student results met Departmental expectations. Score improvement in organic over general chem also was expected, as students develop study skills and some self-selection occurs via a change in major after gen chem.	We are working with first year advisors and the chemistry department for more appropriate math placement prior to enrolling in chemistry courses. New placement score guidelines will assist this effort as well.
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Comments:

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?
3) Students will complete written and oral reports in core and elective courses that require literature interpretation. The quality of research proposals completed in Seminar course will be used as evidence of this outcome.	AY 2010-11	Departmental discussions will be held to revise the tools for assessment to better measure the desired outcomes and give us more useful data regarding potential areas for improvement.	Yes, a review was done this year of the evaluation documents used in Seminar. Documents were edited to better align with the SLOs being assessed and a scoring scale was applied.	Revised forms better align with our intended SLOs. We are waiting to use these for at least one year of courses before we assess their effectiveness in gathering information.
4) Students will demonstrate critical thinking and problem solving skills using experimental design and the scientific method.	NA-plan only	Develop common departmental format for lab reports and feedback to students regarding outcomes and progress.	Yes, A common format for lab reports and grading rubric was adopted for BIOL 181L and BIOL 182L	This did make it easier for students to understand what was expected in lab reports. We continue to assess whether the rubric chosen is working well. Changes will be made as necessary.
5) Student assignments in many core and elective courses will address scientific validity. This will culminate in the peer review process for the research proposal in Seminar.	AY 2010-11	Departmental discussions will be held to revise the tools for assessment to better measure the desired outcomes and give us more useful data regarding potential areas for improvement.	Yes, a review was done of the evaluation documents used in Seminar. Documents were edited to better align with the SLOs being assessed and a scoring scale was applied.	Revised forms better align with our intended SLOs. We are waiting to use these for at least one year of courses before we assess their effectiveness in gathering information.

Comments: Discussion on these SLOs and plans was productive and useful changes were made. We are excited to see improvement in the future.