Colorado State University – Pueblo Academic Program Assessment Report for AY 2013-2014 **Due: June 2, 2014**

Program:___MS Biology_____ **Date:** _May 29, 2014_____

Completed by:_Brian Vanden Heuvel_____

Assessment contributors (other faculty involved in this program's assessment): _____

Please complete this form for each undergraduate, minor, certificate, and graduate program (e.g., B.A., B.S., M.S.) in your department. Please copy any addenda (e.g., rubrics) and paste them in this document, and submit it to the dean of your college/school as per the deadline established. The dean will forward it to me as an email attachment before June 2, 2014. You'll also find the form at the assessment website at http://www.colostate-pueblo.edu/Assessment/ResultsAndReports/Pages/default.aspx.

Please describe the 2013-2014 assessment activities for the program in Part I. Use Column H to describe improvements planned for 2014-2015 based on the assessment process. In Part II, please describe activities engaged in during 2013-2014 designed to close-the-loop (improve the program) based on assessment activities and the information gathered in 2012-2013. 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? Please indicate the semester and year.	C. What method was used for assessing the SLO? **Please include a copy of any rubrics used in the assessment process.**	D. Who was assessed? Please fully describe the student group(s) and the number of students or artifacts involved.	E. What is the expected achievement level and how many or what proportion of 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 program are planned based on this assessment?
Mastery of the Scientific Method • *Independent development*	AY 2012-2013	New rubric (see attached)	We had two graduates, neither of which was assessed due	Satisfactory performance will be defined on an	No results are available for 2013-2014	We have no information for this year	• The new graduate director will be building rubrics for SLOs for SLOs 2 and 3,

and mastery of problem solving skills • *experimental design* • *execution* • *critical analysis* • *interpretation of the results of original scientific experimentation (thesis) or experiential learning (internship).*			to low faculty turnout to thesis defenses	individual basis by the student's graduate committee.			including ***Dissemination of Scientific Products*** • *Persuasive communication and defense of significant results of original scientific investigation presented in both written and oral format at a graduate peer-professional level.* • ***Utilization of the Literature*** *Critical evaluation of an independently accessed comprehensive body of scientific literature which is project relevant and foundational in supporting and explaining research findings in both written and oral format.*

Comments:

II. 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? Please indicate the semester and year.	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?
Mastery of the Scientific Method	2012-2013	Reviewers liked the quality of the rubric, but would like to	The rubric was developed and is attached. New	No changes were implemented during this cycle.

Independent development and mastery of problem solving skills including experimental design, execution, critical analysis, and interpretation of the results of original scientific experimentation (thesis) or experiential learning (internship).		see a better record of when each SLO will be evaluated. We also struggle due to the small size of our program, as seen this year with a lack of information.	rubrics for SLOs 2 and 3 will be developed and implemented during AY 2014-2015	

Comments:

SLO: Mastery of the Scientific Method and Proficiency in Problem Solving

Graduate Programs in Natural Sciences MS in Biology Program assessment rubric	**Excellent**	**Proficient**	**Developmental**	**Ineffective**
Independence and ownership of project	Fields questions intelligently without assistance; thorough understanding of project; complete ownership	Fields questions; demonstrates basic understanding of project	Needs help answering questions; lacks complete understanding of some aspects of project	Cannot answer basic questions; poor understanding of key aspects of project; no ownership
Quality of experimental design	Aims test the hypothesis; methods appropriately test the aims; justified choice of variables and controls; adequate sample size	Aims mostly test the hypothesis; methods test most of the aims; questionable choice of variables and controls; sample size questionable	Aims partially test the hypothesis; methods poorly test the aims; dubious choice of variables and controls; insufficient sample size	Aims do not adequately test the hypothesis; methods fail to test the aims; poor choice of variables and controls; sample size is deficient
Execution of experimentation	Very high quality data; completed by student	Good data; mostly completed by student	Adequate data; less than half completed by student	Poor quality of data; most data was not completed by the student
Critical analysis of results	Superb and clearly communicated data presentation; correct and valid statistical analysis	Adequately communicated data presentation; statistical analysis meets minimum standards for validity	Partial or incomplete communication of data; questionable or incomplete statistical analysis	Poorly communicated data presentation; invalid or missing statistical analysis
Interpretation of the results	Relates all results back to aims and hypothesis; communicates significance of results; appropriate comparisons to literature; extends knowledge in field; additional hypotheses generated	Relates some results back to aims and hypothesis; significance of results implied but not clearly stated; partial comparisons to literature; extends knowledge in field additional hypotheses implied	Results poorly linked to aims and hypothesis; weak communication of significance of results; little comparison to literature; insufficiently adds knowledge in field; no future direction generated	Results not linked to aims and hypothesis; does not communicate significance of results; no comparison to literature; merely repeats previous work; no future direction generated