Colorado State University – Pueblo Academic Program Assessment Report for AY 2012-2013 **Due: June 1, 2013**

Program:__MS Biology_____ **Date:** _____31 May 13_____

Completed by:_____Jeff Smith_____

Assessment contributors (other faculty involved in this program's assessment): _____8 other anonymous faculty fromM_____

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 return it to Erin Frew, erin.frew@colostate-pueblo.edu as an email attachment before June 1, 2013. 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 include 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 program are planned based on this assessment?
Mastery of the Scientific Method *Independent development and mastery of problem solving skills including experimental design, execution, critical analysis, and*	Never using theis rubric	Rubric: ***Mastery of the Scientific Method*** (attached)	One MS student that graduated	4 Satisfactory performance will be defined on an individual basis by the student's graduate committee. Additionally, university and program rules	On the 4 point rubric the average for the category excellent was 67.5% and for the category and 32.5% for the category proficient. No scores were entered under	The department is satisfied with the students' performance.	None.

interpretation of the results of original scientific experimentation (thesis) or experiential learning (internship).				satisfactory coursework and progress towards the thesis will apply as follows: ***MAINTAINING GOOD STANDING IN THE PROGRAM*** *1. The graduate student is to remain in good standing with the faculty mentor. 2. GPA is to remain above 3.0 (4. 0 scale) in all graduate coursework. 3. The graduate student will make satisfactory progress towards the thesis or internship defense as assessed by the faculty*	developmental or ineffective. The detailed breakdown of results by percentage is indicated on the attached rubric.		

				mentor and committee.			

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?
Mastery of the Scientific Method *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).*	2012	To build a better assessment strategy using better rubrics.	Yes, see attached rubric.	The assessment was effectively carried out.

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

GP NS MS in Biology	Excellent	Proficient	Developmental	Ineffective
Independence and ownership	37.5	62.5		
Quality of experimental design	100	0		
Execution of experimentation	87.5	12.5		
Critical analysis of results	37.5	62.5		
Interpretation of results	75	25		

Date_____May

Academic year_____2013_____

Semester_____Sp_____

This form is to be completed by attending faculty of biology at an MS defense and the data is to be compiled by the program director for programmatic assessment of the student learning outcome (SLO).