

Program: \_\_MS BIOLOGY\_\_

Date: \_\_14 June 2012\_\_

Completed by: \_\_Jeff Smith, Ph.D.\_\_\_\_

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?
<b><i>Mastery of the Scientific Method</i></b> – Independent development and mastery of problem solving skills including experimental	This will be the first assessment cycle for this SLO.	1) a <b><i>committee meeting assessment form</i></b> to be used when assessing student progress,	Five students graduated from the program between July 2011 and June 2012. Four thesis and	It is expected that minimally, 90% of fully engaged students will achieve all	Students that graduated from the program reached or exceeded the SLO and all of its components. Those that	The department is pleased with <b>improvements in the programs</b> success with students that are engaged in the program. This is in part by improvements to	The department would like to see an increase in the ability of students to execute this SLO, especially with respect to carrying it out with a greater level of independence. A series of more detailed rubrics is under development

design, execution, critical analysis, and interpretation of the results of original scientific experimentation (thesis) or experiential learning (internship).		<p>2) a <b><i>thesis or internship completion form</i></b> used when students orally defend their MS work at completion of the program. Examples of the forms are attached.</p> <p>3) an <b>oral presentation evaluation form</b> used by faculty and students to evaluate the students oral presentations associated</p>	one internship track. This groups was assessed. Four students withdrew from the program during this same period and they were also assessed.	of the goals of the SLO, as required to complete the program.	disengaged from the program did so in 3 cases because of family concerns and/or because they found gainful employment that interfered with their ability to do the program. One was terminated because of a repeatedly demonstrated inability to execute and interpret her scientific plan and results.	the admissions process that were implemented two years ago and <b>more closely pairing incoming students with mentors</b> , and in part because of changes made in BIOL 510, which sets a clearer expectation of the required learning outcomes and <b>teaches incoming students the pathway to successful execution of the scientific method</b> . It is also seen as a positive that students who disengaged from the program were able to	that the department has agreed to use with the aim being to identify particular aspects of the SLO that tend to be more problematic for students. For example, students that are deficient in “critical analysis of research results” will be identified by a more detailed rubric in BIOL 593 which breaks down the question “ <i>The author’s interpretation of the results was clearly presented</i> ” (see attached form), into component parts that elaborate more than simply “clearly presented” but rather will extend to items like; “logically connected to the data; backed up by appropriate controls; discerned using the principles of Ockham’s razor”. This plan will also be tried in committee meetings with simple but more detailed rubrics that address particular components of this SLO.
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		with the core course <b>BIOL 593.</b>				identify their need to do that and move decisively to other pursuits. This is in contrast to previous years where students that disengaged remained attached to the program without making progress but continued to utilize valuable and very thinly stretched resources.	
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Comments: Please see attached forms: Biology 593 anonymous Peer Assessment Sheet, Biology Completion Form, Committee Meeting Form, Advance to Candidacy Form.

**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?
Because the program was in its first year, no SLO's were assessed last year, rather they were created for the first time.	N/A	We did make plans to develop rubrics for assessing the SLOs.	The department met as a group on numerous occasions and developed a basic set of rubrics to assess the progress of students towards doing the SLOs. We also agreed on a plan to develop a more detailed set of forms that would help us to more specifically address and gather data about the progress of our students towards particular aspects of the SLOs (dissecting the SLOs).	Five students graduated from the program this year and the process for completion and demonstrating satisfactory learning outcomes went smoothly in all five cases. This was an improvement over previous years in which there was confusion as to procedures for completion of the program.

Comments: None



# Advance to Candidacy

## Department of Biology, Master of Science in Biology Program

### Graduate Advisory Committee Meeting Pre-Defense Report

To be filed with the program director, student and advisor. Check: Thesis ☐ Internship ☐ 3+2 ☐

Student Name: \_\_\_\_\_ Date of meeting: \_\_\_\_\_

Thesis/Report Title: \_\_\_\_\_

Declaration that thesis/internship report has been reviewed in consideration of whether it is acceptable for defense  (acknowledge by signing).	Defensible	Non-defensible
1. _____ Graduate Advisor		
2. _____ Committee Member 1		
3. _____ Committee Member 2		

As per the Graduate Student Handbook, the student must submit a draft of their thesis/internship report to the committee at least two weeks prior to the Advance to Candidacy meeting. At that meeting, each committee member signs and checks the appropriate box indicating the overall evaluation. The thesis advisor summarizes the major outcomes of the meeting below, discusses it with the student, and the student signs at the bottom. When the thesis/internship report is marked defensible by all committee members, the student may schedule the defense. The defense is to be scheduled at the earliest one calendar week after filing this form. Please note that completion of this form in no way implies that the thesis is complete, as necessary revisions in form and content may be required by the committee after the defense and prior to awarding the degree.

Progress Summary:

Action Plan and Deliverables before Defense:

If defensible, the earliest anticipated defense date is \_\_\_\_\_.

\_\_\_\_\_  
Student signature

\_\_\_\_\_  
Date

\_\_\_\_\_  
Director signature

\_\_\_\_\_  
Date

BIOL 593 Peer Assessment Sheet for the Seminar Outline

NAME of PRESENTER \_\_\_\_\_

Comment on for each of the following items including *improvement items*. Also, assign each item a letter grade indicating the quality of the authors work regarding that item.

*The reason why the work discussed is **significant** was clearly communicated.*

Grade\_\_\_\_\_

**Background** info was clearly communicated so that I understood the hypothesis. Grade\_\_\_\_\_

*The **hypothesis** was clearly communicated.*

Grade\_\_\_\_\_

*The **aims** were about the hypothesis and were not actually methods.*

Grade\_\_\_\_\_

The **methods** would clearly test the aims.

Grade\_\_\_\_\_

Appropriate **controls and pitfalls** were present for each aim.

Grade\_\_\_\_\_

The author's **interpretation of the results** was clearly presented.

Grade\_\_\_\_\_





## COLORADO STATE UNIVERSITY – PUEBLO

### MASTER OF SCIENCE BIOLOGY

#### COMPLETION FORM

#### THESIS OPTION

The thesis must be submitted to the Graduate Committee four (4) weeks prior to the date of oral defense. The Program Director must be notified in writing of the date of oral defense by the student's advisor.

Student Name: \_\_\_\_\_ PID Number: \_\_\_\_\_

Address: \_\_\_\_\_

Title: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

	Approved	Approved with Changes	Disapproved	Date
4. _____ Advisor				
5. _____ Committee Member				
6. _____ Committee Member				

After all the committee members have approved the thesis and signed the approval form, the major professor will have the form sent to the Program Director. A thesis that has been approved with suggested changes must have those changes incorporated before the major professor can send the completion form to the Program Director. **The Program Director will send one complete form to the Registrar's Office, one to the major professor, one to the student and keep one for the records.**

Director/Advisor transcript reviewed ☐

Grad Planning sheet filed and updated ☐

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Program Director

Date

Records' Office Clearance: According to our records the above student has cleared ☐ not cleared ☐

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Signature of Records' Office Agent

Date



Department of Biology

Master of Science in Biology Program

## Graduate Advisory Committee Meeting Progress Report

To be filed with the Program Director, student and Advisor. Check: Thesis ☐ Internship ☐ 3+2 ☐

Student Name: \_\_\_\_\_ Date of meeting: \_\_\_\_\_

Title: \_\_\_\_\_

	Satisfactory	Satisfactory with deficiencies	Unsatisfactory
7. _____ Graduate Advisor			
8. _____ Committee Member 1			
9. _____ Committee Member 2			

Each committee member signs and checks the appropriate box indicating the overall evaluation. The thesis advisor summarizes the major outcomes of the meeting below, discusses it with the student, and the students signs at the bottom.

Progress Summary:

Action Plan and Deliverables for Next Semester:

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Student signature

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Date