

Program: BSE and BSIEDate: May 14, 2014Completed by: Jane M FraserAssessment contributors (other faculty involved in this program's assessment): Professors Bedoya, DePalma, Jaksic, Paudel, Sarper, Yuan

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](mailto:erin.frew@colostate-pueblo.edu) 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? <b>Please include the outcome(s) verbatim from the assessment plan.</b>	B. When was this SLO last assessed? <b>Please indicate the semester and year.</b>	C. What method was used for assessing the SLO? <b>Please include a copy of any rubrics used in the assessment process.</b>	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 <u>program</u> are planned based on this assessment?
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(b) an ability to design and conduct experiments, as well as to analyze and interpret data	Fall 2013	Specific assignments in EN 101, EN 365, EN 473, and EN 443.	All students in each course were assessed on their performance on the specified assignment.	Usually 80% achieve 80% or better. See attached table for outcome (b) review.	See report for outcome (b) in appendix.	See report for outcome (b) in appendix.	See report for outcome (b) in appendix.
(g) an ability to communicate effectively		Specific assignments in EN 215 (BSIE only) and EN 488.	All students in each course were assessed on their performance on the specified assignment.	Usually 80% achieve 80% or better. See attached table for outcome (g) review.	See report for outcome (g) in appendix.	See report for outcome (g) in appendix.	See report for outcome (g) in appendix.

#### Comments:

For each outcome (a)-(k), assessments are done each year in specific courses for that outcome. On a 3-year schedule, the faculty champion for that outcome reviews all the course assessments and creates a summary with the champion's analysis of the assessments. All the faculty then meet as a group and discuss that analysis. The summary, the faculty champion's analysis, and the faculty discussion are recorded on a form – see appendix for the forms for the above outcomes.

We currently assess the BSE and BSIE programs jointly. We have plans for disaggregating these assessments, and have begun to implement those plans, but the disaggregation has not been sufficiently implemented to be reflected in this report. Thus, the BSE and BSIE reports are identical, but will not be the same next year.

**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?
(a) an ability to apply knowledge of mathematics, science, and engineering	Fall 2012	None. We concluded that we more than adequately meet this outcome.	No action needed.	
(f) an understanding of professional and ethical responsibility	Fall 2012	We recommended dropping EN 440 from this assessment. We recommended improving performance in EN 486 by introducing the pre-test.	Yes, we dropped EN 440 from the assessment. In EN 486, we found that using a pre-test, instruction, and post-test improved performance greatly.	
(i) a recognition of the need for, and an ability to engage in life-long learning	Spring 2013	We concluded that we are doing well on this outcome. We recommended that we continue to teach life-long learning, especially by our behavior.	No action needed.	

(k) an ability to use the techniques, skills, and modern engineering tools necessary for engineering practice.	Spring 2013	We addressed students' programming skills and ways to improve them, but made no specific recommendations.	No action needed.	
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Comments: While this report shows no program changes, continuous improvements are made at the course level. For example, programming assignments were improved in several courses.

## Appendix

Outcome b: Analyze and Interpret Data, Design and Conduct Experiments			
Course	Semester	Goal met?	Notes
EN 101	Fall 2008	Partially	Deciding which forecasting method is better
EN 365	Fall 2011	Yes	Data collection & analysis
EN 365	Fall 2012	Yes	Data collection & analysis
EN 365	Fall 2013	Yes	Data collection & analysis
EN 473	Fall 2011	Yes	CNC Mill Lab exercise to produce a part
EN 473	Fall 2012	Yes	CNC Mill Lab exercise to produce a part
EN 473	Fall 2013	Yes	CNC Mill Lab exercise to produce a part
EN 443	Spr. 12	Yes	Measurement of grains for statistical analysis

The assessment process is generally working well for this outcome. The evidence we have demonstrates that our graduates have achieved this outcome.

On 1/8/2014, the department discussed this report and concluded that we do provide necessary amount of practice to meet this goal.

Outcome g: EN215, EN488 - Fall 2013				
Course	Semester	Goal met?	Notes	
EN215	Fall 2013	No	Three out of five students (60%) received 80% or above	IE
	Fall 2012	Yes	16 out of 17 students (94%) received 80% or above	IE
	Fall 2011	Yes	Marginally: Out of 5 students one received 60% while others received 80% or higher	IE
EN488	Spring 2013	Yes	Thirteen out of fifteen students (87%) wrote professional-grade final project reports.	Both
	Spring 2012	N/A	Assessment of this objective was not performed	Both
	Spring 2011	Yes	All assignments were completed in a professional manner. The weakest part was the final report from a group who added material between the draft the instructor reviewed and the final report.	Both

Analysis:

The goal was met in each reported instance except one, thus the overall goal was met. During this assessment period, faculty had opportunities to judge all senior project presentations for the ABET communications outcome.

Faculty Discussion:

In EN 215, one student couldn't write well. Even the re-writes couldn't fix the student's run out sentences. So, in a small class this is the law of small numbers. We still think that the students increased their communications skills to justify the statement that the goal was met.

N. Jaksic  
12/17/2013