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

Program:__Bachelor of Science in Civil Engineering Technology (BSCET)__   Date:__May 30, 2013____

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Please complete this form for <u>each undergraduate, minor, certificate, and graduate program</u> (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 or improvements to the program are planned based on this assessment?
a. Apply knowledge, techniques, skills, and tools of the civil engineering discipline to engineering technology activities.	April 26, 2013	Senior Project	Graduating Seniors	75% of all project teams complete economic analyses and cost estimates for a senior project to the satisfaction external reviewers	Each team failed to incorporate some of project design cost elements	Students were not given appropriate guidelines on how to account for project cost for engineering design	Incorporate elements of design cost during the senior design seminar class.
b. Select and apply knowledge of mathematics, science, engineering, and technology to civil engineering technology problems.	April 26, 2013	Exit Exam using the Fundamentals of Engineering Exam style questions	Graduating Seniors	Ratio of average class score to global Score of 0.75. for the morning version of the exam	Ratio of average class score to global score 0.86	Expectation satisfied	No action required
c.							
d. Design systems, components, or processes for civil engineering technology problems.	April 26, 2013	Senior Project	Graduating Seniors	75% of teams Complete a supervised senior project to the satisfaction external reviewers	All teams completed the senior projects to the satisfaction of external reviewers	Expectation met	No action required
e. Function effectively as a members or leaders on a technical team.	April 26, 2013	Senior Project	Graduating Seniors	75% of all students receive peer review score of at least 8 on a 10-point scale	83% of seniors received scores of 8 or better	Expectation met	No action required
f. Identify, analyze, and solve broadly-defined engineering technology problems.	April 30, 2013	Exit Exam using the Fundamentals of Engineering Exam style questions	Graduating Seniors	Ratio of average class score to global Score of 0.75. for the afternoon version of the exam	Ratio of average class score to global score =0.77	Expectation satisfied	No action required
g. Communicate effectively regarding subjects related to engineering technology activities.	April 26, 2013	Oral presentation of Senior Project	Graduating Seniors	75% of all project teams receive n oral presentation score of 15 on a 20-point scale.	All project teams received a score of 15 or better	Expectation exceeded	No action required
h.							

i.	Demonstrate an understanding of professional and ethical responsibilities.	April 30, 2013	Exit Exam using Fundamentals of Engineering Exam style questions	Graduating Seniors	Ratio of average class score to global Score of 0.75. for ethics questions of the exam	Ratio of average class score to global score 0.86	Expectation satisfied	No action required
j.							
k.	Demonstrate commitment to quality, timeliness, and continuous improvement	Spring 2013	Observe students in the performance and delivery timeliness of deliverables of the Senior Design Project.	Graduating Seniors	75% of all project teams deliver on time the required weekly deliverables and the project final report and drawings.	80% of the teams met this expectation	No problem	No action required
A.							
B.							
C.	.						
D.	Apply fundamental computational methods and elementary analytical techniques to solve civil engineering technology problems.	April 30, 2013	Exit Exam using the Fundamentals of Engineering Exam style questions	Graduating Seniors	Ratio of average class score to global Score of 0.75. for the morning version of the exam	Ratio of average class score to global score 0.86	Expectation satisfied	No action required
E.							
F.	Perform economic analyses and cost estimates related to design, construction, operations and maintenance of systems associated with civil engineering.	April 26, 2013	Senior Design Project	Graduating Seniors	75% of all project teams complete economic analyses and cost estimates for a senior project to the satisfaction external reviewers	Each team failed to incorporate some of the project design cost elements	Students were not given appropriate guidelines on how to account for project cost for engineering design	Incorporate elements of design cost during the senior design seminar class.
G.	Select appropriate engineering materials and practices; and	April 26, 2013	Senior Design Project	Graduating Seniors	75% of all project teams select project construction materials to the satisfaction external reviewers	80% of the project teams met expectations	No problem on this area	No action required
H.							

Comments: (a) Student outcomes for CET are listed in two sets. One set consists of outcomes (a) through (k); the second set comprises outcomes (A) through (H).

(b) Rubrics for evaluating oral presentations and teamwork are attached.

(c) All senior projects were completed for external clients; and the presentation audience consisted of members of the CET Industrial Advisory Committee.

(d) This is Cycle #2 of 4 cycles that the CET program expects to complete the assessment of all student outcomes for the program

(e) The exit exam consisted of cherry-picked questions from an exam bank and the average class test results were compared to a national/global average.

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?
g. Communicate effectively regarding subjects related to engineering technology activities.	Spring 2012	Train students to prepare memos and letters for use in project communication.	Yes, the instructor instituted communication by formal memos from students for submitting weekly project reports, other submittals, and any all requests related to the senior design project.	Students learned and practiced to prepare memos to a project manager within their organization. During the next cycle, students will learn and practice to prepare letters to clients outside their organization.

Comments:

APPENDIX 1: CET Senior Project Oral Presentation Rubric

Student Learning Outcome: An ability to apply written, oral, and graphical communication in both technical and non-technical environments; and an ability to identify and use appropriate technical literature.

Source of Evidence: Oral presentations of CET Senior Design Project (Held on April 26, 2013)

Program Expectations: At least 75% of project teams should receive a score of 15 or better on a scale of 20 points

	4-Outstanding	3-Acceptable	2-Developing	1 - Unacceptable
Presentation Materials **Score: _____**	• The presentation layout is neat and attractive, and is supported by graphics that are relevant to the discussion topic. • Presentation text is easily legible by the audience. • The graphics are easy to view or read, and help the audience to understand the material. • The presentation is free of grammatical mistakes and typographical errors.	• The presentation layout is neat and attractive, and is supported by graphics that are relevant to the discussion topic. • Most of the presentation text is easily legible by the audience. • Most of the graphics are easy to view, and help the audience to understand the material • The presentation has one or two grammatical mistakes or typographical errors.	• The presentation layout is slightly disorganized. • A significant number of graphics are not clear or not relevant to the topic. • Most of the text cannot be read by the audience • There are two or more grammatical mistakes or typographical errors in the presentation.	• The presentation layout is not organized • graphics are not relevant to the discussion topic. • Presentation text is not easily legible by the audience. • Graphics are hard to view • Presentation has many grammatical mistakes or typographical errors.
Technical Information **Score: _____**	• Appropriate level of relevant detail is provided to enable the audience to form independent opinion regarding the subject matter. • Presenters were well prepared to answer questions and to provide clarification on difficult parts of the material.	• Relevant detail is provided to enable the audience to form independent opinion regarding the subject matter. • Presenters adequately prepared to answer questions and clarify difficult parts of the material	• Presentation difficulty to understand due to occasional lack of adequate information or inordinately too much detail. • Presenters were marginally prepared and not able to answer questions about fundamental elements of the project.	• Presentation lacks the necessary technical detail and the audience cannot understand the technical aspects of the project. • Presenters did not answer expected questions.
Design Solution Score: _____	• The presenters provided a logical project design process. • Presenters clearly stated the design assumptions and governing constraints. • All design assumptions were appropriate. • Design alternatives were presented and the value of the selected design solution is apparent.	• The presenters provided a logical project design process. • Presenters stated the design assumptions and governing constraints. • Most design assumptions were appropriate. • Design alternatives were presented and the value of the selected design solution is supported.	• Presenters did not provide a consistent logical design process. • Presenters stated some design assumptions but did not articulate adequately support them. • Most design assumptions were not properly articulated. • The design alternatives presented did not merit consideration.	• The presentation does not provide a logical project design process. • Design assumptions and governing constraints not clearly stated. • No alternative design solutions were presented.
Interaction with Audience **Score: _____**	• The presenters drew interest from the audience and engaged the audience during the entire presentation period. • Presenters allowed the audience to ask questions	• The presenters drew interest from the audience and engaged the audience during most of the presentation period. • Presenters allowed the audience to ask questions	• The presenters lost the audience interest during a significant amount of time. • Presenters lost contact with audience during the presentation	• Presenters did not engage the audience. • Presenters did not allow the audience to ask questions
Professional Etiquette **Score: _____**	• Presenters were dressed well and appropriately for the occasion • Presenters were very considerate in there responses to questions. • Presentation was started and concluded within the expected time limits. • Presenters exhibited high level of team coordination.	• Presenters were dressed well and appropriately for the occasion. • Some presenters had body language or speech that could be improved. • Presentation conducted in a timely manner but had a rough start or end. • Presenters exhibited good team coordination.	• Presenters were dressed well and appropriately for the occasion. • Some presenters' body language or speech needs significant improvement. • Presenters exhibited unpreparedness and did not conclude within the expected time limit. • Evidence of lack of teamwork during the presentation.	• Presenters were not dressed well or appropriately for the occasion • Presenters were not considerate in their responses to questions. • The presentation was not completed within the expected time limits. • Presenters exhibited poor team coordination.
Total Score **_____**				

APPENDIX 2: CAPSTONE PROJECT
PEER EVALUATION FORM

Name of evaluator: _____   Name person evaluated _____

Complete this assessment of participation for each participant including yourself.

	1	2	3	4	5	**SCORE**
Availability to Meet and Work with Team	Never	Only occasionally	Most meetings	Missed only one or two meetings	Never missed a meeting	
Willingness to Voluntarily Accept Assignments	Never	Rarely cooperative	Mostly cooperative	Most assignments	Missed only one or two deadlines	
Completed Assignments on Time	Never	Only occasionally	Most assignments	Missed only one or two deadlines	Never missed a deadline	
Quality of Completed Assignments	None or little completed	Many mistakes or omissions	Few mistakes or omissions	Only minor mistakes or omissions	Excellent	
Quantity of Work	None or little completed	Much less than other team members	Somewhat less than other team members	Same as other team members	More than other team members	
Collaboration and Leadership	None	Rarely offered suggestions or was willing to compromise	Reluctant to offer and/or consider suggestions	Offered suggestions and respected other opinions	Respected as team leader by others	

Total Score_____

What was the individual's primary contribution (s) to the project? _____

_____

_____

What was the most significant problem your team encountered throughout the entire project (e.g.

communications, schedule conflicts, personality clashes)?_____

_____

_____

Considering both *quality and quantity* of the individual's contribution, and based on a scale of **1** to 1**0**, what

score do you think the individual has earned on this project?

Other comments on the performance of the person evaluated _____

_____