Outcome C. An ability to design a system, component, or process to meet desired needs within realistic constraints such as economic, environmental, social, political, ethical, health and safety, manufacturability, and sustainability.

Course	Performance indicators
CE 332, CE 411, CE 415, CE 431, CE 447, CE 451, CE 453, CE 462, CE 463, CE 464	Use accepted design methods to meet a need with prescribed constraints.
	Evaluate the quality of a design considering: engineering, economics, environment, health, and/or safety.

Tools used:	Course assessment rubrics by faculty, graduating student survey
Data Collection:	The data are collected every semester based on the course offerings.
Frequency of data collection:	The data are collected every time courses are taught.
Data Analysis:	The data obtained are analyzed every year.
Closing the loop:	This outcome is subject to review every year based on performance criteria and metrics and specific action items are developed, if necessary, to revise the content of the courses. The analyzed data are presented separately to the following groups in meetings. a) Faculty b) Advisory Board

Performance criteria:

Student performance was evaluated at three levels with associated criteria:

- Below expectation – student's mastery of subject matter was insufficient. A student performing at this level should not be allowed to take a course that has the evaluated course as a prerequisite.
- Meets expectation – student showed sufficient mastery of the subject that he/she met the prerequisite expectations for any follow on course.
- Exceeds expectation – student mastery of the subject exceeded the minimum expectations for the course.

Metrics:

a) Sophomore Classes, 200 level classes, at least 70 percent of the students should meet or exceed expectations.

b) Junior classes, 300 level classes, at least 80 percent of the students should meet or exceed expectations.

c) Senior Classes, 400 level classes, at least 90 percent of the students should meet or exceed expectations.

Assessment Tool:

Course Assessment Rubric by Faculty

Used for Fall 2013 and subsequent semesters

West Virginia University
Statler College of Engineering and Mineral Resources
Department of Civil and Environmental Engineering

Assessment Rubric for Homework Assignments, Reports, Projects, and Exams

Use one form for each student outcome being evaluated for a class.

Course Name: _____Course Number: _____Date_____

Instructor: _____Semester: _____Class Size: _____

Brief Description of Assignment:_____

Circle Student Outcome Being Assessed: a b c d e f g h i j k

Indicate an overall class performance for the performance indicator based on the percent of students performing below, meeting or exceeding expectations for each performance indicator. The overall class performance identifies the percent of students meeting or exceeding expectations for the student outcomes.

Performance Indicator	Below Expectation	Meets Expectation	Exceeds Expectation	N/A
PI-1				
PI-2				
Overall Class Performance				

Comments*: (use additional sheets if needed)*

Areas for Continuous Program Improvement (use additional sheets if needed)

Assessment Tool:

Graduating Student Survey

WVU Benjamin M. Statler College of Engineering and Mineral Resources
Graduating Senior Survey 2014/15

This portion of the survey asks for contact information regarding alumni events and news.
Information from this part will be kept separate from the rest of the survey.

Personal Information:

Name _____

New Mailing Address _____

_____

Permanent Address (if different) _____

_____

Email address (permanent) _____

Phone number _____

Degree Earned _____

Department _____

Employer Information:

Name of Employer _____

Job Title _____

Address _____

_____

Country _____

Phone Number _____

Additional Information _____

_____

_____

_____

_____

_____

WVU Benjamin M. Statler College of Engineering and Mineral Resources
Graduating Senior Survey 2014/15

Please provide the following information. **All responses in this part of the survey will be kept confidential**, and only aggregate data is used in reporting.

Graduation Month: Dec / May / Aug

Major (check all that apply):

____ Aerospace Engineering	____ Computer Science	____ Petroleum and Natural Gas Engineering
____ Biometric Systems	____ Electrical Engineering	____ Biomedical Engineering
____ Chemical Engineering	____ Industrial Engineering	____ Geology
____ Civil Engineering	____ Mechanical Engineering	____ Other:_____
____ Computer Engineering	____ Mining Engineering	

Overall GPA: _____ / 4.0 Gender: M / F Home State/Country: _____

Race/Ethnicity: __ African-American __ Hispanic __ Caucasian __ Other
__ Asian-American __ Native American __ Foreign National

For Race/Ethnicity, please select all that apply. If you are an international student, please select Foreign National.

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1. Please mark each program(s) that you participated in during you undergraduate studies.
   a. ___Co-op; b. ___Internship; c. ___Study abroad; d. ___Service Learning; e. ___Undergraduate Research
2. If you've participated in any of the above activities in question 1, please list the organization(s) and location(s):

   _____

   _____

   _____
3. How long ago did you begin the job/graduate school search process?
   __ <3 months; __ 3-6 months; __ 6-9 months; __ >9 months
4. Which of the following <u>best</u> describes your immediate employment/education status following graduation?
   __ a. I do not plan to work in my field or continue my education. **(Please complete the other side of this form)**
   __ b. I am still interviewing/searching for a job or graduate school. **(Please complete the other side of this form)**
   __ c. I have a job offer(s) but have not yet accepted. **(Please complete the other side of this form)**
   __ d. I have been accepted into graduate school. **(Please go to <u>question 5</u>)**
   __ e. I have accepted a job position in my professional area. **(Please go to <u>questions 6 through 10</u>)**

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5. University Name:_____;

a. Program: ___ MS ; ___Ph.D.; Professional Degree ___ MBA; _____ MD; _____ DDS; _____ Law

b. Were you offered an assistantship/fellowship/etc? ___ Yes; ___ No;

c. If you have an assistantship, my monthly stipend is: __ < $1,000 __ $1,000-1,500 __$ 1,500-2,000
__$ 2,000-2,500 __$ 2,500+

Please complete the other side of this form

---

6. My employer's name is _____
7. My employer's business is best described as _____

A. Academia **B.** Construction **C.** Consulting **D.** Energy & Mineral Extraction **E.** Financial
F. Government/military **G.** Healthcare **H.** Manufacturing **I.** Service **J.** Other

8. My employment is located in: ____ WV; ____ MD; ____ NJ; _____ NC; _____ OH; _____ PA; _____ VA; _____ Other
   If other, please specify where: _____
9. My starting annual salary is approximately (in units rounded to the nearest $1000):
   __ < $30k; __ $30-34k; __ $35-39k; __ $40-44k; __ $45-49k; __ $50-54k; __ $55-59k; __ $60-64k;
   __ $65-69k; __$70-74k; __$75-79k; __$80-84k; __ $85-89k; __ $90-94k; __ $95-99k; __ $100k+

Please complete the other side of this form

To help the assessment activities of the college and your major we ask that you take a few minutes to provide us feedback on your perception of how your undergraduate program prepared you in a number of important educational outcome areas. ***All entries will be treated as confidential.***

Please give your assessment for items “a” through “q” and “r”, if it applies, using the following rating scale.

5 -strongly agree; 4 -agree; 3 -neutral; 2 -disagree; 1 -strongly disagree; N/A –not applicable (for r. i. & ii.)

10. Through the education and training I attained with my baccalaureate degree I have acquired the knowledge, skill or ability to:

a. ___ Use the basic principles and practices of my engineering discipline
b. ___ Recognize available opportunities and need to pursue continuing education and lifelong learning
c. ___ Apply knowledge of mathematics to solve equations or systems of equations necessary for the solution of engineering problems
d. ___ Apply knowledge of chemistry and physics effectively in solution of engineering problems
e. ___ Design and conduct experiments relevant to the needs of my engineering discipline
f. ___ Acquire, analyze and interpret data and information relevant to the needs of my engineering discipline
g. ___ Design a component, system, or process to meet desired engineering outcomes and needs
h. ___ Function on multidisciplinary teams to manage engineering projects
i. ___ Translate a general problem description into a specific engineering approach
j. ___ Understand professional and ethical responsibilities of a professional engineer
k. ___ Effectively communicate my ideas, recommendations, etc. to others verbally
l. ___ Effectively communicate my ideas, recommendations, etc. in memos, reports, etc.
m. ___ Appreciate the impact of engineering from multi-cultural and global perspectives
n. ___ Appreciate my engineering discipline’s impact on contemporary environmental and societal issues
o. ___ Conduct economic evaluation of importance cost factors in engineering designs
p. ___ Recognize the impact of engineering design on worker or public safety
q. ___ Utilize software to solve problems relevant to the needs of engineers practicing my discipline in industry
r. ___ If you transferred to WVU from another institution or department how would you agree with the following statements:
  i. ___ The procedure for accepting my transfer was relatively seamless and straight forward

  ii.___ The procedure for validating credit for courses taken elsewhere was efficient

COMMENTS: _____

_____

_____

_____

Note: If you’ve indicated that you are still searching for a job or graduate school, would you be willing to participate in a follow up survey? If so, could you please provide an email address we may use to contact you with the survey? Thanks!

e-mail: _____