

School of Engineering
Annual Program Report of Assessment of Student Learning Outcomes

Part I: Cover Page

<u>Title of Degree or Certificate Program</u>	<u>Degree Level</u> <i>(Certificate, Associate, Bachelors, Master's, etc.)</i>
Civil Engineering	Bachelors

Name of Academic Department: Civil Engineering

Name of College/School/Branch: School of Engineering

Academic Year/Assessment Period: 2014-2015

Submitted By (include email address): Mark Russell, russ1307@unm.edu & Susan Bogus Halter, sbogus@unm.edu

Date Submitted to College/School/Branch for Review: 1 December 2015

Date Reviewed by College Assessment and Review Committee (CARC) or the equivalent:

State whether ALL of the program's student learning outcomes (SLOs) are targeted/assessed/measured within one year, two years, OR three years:

Each SLO is assessed annually

If the program's SLO's are targeted/assessed/measured within two years or three years, please state whether this assessment record focuses on SLOs from the first year, second year, or third year:

N/A

NOTE: Please make sure that all relevant data/evidence are submitted with the final draft of this annual program assessment record. Refer to the "Annual Assessment Cycle Process" diagram for guidance.

Part II: Assessment Report

What Student Learning Outcomes were assessed during this reporting period? List in the table below.

For each SLO, indicate in the table how the SLO was assessed, briefly indicate what results were obtained, what analysis of the data indicated with regard to student learning, and what recommendations have been made regarding the program curriculum.

Student Learning Outcome	Assessment Measures incl. Measure Type (Direct or Indirect)*	Performance Benchmark	Results	Analysis	Recommendations for Improvement/ Changes*
a) An ability to apply knowledge of mathematics, science and engineering.	Course work - Direct	N/A	This outcome was partially met. The assessment in CE331 indicated that 91% of students were assessed as “2” or better; however, the assessment in CE 308 indicated that only 57% of students were assessed as “2” or better. (Note: 3 = exemplary, 2 = satisfactory, 1 = unsatisfactory)	Some students are unable to consistently apply previous knowledge of math, science, and engineering to subsequent courses	Continue to monitor for possible trends; faculty should review basic concepts in each course to reinforce learning
b) An ability to design and conduct experiments as well as to analyze and interpret data.	Course work - Direct	N/A	This outcome was successfully achieved. The assessment in CE 305 indicated that 76% of students were assessed as “2” or better.	Student learning is adequate in this area	None

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 work - Direct	N/A	This outcome was successfully achieved. The assessments in CE 499 indicate that 100% of students were assessed as “2” or better.	Student learning is adequate in this area	None
d) An ability to function on multi-disciplinary teams.	Course work - Direct	N/A	This outcome was successfully achieved. The assessment in CE 372 indicated that 98% of students were assessed as “2” or better, and the assessments in CE 499 indicate that 88% and 95% of students were assessed as “2” or better for fall and spring semester, respectively.	Student learning is adequate in this area	None
e) An ability to identify, formulate and solve engineering problems.	Course work - Direct	N/A	This outcome was partially met. The assessment in CE 308 indicated that only 57% of students were assessed as “2” or better. The assessments in CE 499 indicated that 100% of students were assessed as “2” or better.	Some students are unable to consistently identify, formulate and solve engineering problems	Continue to monitor for possible trends; faculty should review basic concepts in each course to reinforce learning
f) An understanding of professional and ethical responsibility.	Course work - Direct	N/A	This outcome was successfully achieved. The assessment in CE 409 indicated that 100% of students were assessed as “2” or better.	Student learning is adequate in this area	None

g) An ability to communicate effectively.	Course work - Direct	N/A	This outcome was successfully achieved. The assessment in CE 372 indicated that 90% of students were assessed as “2” or better. The assessments in CE 499 indicated that 100% of students were assessed as “2” or better.	Student learning is adequate in this area	None
h) The broad education necessary to understand the impact of engineering solutions in a global, economic, environmental, and societal context.	Course work - Direct	N/A	This outcome was successfully achieved. The assessment in CE 382 indicated that 100% of students were assessed as “2” or better.	Student learning is adequate in this area	None
i) A recognition of the need for and an ability to engage in lifelong learning.	Course work - Direct	N/A	This outcome was successfully achieved. The assessments in CE 499 indicate that 88% and 100% of students were assessed as “2” or better for fall and spring semester, respectively.	Student learning is adequate in this area	None
j) A knowledge of contemporary issues.	Course work - Direct	N/A	This outcome was successfully achieved. The assessment in CE 382 indicated that 100% of students were assessed as “2” or better.	Student learning is adequate in this area	None
k) An ability to use the techniques, skills and modern engineering tools necessary for engineering practice.	Course work - Direct	N/A	This outcome was successfully achieved. The assessments in CE 499 indicate that 100% of students were assessed as “2” or better.	Student learning is adequate in this area	None

Indicate where your assessment plan and the full set of assessment data from this year for this program can be accessed.

The assessment plan and data are currently stored on the Civil Engineering Department server.

Based on the results and analysis provided for the student learning outcome(s) listed in the table above, for EACH student learning outcome, please state if the outcome was met, partially met, or not met. Briefly explain why:

Student Learning Outcome	Results
a) An ability to apply knowledge of mathematics, science and engineering.	This outcome was partially met. The assessment in CE331 indicated that 91% of students were assessed as “2” or better; however, the assessment in CE 308 indicated that only 57% of students were assessed as “2” or better. (Note: 3 = exemplary, 2 = satisfactory, 1 = unsatisfactory)
b) An ability to design and conduct experiments as well as to analyze and interpret data.	This outcome was met. The assessment in CE 305 indicated that 76% of students were assessed as “2” or better.
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.	This outcome was met. The assessments in CE 499 indicate that 100% of students were assessed as “2” or better.
d) An ability to function on multi-disciplinary teams.	This outcome was met. The assessment in CE 372 indicated that 98% of students were assessed as “2” or better, and the assessments in CE 499 indicate that 88% and 95% of students were assessed as “2” or better for fall and spring semester, respectively.
e) An ability to identify, formulate and solve engineering problems.	This outcome was partially met. The assessment in CE 308 indicated that only 57% of students were assessed as “2” or better. The assessments in CE 499 indicated that 100% of students were assessed as “2” or better.
f) An understanding of professional and ethical responsibility.	This outcome was met. The assessment in CE 409 indicated that 100% of students were assessed as “2” or better.

g) An ability to communicate effectively.		This outcome was met. The assessment in CE 372 indicated that 90% of students were assessed as “2” or better. The assessments in CE 499 indicated that 100% of students were assessed as “2” or better.
h) The broad education necessary to understand the impact of engineering solutions in a global, economic, environmental, and societal context.		This outcome was met. The assessment in CE 382 indicated that 100% of students were assessed as “2” or better.
i) A recognition of the need for and an ability to engage in lifelong learning.		This outcome was met. The assessments in CE 499 indicate that 88% and 100% of students were assessed as “2” or better for fall and spring semester, respectively.
j) A knowledge of contemporary issues.		This outcome was met. The assessment in CE 382 indicated that 100% of students were assessed as “2” or better.
k) An ability to use the techniques, skills and modern engineering tools necessary for engineering practice.		This outcome was met. The assessments in CE 499 indicate that 100% of students were assessed as “2” or better.

Based on this year’s assessment, what suggestions do you have for changes to the assessment process or the SLOs for your program?

Provide charts to indicate relative performance of the indirect metrics from the FE Exam.

Describe any changes to the assessment plan or the SLOs that are in progress based on this year’s or previous year’s assessment.

No changes to the SLOs are being made. For the assessment plan, we continuously review the courses where assessment takes place, especially those courses taught by adjunct faculty to ensure assessment is being done.

List what groups (committees, faculty meetings, department leadership, etc.) within your program reviewed the assessment results either from the current year, or from previous years, during the current academic year.

Undergraduate Committee
Civil Engineering Faculty

Civil Engineering Department Advisory Board

Describe any curricular or course changes that are currently in progress based either on this year's assessment, or on previous year's assessment results.

None

Describe your plans for assessment of student learning during the upcoming academic year.

Continue to collect data from courses and FE results.