Arapahoe Community College
2016-2017 Engineering Graphics Technology Assessment Plan Data

Discipline Outcome
Dimensional Techniques: Using students' portfolio projects, students will demonstrate an understanding of dimensional techniques

Assessment Author(s)
Doug Mugge

Measure 1 Type:
Direct

Portfolio evaluation

Measure 1 Description:
Students' final portfolio projects will be evaluated using a rubric to determine how well students understand and mastered dimensional techniques with industry standards.

Measure 1 Sample Size:
15

1) Describe the benchmark for this measure.
This is the first year of the assessment. Benchmark will be set from the data; however, we anticipate at least 80% of the students will achieve a grade of 75% or better.

2) What is the rationale for choosing this benchmark?

These industry standards are required for success in this field. Students will demonstrate these foundational skills through evidence within the portfolio.

This discipline outcome was

Missed benchmark

Measure 1 Results:

This year’s EGT/CAD Program Assessment was scheduled to evaluate students with regard to quantitative reasoning. This assessment would have included the student’s ability to demonstrate competency in annotative scaling within the AutoCAD software. However, after the HLC visit in December 2016, the program felt as though the current assessment plan was not a reflection of the entire program, as indicated during the HLC visit. Faculty then decided to have the program Advisory Committee review the portfolios the students generated. We also felt by having a third party (the Advisory Committee) review the portfolios, we could have a more accurate assessment of what industry is wanting from our students. When presented with the portfolios, the members of the committee said they were not prepared to review the portfolios on several accounts listed below.

1) How did unit/department performance compare to the benchmark?

The Advisory Committee recommended the portfolio be attached with a strong rubric for committee members to complete a meaningful evaluation. Also, the idea was presented of having a student’s portfolio containing one completed project demonstrating what the student’s skills are rather than a culmination of work from various classes (current portfolio requirements).

2) How does the data compare to the previous year, if applicable?

This is a pilot year

3) If multiple measures were used, how do they compare to each other?

n/a

1) Based on the findings, how does the unit/department rate performance in regards to this outcome (strong
Missed benchmark

2) How does this assessment affect plans for this coming year in terms of strategic planning, budget planning, administrative and educational support unit planning, and assessment planning?

The Advisory Committee agreed to reviewing the portfolios at the end of the year once the program has newly formatted portfolios, and a rubric to complete the evaluation. The program also decided the degree should include a Capstone class allowing students to complete all classes as prerequisites prior to developing their portfolio. These changes will be implemented in the classes and also the degree requirements for next year’s catalog.

3) How will your assessment results enable you to improve institutional processes or academic instruction in order to support, facilitate and/or stimulate student learning?

See above

Further Action:

Further Action Unnecessary

Discipline Outcome

3D Modeling: Using students' portfolio projects, students will demonstrate an understanding of 3D Modeling

Assessment Author(s)

Doug Mugge

Measure 1 Type:

Direct
Measure 1 Description:

Students’ final portfolio projects will be evaluated using a rubric to determine how well students understand and mastered 3D modeling with industry standards.

Measure 1 Sample Size:

15

1) Describe the benchmark for this measure.

This is the first year of the assessment. Benchmark will be set from the data; however, we anticipate at least 80% of the students will achieve a grade of 75% or better.

2) What is the rationale for choosing this benchmark?

These industry standards are required for success in this field. Students will demonstrate these foundational skills through evidence within the portfolio.

This discipline outcome was
Missed benchmark

Measure 1 Results:

This year’s EGT and CAD Program Assessment was scheduled to evaluate students with regard to quantitative reasoning. This assessment would have included the student’s ability to demonstrate competency in three-dimensional modeling utilizing the AutoCAD software.

However, after the HLC visit in December 2016, the program felt as though the current assessment plan was not a reflection of the entire program, as indicated during the HLC visit. Faculty then decided to have the program’s Advisory Committee review the portfolios the students generated. We also felt by having a third party (the Advisory Committee) review the portfolios, we could have a more accurate assessment of what industry is wanting from our students. When presented with the portfolios, the members of the committee said they were not prepared to review the portfolios due to incomplete rubric and the structure of the portfolio was not clearly identified.

1) How did unit/department performance compare to the benchmark?

The Advisory Committee recommended the portfolio be attached with a strong rubric for committee members to complete a meaningful evaluation. Also, the idea was presented of having a student’s portfolio containing one completed project demonstrating what the student’s
skills are rather than a culmination of work from various classes (current portfolio requirements). For students completing the certificates, a portfolio containing tabs separating the various skillsets will be required and generated to be reviewed by the committee at the end of the year.

The Advisory Committee agreed to reviewing the portfolios at the end of the year once the program has newly formatted portfolios, and a rubric to complete the evaluation. These changes will be implemented in the classes and also the CAD certificate and EGT program requirements for next year’s catalog.

2) How does the data compare to the previous year, if applicable?
This is a pilot year

3) If multiple measures were used, how do they compare to each other?
n/a

1) Based on the findings, how does the unit/department rate performance in regards to this outcome (strong exceeds benchmark, neutral meets benchmark, or weak misses benchmark)?
Missed benchmark

2) How does this assessment affect plans for this coming year in terms of strategic planning, budget planning, administrative and educational support unit planning, and assessment planning?
The Advisory Committee agreed to reviewing the portfolios at the end of the year once the program has newly formatted portfolios, and a rubric to complete the evaluation. These changes will be implemented in the classes and also the CAD certificate and EGT program requirements for next year’s catalog.

3) How will your assessment results enable you to improve institutional processes or academic instruction in order to support, facilitate and/or stimulate student learning?
See above

Further Action:
Learning Outcome

Communication: Students can present EGT projects effectively communicating design intent and process

Assessment Author(s)

Doug Mugge

Measure 1 Type:

Indirect

Rubric-graded report

Measure 1 Description:

Student presentations for EGT final projects will be assessed using a rubric. A component of the rubric will address the clarity of the student's design intent and process.

Measure 1 Sample Size:

15

1) Describe the benchmark for this measure.

This is the second year for this assessment. We will continue with our benchmark from the pilot year. We anticipate a score of at least 80% for 75% of the students.

2) What is the rationale for choosing this benchmark?

Our students need to construct, deliver, and engage in effective knowledgeable presentation to a variety of audiences.

This learning outcome was
Measure 1 Results:

This year’s learning outcome; communication, was identified as being one of the areas of student assessment and their ability to present a topic utilizing technology to help communicate the idea. Students (22) were assessed through project presentations in the EGT104 Technical Drafting III, and the EGT201 Engineering Materials classes. Assessment included instructor evaluation, and peer evaluations of each student presentation.

Student scores gathered from the 22 student presentations resulted in the following: lowest scoring = 72%, where the highest score was 96%, with a class average of 84.5% for all 22 students.

1) How did unit/department performance compare to the benchmark?

The students met the benchmark of 80% proficiency; however, a poll was also conducted in each class to determine who had completed the COM 115 Communications course prior to taking either the EGT104 or EGT201. This resulted in only 65% of the students completing the communications course.

2) How does the data compare to the previous year, if applicable?

Results for the second year were about the same as last year’s assessment.

3) If multiple measures were used, how do they compare to each other?

n/a

1) Based on the findings, how does the unit/department rate performance in regards to this outcome (strong exceeds benchmark, neutral meets benchmark, or weak misses benchmark)?

Surpassed benchmark

2) How does this assessment affect plans for this coming year in terms of strategic planning, budget planning, administrative and educational support unit planning, and assessment planning?
The program will react to the suggested need and will require students through prerequisites to complete the Communications course prior to taking EGT104 or EGT201 therefore being more prepared to present in front of a small group.

3) How will your assessment results enable you to improve institutional processes or academic instruction in order to support, facilitate and/or stimulate student learning?

See above

Further Action:
Further Action Unnecessary

Learning Outcome

Quantitative Reasoning: Quantitative Reasoning: Students will be able demonstrate competency in annotative scaling within CAD software

Assessment Author(s)
Doug Mugge

Measure 1 Type:
Direct

Portfolio evaluation

Measure 1 Description:
Students' final portfolio projects will be evaluated using a rubric to determine how well students understand and mastered the use of annotative scaling.

Measure 1 Sample Size:
15
1) Describe the benchmark for this measure.

This is the first year of the assessment. Benchmark will be set from the data; however, we anticipate at least 80% of the students will achieve a grade of 75% or better.

2) What is the rationale for choosing this benchmark?

Annotative scaling provided within the AutoCAD software is the new industry standard and will allow students to be successful in their careers.

This learning outcome was

Missed benchmark

Measure 1 Results:

This year’s EGT/CAD Program Assessment was scheduled to evaluate students with regard to quantitative reasoning. This assessment would have included the student’s ability to demonstrate competency in annotative scaling within the AutoCAD software.

However, after the HLC visit in December 2016, the program felt as though the current assessment plan was not a reflection of the entire program, as indicated during the HLC visit. Faculty then decided to have the program Advisory Committee review the portfolios the students generated. We also felt by having a third party (the Advisory Committee) review the portfolios, we could have a more accurate assessment of what industry is wanting from our students. When presented with the portfolios, the members of the committee said they were not prepared to review the portfolios on several accounts listed below.

1) How did unit/department performance compare to the benchmark?

The Advisory Committee recommended the portfolio be attached with a strong rubric for committee members to complete a meaningful evaluation. Also, the idea was presented of having a student’s portfolio containing one completed project demonstrating what the student’s skills are rather than a culmination of work from various classes (current portfolio requirements).

2) How does the data compare to the previous year, if applicable?

This is a pilot year

3) If multiple measures were used, how do they compare to each other?

n/a
1) Based on the findings, how does the unit/department rate performance in regards to this outcome (strong exceeds benchmark, neutral meets benchmark, or weak misses benchmark)?

Missed benchmark

2) How does this assessment affect plans for this coming year in terms of strategic planning, budget planning, administrative and educational support unit planning, and assessment planning?

The Advisory Committee agreed to reviewing the portfolios at the end of the year once the program has newly formatted portfolios, and a rubric to complete the evaluation. The program also decided the degree should include a Capstone class allowing students to complete all classes as prerequisites prior to developing their portfolio. These changes will be implemented in the classes and also the degree requirements for next year’s catalog.

3) How will your assessment results enable you to improve institutional processes or academic instruction in order to support, facilitate and/or stimulate student learning?

See above

Further Action:

Further Action Unnecessary