

Student Learning Outcomes for ENGR 10

Introduction To Engineering

Team Members:

Team Leader:

George Krestas (8574) in ENGR

Other members:

1. Mary Pape (x8877) CIS
2. George Krestas (x8574) ENGR

Additional team members/notes about team:

Additional Notes:

Outcomes:

Outcome 1 Phase I: Statement

The student will be able to analyze, graph and develop a formula for a given data set.

Outcome 1 Phase II: Assessment Strategy Used:

Assessment Quarter: Winter 2011

Assessors: George V. Krestas

Assessment Tools: *No tools assigned.*

Sections being assessed: 01

Outcome 1 Phase III: Reflect & Enhance

Number of people involved in Phase III: 1

Changes:

Since the last time this SLO was assessed, the assessment tool was modified. The new tool has more visuals involved. Students seem to understand and demonstrate their understanding more based upon being able to see the graphs and understand the engineering principles.

Methods:

The assessment tool for this SLO was an exam with specific NEW questions inserted that included the visuals. I modified previous exam templates based upon feedback from students about visualization in engineering.

Findings and Conclusions:

Some students did indeed meet "expectations of student proficiency or student success." For most of the students who did NOT meet our expectations of student proficiency, they have very weak mathematical backgrounds. I feel that without increasing the prerequisites, the weaker students do not have the mathematics knowledge to be successful in this course. It has been a challenge for over 20 years and is becoming more pronounced. What was revealed overall is that the graphics are indeed helpful for students to demonstrate their content knowledge.

Enhancement (Planned Actions)**Part I:**

We now realize that we need to incorporate even more visualizations in the future in class teaching and learning. We will modify lesson plans to include more graphics.

Part II:

As a general observation, the students who are not successful in this class are those who do not have a working knowledge of basic Algebra. I have requested that the Student Success Center (Tutorial Service) have tutors specifically for this class.

Outcome 2 Phase I: Statement

The student will be able to write technical documentation both written and orally.

Outcome 2 Phase II: Assessment Strategy Used:

Assessment Quarter: Spring 2011

Assessors: George Krestas, George Krestas

Assessment Tools: •••• labs

Sections being assessed: 01

Outcome 2 Phase III: Reflect & Enhance

Number of people involved in Phase III: 1

Changes:**Methods:**

Students as a team, will produce a report about their project. And they will make an oral presentation to explain their findings included in the report.

Findings and Conclusions:

The majority of the students exceeded my "expectations of student proficiency or student success." However, the same students who were not significant contributors during the project development process were unable to identify which part of the report was their contribution, they were nervous during the presentation, and showed lack of knowledge

about the project. The students' needs and issues that were revealed for those students that they were not successful were lack of student maturity and preparedness for the rigors of a college level education.

Enhancement (Planned Actions)

Part I:

Although three lectures are exclusively devoted to report writing and oral presentations, I will create more report writing and oral presentation assignments.

Part II:

Outcome 3 Phase I: Statement

The student will work collaboratively on an engineering team.

Outcome 3 Phase II: Assessment Strategy Used:

Assessment Quarter: Spring 2011

Assessors: George Krestas

Assessment Tools: •

Outcome 3 Phase III: Reflect & Enhance

Number of people involved in Phase III: 1

Changes:

Methods:

Students worked in teams of four. The project was to either take apart a simple mechanical object (analysis) or to create (synthesis) a relatively simple object. The tasks were to identify the parts and their function as well as to produce a cost analysis and team management schedules.

Findings and Conclusions:

The majority of the students met our "expectations of student proficiency or student success." However, there were some students that they either did not contribute significantly or that they had a very passive role in the activities of the team.

Enhancement (Planned Actions)

Part I:

To encourage those students who did not fully participate, I conducted random "reviews" of the progress of the teams. I also incorporated as part of the report a log of "percent participation" of each member of the team.

Part II:

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