Measure 1 Description:

Students in PHY 111 and PHY 211 will be given a pre and post test using a common testing instrument. A gain will be measured for each section and an overall gain will be measured for all sections. Last year the PHY 111 students missed the benchmark and a possible reason was the online homework system. We did pilot a new system in the summer and will implement it in the spring. Meanwhile we will collect data for both fall and spring semesters to note any differences that may be apparent.

1) Describe the benchmark for this measure.

We will continue to use a benchmark of 0.3

2) What is the rationale for choosing this benchmark?

Since we missed last year, keeping the benchmark the same will help us determine if changes are effective.

Measure 2 Description:
Conceptual Understanding is tested using multiple choice questions on in-class exams. The data from these questions will be processed separately to determine the students level of conceptual understanding. These will be reported on a section by section level as well as an overall average for all physics classes at or above the PHY 111 level.

1) Describe the benchmark for this measure.

Student success rate of 75% or better.

2) What is the rationale for choosing this benchmark?

Last year we missed the benchmark by 1 point. We will continue to assess with this benchmark to determine the consistency of this measure.

Discipline Outcome
Mechanics

Learning Outcome
Quantitative Reasoning: Students will be able to interpret graphs and express the nature of a relationship between graphed quantities.

Assessment Author(s)
Henry Weigel

Measure 1 Type:
Direct

Rubric-graded report
Measure 1 Description:

In PHY 105 lab reports will be used to assess this outcome. Two lab reports have a strong graphical component. This experiments involve different types of relationships including direct, exponential and inverse. Students will need to accurately interpret the relationships between the plotted variables to correctly indentify these functions. Students will be assess using a grading rubric.

1) Describe the benchmark for this measure.

In PHY 105, 75% of students will score 75 % or higher on these questions.

2) What is the rationale for choosing this benchmark?

Last year we set the benchmark too low since this was the first time we had implemented this. We had 76% of students scoring at 50% or higher. This year we will raise the target score to 75% since this would be considered a passing score. We will also raise the fraction of students acheiving this to be a more accurate measure of what we want to see happen.

Learning Outcome

Information Management: Students will achieve clarity in applying somewhat abstract physical laws to real world situations.