DeAnza College **SLO ARCHIVE**

Student Learning Outcomes for PHYS 2B

General Introductory Physics

Team Members:

Team Leader:
Eduardo Luna () in PHYS

Other members:

1. David Newton (x8668) PHYS

Additional team members/notes about team:

Ronald Francis

Additional Notes:

Outcomes:

Outcome 1 Phase I: Statement

Critically examine new, previously un-encountered problems, analyzing and evaluating their constituent parts, to construct and explain a logical solution utilizing, and based upon, the fundamental laws of electricity and magnetism.

Outcome 1 Phase II: Assessment Strategy Used:

Assessment Quarter: Winter 2011
Assessors: David Newton
Assessment Tools: *No tools assigned*.
Sections being assessed: 01, 02

Outcome 1 Phase III: Reflect & Enhance

Number of people involved in Phase III: 1

Changes:

Methods:
As an assessment tools we used selective new un-encountered problems on the lecture final. Assessment was then based on the scores obtained on these selective problems on

an individual and overall class basis. The following problem on the lecture final was used as an assessment:A charge is suspended by a string in a uniform electric and gravity field. Find the value of the charge that would allow this to happen with zero acceleration.

Findings and Conclusions:
a) 60% of the class was able to solve the problem correctly, 30% partially got it correct, and 10% did not know how to solve it.b) 10% of the class needed to improve their analytical and problem solving skills.c)60% success was partially acceptable for the class, but not outstanding.d)Areas for improvement would be to further help students develop their analytical and problem solving skills using the principles/laws/theories of electricity & magnetism.e) 60% success, in my opinion, would imply partial student success.

Enhancement (Planned Actions)
Part I:
The assessment results suggested areas of student learning improvement. In order to improve student learning and success, the instructor should address the SLOs and the assessment results in an effective pedagogical approach.

Part II:
Supplementing our teaching methods with computer-based technology and traditional physics demonstrations would be ideal to help students understand physics principles from a conceptual and practical viewpoint.

Outcome 2 Phase I: Statement

Gain confidence in taking precise and accurate scientific measurements, with their uncertainties, and then with calculations from them, analyze their meaning as relative, in an experimental context, to the verification and support of physics theories.

Outcome 2 Phase II: Assessment Strategy Used:

Assessment Quarter: Winter 2011
Assessors: David Newton
Assessment Tools: •
Sections being assessed: 01, 02

Outcome 2 Phase III: Reflect & Enhance

Number of people involved in Phase III: 1

Changes:

Methods:
Proper knowledge of the Scientific Lab Report as accessed in the lab final including; scientific measurements with uncertainties, error analysis, calculations, and hands-on experience with the experimental method. The following problem was used as an assessment in the lab:Given different devices measure the resistance and voltage using correct number of significant figures, units, and uncertainty.

Findings and Conclusions:
a) About 50% of the class was able to make the measurement correctly, and 50% did not make the measurement correcty.b) 50% success was partially acceptable and not uncommon for these difficult, practical style lab tasks.c)50% success on error analysis was partially acceptable for the class, but not outstanding.d)Area for improvement would be to further help students acquire the practical hands-on skills to make correct measurements in the lab.e) 50% success, in my opinion, would imply partial student success.

Enhancement (Planned Actions)
Part I:
The assessment results suggested areas of student learning improvement. In order to improve student learning and success, the instructor should address the SLOs and the assessment results in an effective pedagogical approach.

Part II:
Supplementing our teaching methods with computer-based technology and traditional physics demonstrations would be ideal to help students understand physics principles from a conceptual and practical viewpoint.

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