

**CLUSTER MEETING MINUTES**  
**[PHYSICS CLUSTER]**  
**Wednesday, October 19, 2011**  
**1:00 – 4:00 p.m.**  
**Lake Worth Campus**

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**ITEM 1. Each cluster must reflect on the round table discussions and indicate the three best/most useful ideas heard at the round tables.**

Discussion: Cluster members shared strategies for critical thinking that had been suggested by faculty during the round table discussions .

Action: The cluster chose the following ideas as most useful for our classes:

1. Analyze all choices in multiple choice questions/problems.
2. Use Thought Experiments to illustrate the application of the Scientific Method.
3. Trouble-shoot experiments that fail or give unexpected results.
4. Evaluate on-line resources.
5. Challenge generalizations by providing supporting evidence/arguments.
6. Construct an object to meet certain specifications given only a minimum set of tools.

**ITEM 2. Textbooks**

Discussion: The cluster reaffirms that new editions will be implemented only in the Fall terms. The growing cost of new editions for our students was discussed. A 7<sup>th</sup> edition of the current Astronomy (AST 1002) text will be available.

Action: Professor Lilian Jordan proposed a customized version of the Cutnell and Johnson Physics textbook 8<sup>th</sup> edition to minimize cost to our PHY 2053 and PHY 2054 students. The cluster was in complete agreement . Professor Jordan will contact the publisher regarding this matter. The cluster voted to adopt the 7<sup>th</sup> edition of A Beginner's Guide To The Universe in the fall.

**ITEM 3. New Honors Course**

Discussion: Geology/Earth Science Professor, Steven Stemle, proposed an honors course for GLY1000.

Action: The cluster voted unanimously in favor of offering an honors geology course.

#### ITEM 4. Learning Outcomes and Methods of Assessment– Revisions

Discussion: The cluster observed several typographical and font errors in the list of learning outcomes. The cluster also discussed making some changes to the learning outcomes list and to the methods of assessment.

- Action:
1. For ESC 1000, cluster voted to delete the last two course learning outcomes; i.e., “Explain the life cycle of a star ..... “, And the other is “Describe the relationship among and between Earth, .....””
  2. For PHY2048 and PHY2053, the cluster voted to delete the course learning outcomes that are listed after “Perform calculations using the concepts of heat and temperature.”
  3. For PHY2054, the cluster voted to replace the last three learning outcomes with the following learning outcome “Describe the wave nature of matter.”
  4. For PHY2049, the cluster determined the following corrections are needed due to html font format issues;  
For Learning Outcome #1, it should be “Perform calculations using the principles and concepts of electrostatics, as described by Coulomb’s Law and Gauss’s Law, and electric potential, for both discrete and continuous charge distributions.”  
In Learning Outcome #3, the name is Ampere’s law.  
In Learning Outcome #4, the names should be Faraday’s law and Lenz’s law.  
In Learning Outcome #7, it should be “ ..... of Maxwell’s equations.”
  5. For PHY2054, a text correction (due to html font format issues):  
For Learning Outcome #3, it should state “Perform calculations using Kirchhoff’s rules for direct current circuits.”
  6. The cluster voted to add the following statement in the section titled Methods of Assessment.  
“Some or all of the following may be used as methods of assessment.”  
This statement will be added to the following courses and implemented in the 2012 spring term; AST 1002, ESC 1000, GLY1000, PHY 1001, PSC 1341
  7. Professor Walecki will review PHY1001 Learning Outcomes for any necessary modifications.

Proposed corrections to Course Outline for PHY1001 as it was viewed on 10/27/11 at address <http://www.palmbeachstate.edu/x17364.xml>

Prepared by Wojciech Walecki, Ph.D.  
10/28/11

#### Course Outline for PHY1001 - APPLIED PHYSICS

**Full Course Title:** Applied Physics (AA)

**Course Description:** Prerequisite: MAC 1105 ~ This course provides an overview of physical principles for engineering, medical, and other technical personnel. Topics include mechanics, temperature and heat, electricity and magnetism, optics, and modern physics. A minimum grade of C is required for this course to be used as a General Education course. (\*)

**Credit Hours:** 3

**Clock Hours:**

**Lecture Hours:** 48

**Lab Hours:**

**Clinical Hours:**

**Funding Category:** Advanced Professional (Transfer)

**General Education Status:** Yes

**Gordon Rule:** No

**Pre-requisite Courses:** None

**Co-requisite Courses:** None

**Materials/equipment required by student:** None

**Course Effective Term:** Fall, 2004

**Course Outline Creation Term:** Spring, 2008

**Course Outline Revision Term:** Spring, 2009

**Special Fees:** None

**Course Fee Revision Date:**

**General Education Learning Outcomes:**

- **Information Literacy** - Demonstrate the ability to find, evaluate, organize and use information.
- **Scientific and Quantitative Reasoning** - Apply mathematical and scientific principles to solve real-world problems.

**Course Learning Outcomes:**

- Perform unit conversions.
- Demonstrate how to add and subtract vectors algebraically by combining their scalar components.
- Perform calculations using the equations of motion that describe the constant-acceleration one-dimensional and two-dimensional motions of a particle.
- Perform calculations using Newton's three laws of motion and Newton's universal law of gravitation.
- Perform calculations using the impulse-momentum theorem and the law of conservation of linear momentum.
- Perform calculations using the concepts of mechanical work, kinetic and potential energy, power, and the conservation of mechanical energy.
- Describe kinematics, laws of dynamics, energy, and momentum conservation associated with the rotation of a rigid body about a fixed axis.
- Perform calculations that describe the operation of simple machines.
- Describe physical behavior of gases, liquids, and solids.
- Perform calculations using the concepts of heat and temperature.
- Perform calculations using the equations of electrostatics that involve the quantities of electric charge, electric force, electric field, and electric potential difference.
- Describe laws governing direct current circuits that involve the quantities of electromotive force, electric current, voltage, electric resistance, and electric energy and power.

- Describe laws of magnetism that involve the quantities of magnetic field and electric current.
- Describe the reflection, refraction, interference, and diffraction of light and the properties of electromagnetic waves.
- Perform calculations using the equations that describe the reflection and refraction of light.
- Describe the quantum behavior of matter and energy.
- Describe the behavior of atomic nuclei.
- Describe applications to existing technologies of the principles and concepts presented in this course.

**Methods of Assessment:**

- Objective and/or Free Response Tests

**Attendance:** R. Fleisher, M. Grasso, L. Jordan, G. O'Brien, C. Ramos, S. Stemle, J. Sundquist, A. Trupin, W. Walecki

Submitted by:

Marie Grasso

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Scribe

c. Minutes Distribution List