Administrative Unit: Science
Course Prefix and Number: PHYS 111L
Course Title: College Physics I Lab
Number of: Credit Hours: 2  Lecture Hours: 0  Laboratory Hours: 3
Catalog Description: Laboratory experiences to complement PHYS 111. Offered fall. Students majoring in Chemistry must earn a grade of C or better. G.E. when taken concurrently with PHYS 111.
Prerequisite(s)/Corequisite(s): MATH 150/170/180 or equivalent, and PHYS 111 (may be taken concurrently).
Text(s): Most current editions of the following:
Course Objectives: • To employ basic laboratory techniques of measurement and experimentation.
• To illustrate and verify the principles used in PHYS 111.
Measurable Learning Outcomes • Apply the scientific method.
• Measure physical quantities.
• Convert between different units of measurement.
• Quantify the precision of measured and calculated quantities using significant figures.
• Differentiate between accuracy and precision of experimental results and quantify each.
• Relate physical quantities using graphs.
• Apply all of these skills to the particular experiments chosen for the course.
Topical Outline (major areas of coverage): Experiments may include (but are not limited to):
• Measurement Instruments
• Uniformly Accelerated Motion
• Addition and Resolution of Vectors: The Force Table
• Newton’s Second Law: The Atwood Machine
• Friction
• Centripetal Force
• Hooke’s Law and Simple Harmonic Motion
• Conservation of Linear Momentum
• Torques, Equilibrium, and Center of Gravity
• Rotational Motion and Moment of Inertia
• The Simple Pendulum
• Standing Waves in a String
Material from this course may be tested on the Major Field Test (MFT) administered during the Culminating Experience course for the degree.

Recommended maximum class size for this course: 18

Library Resources: Online databases are available at http://www.ccis.edu/offices/library/resources.asp. You may access them from off-campus using your eServices login and password when prompted.

Prepared by: Frank Somer

Name ___________________________ Signature ___________________________

Date: March 14, 2006 ___________________________

NOTE: The intention of the master syllabus is to provide an outline of the contents of this course, as specified by the faculty of Columbia College, regardless of who teaches the course, when it is taught or where it is taught. Faculty members teaching this course for Columbia College are expected to facilitate learning pursuant to the course objectives and cover the subjects listed in the topical outline. However, instructors are also encouraged to cover additional topics of interest so long as those topics are relevant to the course’s subject. The master syllabus is, therefore, prescriptive in nature but also allows for a diversity of individual approaches to course material.

Office of Academic Affairs
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