PHYS 10L Course Outline as of Summer 2010

CATALOG INFORMATION

Dept and Nbr: PHYS 10L Title: INTRO PHYSICS LAB
Full Title: Introduction to Physics Lab
Last Reviewed: 2/8/2010

Units		Course Hours per Week		Nbr of Weeks	Course Hours Total	
Maximum	1.00	Lecture Scheduled	0	17.5	Lecture Scheduled	0
Minimum	1.00	Lab Scheduled	3.00	17.5	Lab Scheduled	52.50
		Contact DHR	0		Contact DHR	0
		Contact Total	3.00		Contact Total	52.50
		Non-contact DHR	0		Non-contact DHR	0

Total Out of Class Hours: 0.00 Total Student Learning Hours: 52.50

Title 5 Category:	AA Degree Applicable
Grading:	Grade or P/NP
Repeatability:	00 - Two Repeats if Grade was D, F, NC, or NP
Also Listed As:	
Formerly:	

Catalog Description:
Experimental laboratory to accompany Physics 10.

Prerequisites/Corequisites:
Course Completion or Current Enrollment in PHYS 10

Recommended Preparation:

Limits on Enrollment:

Schedule of Classes Information:
Description: Experimental laboratory to accompany Physics 10. (Grade or P/NP)
Prerequisites/Corequisites: Course Completion or Current Enrollment in PHYS 10
Recommended:
Limits on Enrollment:
Transfer Credit: CSU;UC.
Repeatability: Two Repeats if Grade was D, F, NC, or NP

ARTICULATION, MAJOR, and CERTIFICATION INFORMATION:

AS Degree:	**Area**			Effective:	Inactive:
CSU GE:	**Transfer Area**			Effective:	Inactive:
	B3	Laboratory Activity		Fall 2012	Fall 2015
	B3	Laboratory Activity		Fall 1981	Fall 2012
IGETC:	**Transfer Area**			Effective:	Inactive:
	5C	Fulfills Lab Requirement		Fall 2012	Fall 2015
	5C	Fulfills Lab Requirement		Fall 1981	Fall 2012
CSU Transfer:	Transferable	Effective:	Fall 1981	Inactive:	Fall 2015
UC Transfer:	Transferable	Effective:	Fall 1981	Inactive:	Fall 2015

CID:

Certificate/Major Applicable:
Major Applicable Course

COURSE CONTENT

Outcomes and Objectives:
Upon completion of this course, the student should be able to:
1. Make measurements using a variety of measuring devices.
2. Construct and analyze graphical data using a computer graphing program.
3. Set up and perform physics experiments.
4. Calculate quantities involving experimental data using calculators and/or spreadsheet calculations.
5. Interpret and discuss the significance of experimental results.

Topics and Scope:

I. The scientific method
II. Use of computer interfaces and software for data collection and analysis
III. Relationship between unit systems
IV. Instructor will choose at least twelve of the topics below, as related to PHYS 10 lecture
- A. Kinematics
- B. Acceleration due to gravity
- C. Force and Newton's second law
- D. Conservation of energy
- E. Momentum
- F. Waves
- G. Sound waves
- H. Electrostatic charge
- I. Electric and magnetic fields
- J. Simple circuits
- K. Images from lenses
- L. Single- and double-slit interference
- M. The prism spectrometer
- N. Radioactive decay

Assignment:

1. 12-17 laboratory experiments
2. 12-17 laboratory readings and reports
3. 0-1 mid-term exam: multiple choice, completion, problem solving, conceptual questions
4. Final exam: multiple choice, completion, problem solving, conceptual questions

Methods of Evaluation/Basis of Grade:

Writing: Assessment tools that demonstrate writing skills and/or require students to select, organize and explain ideas in writing.

None, This is a degree applicable course but assessment tools based on writing are not included because problem solving assessments are more appropriate for this course.	Writing 0 - 0%

Problem Solving: Assessment tools, other than exams, that demonstrate competence in computational or non-computational problem solving skills.

Lab reports	Problem solving 80 - 90%

Skill Demonstrations: All skill-based and physical demonstrations used for assessment purposes including skill performance exams.

None	Skill Demonstrations 0 - 0%

Exams: All forms of formal testing, other than skill performance exams.

Multiple choice, completion, problem solving, conceptual questions, 0-1 mid-term and 1 final exam	Exams 10 - 20%

Other: Includes any assessment tools that do not logically fit into the above categories.

None	Other Category 0 - 0%

Representative Textbooks and Materials:

Conceptual Physics Laboratory Manual by Paul G. Hewitt, 10th edition (2006)