

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)