

BUTTE COLLEGE

COURSE OUTLINE

I. CATALOG DESCRIPTION

PHYS 11 - Concepts of Physics Laboratory

1 Unit(s)

Prerequisite(s): PHYS 10 (or concurrent enrollment)

Recommended Prep: NONE

Transfer Status: CSU/UC

51 hours Lab

This course is designed to accompany the lecture topics taught in Physics 10. Experiments performed will cover the areas of motion, sound, electricity and magnetism, and light. Not recommended for physics majors.

II. OBJECTIVES

Upon successful completion of this course, the student will be able to:

- A. understand the basic laws of physics through experimentation.
- B. perform scientific investigation and simple report writing.
- C. recognize and describe the basic laws of physics found in the physical environment and the technological world in which they must function.

III. COURSE CONTENT

A. Unit Titles/Suggested Time Schedule

		Lab	
<u>Topics</u>			<u>Hours</u>
1.	Scientific Method		3.00
2.	Velocity and Acceleration		3.00
3.	Freefall		3.00
4.	Projectile Motion		3.00
5.	The Air Track and Newton's Laws		3.00
6.	Conservation of Momentum on the Air Track		3.00
7.	Elastic and Inelastic Collisions		3.00
8.	Ballistic Pendulum		3.00
9.	Centripetal Force		3.00
10.	The Pendulum		3.00
11.	Speed of Sound in Air		3.00
12.	Ohm's Law		3.00
13.	Electric Current and Magnetism		3.00
14.	Electromagnetic Induction		3.00
15.	Reflection and Refraction		3.00
16.	The Human Eye		3.00
17.	Speed of Light		3.00
Total Hours			51.00

IV. METHODS OF INSTRUCTION

- A. Laboratory Experiments
- B. Lecture (as necessary to explain lab)
- C. Laboratory Exercises

V. METHODS OF EVALUATION

- A. Exams/Tests
- B. Weekly Quizzes on Present and Past Labs
- C. Laboratory Reports and Exercises

VI. EXAMPLES OF ASSIGNMENTS

- A. Reading Assignments
- B. Writing Assignments
- C. Out-of-Class Assignments

VII. RECOMMENDED MATERIALS OF INSTRUCTION

Textbooks:

- A. Paul G. Hewitt . Conceptual Physics. 10th Edition. Pearson, 2006.

Materials Other Than Textbooks:

- A. Laboratory Handouts for each of the Experiments

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