BUTTE COLLEGE
COURSE OUTLINE

I. **CATALOG DESCRIPTION**

PSC 21 - Introductory Physical Science Laboratory **1 Unit(s)**

Prerequisite(s): PSC 20 (or concurrent enrollment)
Recommended Prep: Reading Level IV; English Level IV; Math Level IV
Transfer Status: CSU/UC
51 hours Lab

This course will introduce students to the measurements, techniques, and terminology used to describe the physical environment. Topics include experiments and activities on the scientific method, Newton's laws of motion, energy, light and sound. Scientific methods will also be used to study earthquakes, geologic time, common rocks, and Earth's atmosphere. This course will supplement material presented in the Physical Science lecture course.

II. **OBJECTIVES**

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

A. Use the scientific method to investigate and describe the natural world.
B. Measure the motion of objects, describe the forces acting on those objects, and graph data related to motion.
C. Describe the energy of a system and the different ways that thermal energy is transferred.
D. Describe the nature of sound and light waves and explain how different sources affect the character of the waves.
E. Identify and interpret common rocks.
F. Explain geologic processes such as earthquakes, plate tectonics, and geologic dating methods.
G. Determine specific atmospheric variables and relate their measurements to weather phenomena.

III. **COURSE CONTENT**

A. **Unit Titles/Suggested Time Schedule**

Lab

Topics		Hours
1.	Introduction to Laboratory Methods	3.00
2.	The Scientific Method and Measurement	3.00
3.	Objects in Freefall	3.00
4.	Newton's Laws of Motion	3.00
5.	Conservation of Energy	3.00
6.	Thermal Energy Transfer	3.00
7.	Sound	3.00
8.	Spectroscopy and the Nature of Light	3.00
9.	Plate Tectonics	3.00
10.	Igneous Rocks	3.00
11.	Sedimentary Rocks	3.00
12.	Metamorphic Rocks	3.00

13.	Geologic Time	3.00
14.	Earthquakes and Seismology	3.00
15.	Atmospheric Variables	3.00
16.	Weather Maps	3.00
17.	Final Exam	3.00
Total Hours		51.00

IV. METHODS OF INSTRUCTION

A. Instructor Demonstrations
B. Group Discussions
C. Discussion
D. Laboratory Experiments
E. Introductory lectures
F. Hands-on study of mineral and rock specimens
G. Exercises in geologic and atmospheric processes
H. Homework: Students are expected to complete a minimum of one hour of outside-of-class homework for every three hours of lab.

V. METHODS OF EVALUATION

A. Quizzes
B. Mid-term and final examinations
C. Written laboratory reports

VI. EXAMPLES OF ASSIGNMENTS

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

VII. RECOMMENDED MATERIALS OF INSTRUCTION

Textbooks:

A. Mattison, G.D., and Lillie, P.. Introduction to Physical Science, Laboratory Manual. Butte College, 2008.

Created/Revised by: Colin Ferguson
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