BUTTE COLLEGE
COURSE OUTLINE

I. **CATALOG DESCRIPTION**

PSC 20 - Introductory Physical Science **3 Unit(s)**

Prerequisite(s): NONE
Recommended Prep: Reading Level IV; English Level IV; Math Level IV
Transfer Status: CSU/UC
51 hours Lecture

Introductory Physical Science introduces students to the earth and physical sciences and includes introductory sections on physics, earth and atmospheric science and space science. This course is meant to give students a broad but basic understanding of the concepts, terminology, and methods of study of the physical environment.

II. **OBJECTIVES**

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

A. Use the Scientific Method as a tool for describing and understanding the physical environment.
B. Explain the behavior of objects in motion and describe the forces that cause those objects to move.
C. Measure the potential and kinetic energy of a system and explain the different methods of thermal energy transfer.
D. Describe the nature of sound and light waves and explain how different sources of sound and light affect the character of the waves.
E. Describe and interpret the formation of common rocks and explain how geologic dating methods are used to determine the ages of rocks.
F. Explain how Plate Tectonics is related to earthquakes, volcanism, and mountain building.
G. Describe the composition of air and specific atmospheric variables and relate this understanding to weather phenomena.
H. Explain how the seasons are related to the Earth's orbit and geometry relative to the sun.
I. Describe the motions of objects in our solar system and the laws that govern those motions.

III. **COURSE CONTENT**

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

Lecture

Topics	Hours
1. The Scientific Method and Measurement	4.00
2. Patterns of Motion and Newton's Laws of Motion	6.00
3. Work, Energy and Heat	4.00
4. Waves and Sound	3.00
5. Light and the Electromagnetic Spectrum	3.00
6. Earth Science: Plate Tectonics Theory	3.50
7. Minerals	1.50
8. Igneous Rocks	3.00
9. Sedimentary Rocks	3.00
10. Metamorphic Rocks	2.00
11. Geologic Time	3.00
12. Earthquakes	3.00

13. The Seasons: Earth/Sun Geometry	3.00
14. Structure and Composition of the Atmosphere	3.00
15. Weather Fronts and Storm Systems	3.00
16. Origin of Earth and the Solar System	3.00
Total Hours	51.00

IV. METHODS OF INSTRUCTION

A. Lecture
B. Instructor Demonstrations
C. Homework: Students are required to complete two hours of outside-of-class homework for each hour of lecture
D. Discussion
E. Reading Assignments
F. Multimedia Presentations

V. METHODS OF EVALUATION

A. Quizzes
B. Homework
C. Mid-term and final examinations

VI. EXAMPLES OF ASSIGNMENTS

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

VII. RECOMMENDED MATERIALS OF INSTRUCTION

Textbooks:

A. Hewitt, P.G., Suchocki, J., and Hewitt, L.A.. Conceptual Physical Science. 4th Edition. Pearson/ Addison Wesley Publsher, 2008.

Materials Other Than Textbooks:

A. Scientific calculator that can perform functions using exponential notation and calculate square roots.

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