

NC 219B: PHYSICAL SCIENCE B

Citrus College Course Outline of Record

Heading	Value
Effective Term:	Fall 2021
Credits:	0
Total Contact Hours:	60
Lecture Hours :	60
Lab Hours:	0
Hours Arranged:	0
Outside of Class Hours:	120
Prerequisite:	Placement by a high school counselor.
Transferable to CSU:	No
Transferable to UC:	No
Grading Method:	Non-Credit Course

Catalog Course Description

This course will examine the eight study topics in physical sciences, such as motion, forces, and the structure of matter by using a quantitative mathematically based approach. Earth, the solar system, chemical reactions, the periodic equation, density, and buoyancy are additional topics that will be increased with mathematical rigor. The course format will include activity-based investigations with hands-on activities, concepts, and applications compliant with the adopted California State Standards to meet the minimum course requirements for high school graduation. 60 lecture hours.

Course Objectives

- Describe the earth's motions.
- Describe the variety of chemical bonds.
- Demonstrate an understanding of electric and magnetic fields including the motion, velocity, acceleration, and terminal velocity.
- Participate in the study of topographic maps and demonstrate the ability to read maps for content.
- Demonstrate the ability to use instruments to measure and convert units of length, volume, mass, weight, and time.
- Explore the concept of energy transfer by wave motion in the areas of longitudinal and transverse waves.
- Study how sound and light are generated and translated through various mediums.
- Explore the interconnectedness of electricity and magnetism. Understand the function and uses for resistors, capacitors, diodes, transistors, relays, and integrated circuits.
- Explore weather conditions and the conditions that would cause them.
- Identify features of the sea floor and describe the causes of such structures.
- Describe ocean currents, their causes, effects, and the role that they play in meteorology and climate.
- Use computer simulations to evaluate seismic activity.

- Recognize the interactions between the Earth's different lithospheres and identify the physical role that pressure, volume, temperature, composition, and density have in their formation.
- Identify inner structures of the Earth and describe the role of plate tectonics in seismology, crust formation, and volcanic activity.
- Discriminate between acid and bases, elements and compounds, and use the Periodic Table of the Elements to balance chemical equations and analyze chemical reactions.
- Identify chemical bonds.

Major Course Content

1. Safe lab procedures and practices
2. Metrics: unit conversion and analysis
3. Chemistry
 - a. Elements and compounds
 - b. Simple chemical reactions
 - c. Balancing chemical equations
 - d. Acids and bases
4. Earth Science
 - a. Astronomy (structures of space)
 - b. Introduction to cosmology
 - c. Meteorology/climatology
 - d. Oceanography
 - e. Geology
5. Physics wave theory and wave mechanics
6. Longterm project

Suggested Reading Other Than Required Textbook

Instructor supplied material

Examples of Required Writing Assignments

Lab reports

Examples of Outside Assignments

Daily homework and answer review questions

Instruction Type(s)

Lecture, Online Education Lecture