

# NC 220A: EARTH SCIENCE A

## 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 includes the study of astronomy, physics, chemistry, geology, and meteorology. Special emphasis is placed on student experimentation and observation. This course format will include activity-based investigations with hands-on activities, concepts, and applications compliant with the adopted California State Science Standards to meet the minimum course requirements for high school graduation. 60 lecture hours.

## Course Objectives

- Describe the differences and similarities between the sun, the terrestrial planets, and the gas planets during the formation of the solar system.
- Explain the origin and effects of temperature inversions.
- Outline the properties of ocean water, including temperature, salinity, horizontal and vertical ocean currents, the layered structure of the ocean, and the geographic distribution of marine organisms.
- Explain the interaction between wind patterns, ocean currents, and mountain ranges, and how those interactions relate to the latitudinal bands of rain forests and deserts.
- Understand the global carbon cycle.
- Understand the importance of water to society, the origins of California, and the relationship between supply and demand.
- Explain the geological differences between early Earth and other planets and Earth today.
- Describe the effects that asteroid impacts have in shaping the surface of planets and their moons and in mass extinctions of life on Earth.
- Explain the different life cycles of a star.
- Describe the relationship between a star's color, brightness, evolution, and gravitational collapse.
- Describe the relationship between a star's color, brightness, evolution, and nuclear fusion.
- Explain the properties of the ocean floor (magnetic patterns, age, and seafloor topography).

- Explain the properties of rocks based on the physical and chemical conditions in which they formed, including plate tectonics.
- Describe two kinds of volcanoes - violent and voluminous.

## Major Course Content

1. Earth's Place in the Universe
2. Plate Tectonic Processes
3. Energy in the Earth System
4. Biogeochemical Cycles
5. Structure and Composition of the Atmosphere
6. California Geology

## 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