

Survey of Earth and Space Science TCSU LBST 750

Note: this course must be approved currently for CSU GE-Breadth Area B1.

A. Description

This Earth and space science course focuses on general principles and methods of scientific inquiry and on the major conceptual principles underlying astronomy, geology, meteorology, and oceanography, as these topics apply to the formation and evolution of the Earth and other solar system objects.

B. Recommended Preparation

Intermediate Algebra (or “Eligibility for GE mathematics”)

C. Prerequisites

None Specified

D. Minimum Unit Requirement

3 semester units

E. Course Topics

Must include but are not limited to:

The Solar System and the Universe (Astronomy)

- Identify and describe the planets, other planetary bodies, and their motion around the sun
- Explain time zones in terms of longitude and the rotation of the earth
- Explain the reasons for changes in the observed position of the sun and moon in the sky during the course of the day and from season to season
- Name and describe bodies in the universe including the sun, stars, and galaxies

The Structure and Composition of the Earth (Geology)

- Describe the formation and observable physical characteristics of minerals and different types of rocks
- Identify characteristics of landforms
- Explain chemical and physical weathering, erosion, deposition, and other rock forming and soil changing processes and the formation and properties of different types of soils and rocks
- Describe layers of the earth
- Explain how mountains are created and why volcanoes and earthquakes occur, and describe their mechanisms and effects
- Describe plate tectonics, including its convective source, and the commonly cited evidence supporting the theory
- Describe the effects of plate tectonic motion over time on climate, geography, and distribution of organisms

- Describe general changes on the earth over geologic time as evidenced in landforms, rocks and fossil records, including plant and animal extinction
- Identify factors influencing the location and intensity of earthquakes

The Earth's Atmosphere (Meteorology) and

- Explain the influence and role of the sun and oceans in weather and climate and the role of the water cycle.
- Describe causes and effects of air movements and ocean currents (based on convection) on daily and seasonal weather and on climate

The Earth's Water (Oceanography)

- Compare and contrast the characteristics of bodies of water, such as rivers, lakes, oceans, and estuaries.
- Describe tides and explain the mechanisms causing and modifying them

F. References

Elementary Subject Matter Content Specifications for Science, Domain 3
CSU Executive Order No. 405