

ASTRONOMY

SCIH043056

Credits: 0.5 units / 5 hours | NCAA Approved

Course Description

This course will examine modern day astronomy including topics about our solar system, stars, galaxies, cosmology, and astrobiology. Students will begin by studying the night sky and then progress through an exploration of our solar system and the Milky Way galaxy to other galaxies, black holes, and quasars. Students will use the scientific method to understand how the universe began and is evolving and how scientists search for life beyond our own solar system.

Graded Assessments:

4 Unit Evaluations; 4 Projects; 4 Proctored Progress Tests, 4 Teacher Connect Activities

Course Objectives

When you have completed the materials in this course, you should be able to:

1. To describe the basic principles of the discipline of astronomy.
2. To explain the role and characteristics of the solar system.
3. To develop an understanding of the characteristics and roles of the multiple types of stars in the universe.
4. To explain the role and characteristics of the universe.

Course Outline

Unit 1: Understanding Astronomy

Teacher Connect Activity 1

Lesson 1: Discovering the Night Sky

Lesson 2: The Science of Astronomy and the Motion of the Planets

Lesson 3: Light and Telescopes

Unit 1 Evaluation

Project 1

Progress Test 1

Unit 2: Understanding the Solar System

Lesson 4: Formation of the Solar System and Other Planetary Systems

Lesson 5: Earth and the Terrestrial Planets

Lesson 6: The Jovian Planets

Lesson 7: Asteroids, Comets, Dwarf Planets and Other Small Bodies

Unit 2 Evaluation

Teacher Connect Activity 2

Project 2

Progress Test 2

Unit 3: Understanding the Stars

Lesson 8: The Sun: Our Extraordinary Ordinary Star

Lesson 9: Stars

Lesson 10: Star Stuff

Lesson 11: The Death and Remnants of Stars

Unit 3 Evaluation

Teacher Connect Activity 3

Project 3

Progress Test 3

Unit 4: Our Galaxy and Beyond

Lesson 12: Galaxies

Lesson 13: Cosmology

Lesson 14: Astrobiology

Unit 4 Evaluation

Teacher Connect Activity 4

Project 4

Progress Test 4

Required Textbook

(available through Follett virtual bookstore at <http://highschool.nebraska.bkstr.com>)

The Essential Cosmic Perspective, 8th Edition by Bennett, Donahue, Schneider, and Voit, Pearson, 2018.
ISBN: 9780134446431