Experience **Astronomy**

Upper Level

Scope and Sequence

Lesson 1: Course Introduction
Looks at the purpose of the course, a review of how the classes work each week, the difference between astronomy and astrology, reasons why we should study astronomy, and the reasons why God created the sun, moon, and stars.

Lesson 2: The Movement of the Sun
Looks at the movement of the sun through the sky, the ancient vs. modern understanding about why the sun moves, some basic observation terms for observing the sun, and sun worship in ancient Egypt.

Lesson 3: The Summer Constellations
Discusses how to find various summer constellations and the stories behind these patterns.

Lesson 4: The Magnitude of Stars
Discusses the celestial sphere, including the celestial poles, the celestial equator, and all the various modern constellation groupings.

Lesson 5: The Northern Constellations
Discusses how to locate various northern constellations—mainly Ursa Major, Ursa Minor, and Cassiopeia—as well as the stories behind these constellation patterns.

Lesson 6: The Planet Saturn
Looks at information about the planet Saturn, including what modern exploration has taught us.

Lesson 7: The Seasonal Skies (Part 1)
Discusses the earth's path around the sun and how it impacts what we see in the sky and the changing of seasons.

Lesson 8: The Seasonal Skies (Part 2)
Continues an in depth look at the earth's path around the sun.

Lesson 9: The Fall Constellations
Discusses how to identify and locate specific autumn constellations, as well as some of the stories behind these constellation patterns.

Lesson 10: The Zodiac (Part 1)
Begins looking at the 12 constellations of the Zodiac and why they have been so significant to astronomers over the centuries.

Lesson 11: The Zodiac (Part 2)
Continues looking at the Zodiac, focusing on specific constellations visible in the late Fall.

Lesson 12: The Planet Jupiter
Focuses on the planet Jupiter, including what modern exploration has taught us.

Lesson 13: Orion
Focuses on one of the most identifiable constellations in the night sky: Orion.

Lesson 14: The Heliocentric Model
Focuses on the story of the astronomers and scientists who challenged those who believed in a geocentric model.

Lesson 15: Review for the Midterm Exam
Reviews the major concepts studied thus far in the course, preparing for the midterm exam.

Lesson 16: The Winter Constellations
Discusses at length the different constellations visible during the winter months, including some of the ancient stories behind these constellation patterns.

Lesson 17: Deeper Into Space (Part 1)
Begins looking at deep space, discussing the various objects scientists have found looking through telescopes at the edge of the solar system.

Lesson 18: Deeper Into Space (Part 2)
Investigates more deep space objects, including main sequence stars, supergiants, white dwarves, and black holes.

Lesson 19: The Planet Mars
Investigates the great red planet, Mars, and what modern exploration has taught us about.

Lesson 20: Dwarf Planets and Asteroids
Looks at the often forgotten objects in the solar system: dwarf planets (like Pluto), asteroids, and meteoroids.

Lesson 21: Rising Stars
Studies the heliacal and acronical risings of stars and how ancient people used these ideas to mark special events.

Lesson 22: The Southern Constellations
Looks at some of the constellations you can only see when you travel south of the equator.

Lesson 23: Axial Precession
Discusses axial precession—the very slow rotation of the earth's axis—and some of the other northern constellations we can see.

Lesson 24: The Phases of the Moon
Looks at why the moon goes through phases and what those phases are.

Lesson 25: Exploration of the Moon
Discusses the modern exploration of the moon, specifically the Apollo missions.

Lesson 26: The Biblical Calendar
Discusses the Hebrew calendar and its connection to the phases of the moon.

Lesson 27: The Modern Calendar
Looks at how the modern calendar was created based on astronomical observations from the Egyptians, Romans, and church leaders.

Lesson 28: The Spring Constellations
Explores some of the constellations visible in the spring months, including some of the stories behind these ancient constellation patterns.

Lesson 29: The Planets Venus and Mercury
Explores the closest planet to Earth (Venus) and the planet closest to the Sun (Mercury).

Lesson 30: Comets and Meteor Showers
Begins looking at special sky objects that can be seen periodically: comets and meteor showers.

Lesson 31: Lunar Eclipses
Continues looking at special sky objects that can be seen periodically, specifically lunar eclipses and what causes them.

Lesson 32: Solar Eclipses
Finish looking at some special sky objects that can be seen periodically, specifically solar eclipses.

Lesson 33: The Zodiac (Part 3)
Finishes talking about specific Zodiac constellations visible in the Spring, including some of the stories behind these ancient constellation patterns.

Lesson 34: Review for the Final Exam (Part 1)
Looks back through the course to review what the Bible has to say about astronomy.

Lesson 35: Review for the Final Exam (Part 2)
Reviews material from the entire course in preparation for the final exam.