



Course Name: SCI-106 Introduction to Astronomy

Date Updated: 4/2022

Credit Hours/week: 3 hrs./wk. – 3 cr.

BEGINNING: SPRING 2022

Catalog Description: A non-mathematical treatment of the basic concepts of Astronomy leading to discussions of some of the exciting Astronomy related questions of current interest. Topics include cosmology, stellar evolution, planetary characteristics and the recent developments in space exploration. Planetarium demonstrations and telescope nighttime observations session are incorporated into this course.

Prerequisite: None

Text: Bennett/Donahue/Schneider/Voit, The Essential Cosmic Perspective, 8th Edition

Supplementary Material: None

Syllabus:

Topics
A Modern View of the Universe
Brief Tour of our Solar System
Observations of our Moon after Lecture
Discovering the Universe for Yourself
Discover the Universe for Yourself (Continued)
Introduction to the Night Sky
Deep Sky Objects Observations
The Science of Astronomy
Making Sense of the Universe
First Test
Light: The Cosmic Messenger
Formation of the Solar System
Earth and the Terrestrial Worlds
First Test before class
Earth and the Terrestrial Worlds (continued)
Jovian Planet Systems
The Fall Sky
Asteroids, Comets, and Dwarf Planets
Other Planetary Systems
Second Test
Our Sun
Surveying the Stars
Transit of Mercury
Star Stuff
The Bizarre Stellar Graveyard

Our Galaxy
Second Test before Class
A Universe of Galaxies
The Birth of the Universe
The Seasons
Dark Matter, Dark Energy, and the Fate of our Universe
Life in the Universe
Final Exam

Students are expected to adhere to the policies of the County College of Morris. These can be accessed at: (insert link here)

Statement of Expected Course LEARNING OUTCOMES

- How to find Polaris in the night sky
- How to identify the brighter constellations in the night sky
- Where, when, and how to find the different phases of our Moon in the sky
- What causes the seasons, equinoxes and solstices?
- Understand the Geocentric and Heliocentric models of our solar system
- Gravity and the difference between weight and mass
- Properties of light and the different types of astronomical telescopes
- Characteristics of the planets in our solar system to include some of their natural satellites
- What are asteroids, meteoroids, meteorites, and when to see meteor showers?
- Properties of comets
- How solar systems form
- How do we find exoplanets in other solar systems?
- Our sun and the other classes of stars in the universe
- Importance of the Hertzsprung-Russell Diagram
- Birth, lives and death of stars to include black holes
- Special theory of relativity
- Formation of our Milky Way galaxy and other galaxies in the universe
- How dark matter determines the fate of our universe
- What is the big bang theory and why it is considered accurate
- Are there other civilizations in our universe?