

# AST 119 - ASTRONOMY

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## Course Description

History of discovery of the nature of the cosmos and its contents is the format utilized to develop understanding of the nature of stars and the universe, and the physical principles determining this nature. These principles underlie our proficiency for prediction of the nature of the universe and our ability to make observations of our universe. The principles are analyzed by means of a student developed mathematical model incorporating the quantitative relationships derived by physicists and astronomers. Observations provide students with the sky knowledge and data necessary for prediction of stellar characteristics. Group 1 lab course.

## Credit Hours

4

## Contact Hours

5

## Lecture Hours

3

## Required Prerequisites

MTH 111; ENG 11/111 or ENG 111 may be taken concurrently

## Corequisites

AST 119L

## General Education Outcomes supported by this course

Critical Thinking - Direct

## Course Learning Outcomes

### Knowledge:

- Describe the scientific thinking process.
- Describe the concept of seasonal changes on Earth.
- Explain how to measure objects comparing size and distances.

### Application:

- Determine sizes and distances using indirect methods.
- Utilize different methods of time and timekeeping.
- Use co-ordinate systems for plotting and locating objects.
- Explain motion of objects.
- Determine optics and resolution.
- Relate the process of science to its importance in the daily world.
- Describe the history of discovery including changes from inductive to deductive reasoning.
- Recognize that science is a "way of thinking" process.
- Describe the cause and effect of positions and their locations as they appear in space.

### Integration:

- Recognize the role of science by integrating historical, social and literature into their perspective.
- Analyze physical data from observations to write scientific papers.

- Utilize a variety of sources to make astronomical measurements.
- Make predictions based upon all the information gathered.

### Human Dimension:

- Work collaboratively in groups as well as individually during lab assignments toward a common goal.

### Caring - Civic Learning:

- Appreciate the concept that they are part of a larger universe.

### Learning How to Learn:

- Apply researching skills to areas of interest.