AST 109 - PLANETARY ASTRONOMY

Course Description

Characteristics and properties of the solar system and its components are presented to students in the context of the history of discovery. This information is integrated with student observational data to develop a mathematical model in the laboratory. The model is developed by incorporating equations used to compute characteristics and properties of solar system components. The model is utilized by students to encourage understanding of why the solar system has evolved to its current state by evaluating the effects of changes in values of fundamental measured properties and characteristics. Group 1 lab course. Group 1 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 109L

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 distance.

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 of the information gathered.

Human Dimension:

- Work together in groups as well as individually during lab assignments.
- Recognize the importance of collaboration and learn to utilize data from others.

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.