



AST 305 Observational Astronomy

Course Description

This course stresses the fundamentals of practical sky observing including visual, photographic, and photometric techniques using the telescopes at the SFA Observatory. Class meets two hours of lecture and three hours of lab per week.

Course Corequisite

- Observational Astronomy laboratory (AST 305L)

Course Prerequisites

- Plane Trigonometry (MTH 133)
- College Algebra (MTH 138)

Specific Course Requirements

Textbook Requirements

See current semester textbook list at <http://www.physics.sfasu.edu/docs/books.pdf>

Course Objectives

The course is designed to give you experience with observational astronomy in the visible part of the spectrum. In particular, you will be introduced to the methods for finding and identifying celestial objects as well as learn about the process of making observations, including operation of an observatory, telescope and related equipment.

Student Learning Outcomes

By the end of the course, a successful student will be able to:

- Demonstrate an understanding of how to find and identify celestial objects.
- Identify the different types of telescopes, cameras, and detectors used by astronomers.
- Independently repeat the process of making observations, including operation of an observatory, telescopes and related equipment.
- Produce quality images and graphs using advanced techniques for reducing observations by converting raw observations into physical quantities which can be used to evaluate theoretical models.

Course Content

- Telescopes
- Star Charts
- Image Processing
- Practical Astronomy with a Calculator
- CCD Cameras
- Data Reduction

Course Assessment

Final course grade will be computed using exam scores, homework average, in-class assignments, quizzes and team projects.