



NORTHWEST FLORIDA STATE COLLEGE

Course Syllabus

Course Name: Descriptive Astronomy

Course Number: AST1002

Section: 10089

Location: ONLINE

Class Meeting Times: ONLINE

Credit Hours: 3

Instructor Name: Dr. Christopher Sweeney

Instructor Office Location: 350/209 Niceville Campus

Instructor Email: sweeneyc@nwfsc.edu

Course Curriculum

This course provides a comprehensive look at modern astronomy, emphasizing the use of the scientific method and the application of physical laws to understand the Universe including Earth and its environment. Throughout this course, students will develop the ability to discern scientific knowledge from non-scientific claims by using critical thinking.

Goals

- Students will use critical thinking skills to appreciate the nature and history of scientific theory.
- Students will learn the essentials of planetary science by examining our own and other solar systems.
- Students will become familiar with the basics of stellar structure and dynamics by examining our Sun and other stars. This will include a treatment of the nuclear fusion reactions common in stars.
- Students will develop an understanding of the rudiments of galactic structure and development.
- Students will learn the essentials of cosmology by studying the history, present, and future of the Universe.

Objectives

Student Learning Outcomes:

- Students will define terms used to measure and describe the universe.
- Students will explain the processes involved in the formation and evolution of celestial bodies over astronomical time according to different models and theories.
- Students will describe how scientific theories evolve in response to new observations and critically evaluate their impact on society.
- Students will formulate empirically testable hypotheses derived from the study of physical processes and phenomena.
- Students will apply logical reasoning skills through scientific criticism and argument to separate science from non-science.
- Students will gather and analyze astronomical data and communicate results in graphic and written forms.

Student Expectations of the Course

In this course, students may expect:

- To be instructed by a professor credentialed with earned graduate research degree(s) in physics and/or astronomy from regionally accredited institutions
- To be clearly informed of all course requirements and expectations
- To have an on-campus professor readily available in-person for consultation about the course
- To gain a comprehensive descriptive knowledge of astronomy

How Student Performance will be Measured

- Students will take six 50-point examinations, including a final examination.
- Each examination will cover a topical portion of the course.
- The examinations are not comprehensive.
- The final grade will be determined from the average of the highest five scores on the six tests.