COCONINO COMMUNITY COLLEGE
COURSE OUTLINE

Prepared by: RHONDA L. SHAESSER MATPhS                                                             Date: December 4, 1991
Revised by: Carl Sheperd                                                                                                              Date: September 13, 1996
Revised by: Carl Sheperd                                                                                  Date: October 15, 1998
General Education criteria reviewed by: Carl Sheperd                                                            Date: October 15, 1998
General Education Outcomes reviewed by: Carl Sheperd                                                            Date: March 23, 2001
Status: Permanent

A. **Identification:**
   1. Subject Area: Physics
   2. Course Number: PHY 180
   3. Course Title: INTRODUCTION TO ASTRONOMY
   4. Credit Hrs: 4
   5. Catalog Description:
      Motion and structure of the sun, planets, constellations, comets, asteroids, and meteors. Cosmic
      explosions, quasars, and stellar evolution including white dwarfs, neutron stars and black holes. Lab
      component requires numerous night observations. General Education: Lab Sciences. Three
      lecture; three lab.

B. **Course Goals:**
   Introduce students to the science of astronomy. Become sufficiently familiar with the night sky to recognize
   the brighter stars, planets and constellations.

C. **Course Outcomes:**
   Students will:
   1. Compare the early historical ideas of astronomy with the modern theories of astronomy
   2. Learn the basic characteristics of the sun, planets, moons and the minor members of the solar system
   3. Discover the types of information gathered by planetary probes
   4. Explain the general theories of the origin and evolution of the solar system
   5. State the basic properties of electromagnetic radiation
   6. Describe the basic methods involved in determining the distances, masses and sizes of stars
   7. Describe the methods used by astronomers to measure and classify the brightness of stars
   8. State the characteristics of gaseous nebulas, star clusters, and variable stars
   9. Explain the theories involved in stellar energy generation and stellar evolution
   10. State the characteristics of our galaxy and compare these with other galaxies
   11. Discuss the current theories of the origin of the universe
   12. Name and construct the hierarchy of objects in the observable universe

D. **Course Outcomes Assessment:**
   Will include:
   1. Comprehensive final exam
   2. Lab practical: comprehensive knowledge of the sky.

D. **Course Content:**
   Will include:
   1. Historical Perspectives
   2. Astronomical Observations
   3. Moon, Sun and Planets
   4. Asteroids, Meteors and Comets
   5. Stars: composition, birth, evolution and death
   6. Cosmology