

Course Outline for: PHYS 1104 Survey of Astronomy**A. Course Description:**

1. Number of credits: 3
2. Lecture hours per week: 3
3. Prerequisites: None
4. Corequisites: None
5. MnTC Goals: Goal #3 - Natural Sciences

Explore the universe around us in a survey course focusing on scales and structures of the universe, observable motions of the sun, moon, and stars, patterns within the solar system, life cycles of stars, and evolution of the universe. Additional topics may include telescopes and light, planetary science, extrasolar planet discovery, and space exploration.

B. Date last reviewed/updated: February 2025**C. Outline of Major Content Areas:**

1. Naked eye observing of the celestial sphere
2. Planets
3. Stars and stellar evolution
4. Galaxies
5. Cosmology

D. Course Learning Outcomes:

Upon successful completion of the course, the student will be able to:

1. Describe significant discoveries leading to the development of modern astronomy. (Goal 3a)
2. Explain the use of the basic tools of astronomical measurement. (Goal 3a)
3. Explain the application of the laws of physics to astronomical measurements. (Goal 3a)
4. Explain the relationship between astronomical observations and astronomical theories both orally and in writing. (Goal 3a, 3c)
5. Defend the modern understanding of the evolution of the universe and its contents (e.g., planets, stars, etc.) both orally and in writing. (Goal 3a, 3c, 3d, 2c)
6. Distinguish the classifications and features of various astronomical objects (e.g., planetary, stellar, and galactic). (Goal 3a, 2a)
7. Apply astronomical terms when discussing related topics. (Goal 3a)

E. Methods for Assessing Student Learning:

Methods for assessment may include, but are not limited to, the following:

1. Written and/or oral reports
2. Homework

3. Projects
4. Quizzes
5. Exams

F. Special Information:
None