I. Course Title
   • Introduction to Astronomy

II. Course Prefix/Number
   • PHYS 201

III. Credit Hours
   • 4.0

IV. Prerequisites
   • none

V. Catalog Description
   • An introductory course in astronomy including historical astronomy, solar system astronomy, the life cycle of stars, the structure of the galaxy, telescope usage, identification of constellations, the apparent motion of celestial objects as seen from Earth, and other topics as time permits. Lab activities are an essential component of the course. Students are required to attend a minimum of two evening viewing sessions during the semester.

VI. Curricular Relationships
   • This course can be used to help satisfy the general education science requirements.
   • This course is a required course in the Earth Science – Secondary Licensure degree and will count toward a minor in general science.

VII. Student Learning Outcomes
   • Students will be able to discuss the process of science and scientific discovery.
   • Students will be able to discuss and describe, from a historical perspective, the development of astronomy as a science.
   • Students will demonstrate an ability to write effectively.
   • Students will be able to identify constellations with the unaided eye.
   • Students will demonstrate an understanding of how and why celestial bodies move in relation to one another and in relation to Earth.
   • Students will demonstrate an understanding of the course structure of the solar system and galaxy.
• Students will be able to articulate links between society, science, and technology.

VIII. Content Outline

Using a strong emphasis on the process of science, the lecture component covers:

1. Historical Astronomy (up to approximately 1700 A.D.),
   a) development of different models of the solar system,
   b) astronomy in different cultures,
   c) relationship between astronomy and society, and
   d) radiation and telescopes.

2. Solar System Astronomy:
   a) motions within the solar system and implications,
   b) theory on the evolution of the solar system and its implications, and
   c) current understanding of the planets, moons, comets and asteroids.

3. Frontiers of Astronomy:
   a) structure of the galaxy,
   b) life cycle of stars,
   c) structure and possible evolution of the universe, and
   d) techniques for measuring distances.

The laboratory component of the course covers:

1. telescope usage,
2. constellations,
3. predicting stellar positions,
4. sunspot patterns, and
5. evening viewings.

IX. Course Procedures/Policies/Grading Scale

• The laboratory component is combined with the lecture component to produce a single grade. Students must take both the laboratory and the lecture concurrently.
• Laboratory exercises can not be ‘made up’. Late students will not be allowed into the planetarium. Hence, they will receive no credit for that particular laboratory.
• Written papers are required.
• Typically three tests and one comprehensive final are given.
• A minimum of two evening viewings are required. Students must make a report on each viewing.

X. Required/Recommended Readings

• This course will use a standard introductory astronomy textbook such as Astronomy Today by Chaisson and McMillan (5th ed. Prentice Hall Publishing)

XI. Issues Unique to this Course

• Laboratories are held in the planetarium and, weather permitting, outside. The dependence on weather prohibits a rigid schedule of laboratory exercises.

XII. Additional Departmental Issues

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