JEFFERSON COLLEGE
COURSE SYLLABUS

PHY106
INTRODUCTION TO ASTRONOMY
4 Credit Hours

Prepared by: Tom Schuessler

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by
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Arts & Science Education
Dr. Mindy Selsor, Dean
PHY106  Introduction to Astronomy

I.  CATALOGUE DESCRIPTION

A.  Prerequisite: None

B.  4 credit hours

C.  Introduction to Astronomy is a General Education course which is designed to acquaint students with the structure of our solar system and the universe. Three lectures and one two-hour lab per week. Two Saturday four-hour observation nights are included as part of the lab. This course fulfills part of the Core science requirement for the Associate of Arts degree (F).

II.  EXPECTED LEARNING OUTCOMES/ASSESSMENT MEASURES

| Students shall be able to understand the motions of celestial bodies as viewed from the earth. | Exams & pop-quizzes & lab reports |
| Students shall be able to identify and locate 10 major constellations. | Exams & lab reports |
| Students shall be able to use a telescope. | Lab reports & exams |
| Students shall be able to understand the basic structure of our solar system and its components. | Exams, assignments, & pop-quizzes |
| Students shall be able to understand the basic structure of the universe and its components. | Exams, pop-quizzes, or assignments |

III.  COURSE OUTLINE WITH UNIT OBJECTIVES

A.  Earth Based Observations
   1.  Explain the geocentric solar system and the changes introduced by the heliocentric solar system.
   2.  Explain how gravity affects the motion of celestial bodies.
   3.  Describe the nature of light and its relationship to atomic structure.
   4.  Explain the general properties of various telescopes and their use as observational tools.

B.  Stars
   1.  Explain the structure of our sun as a star.
   2.  Explain the various methods of measuring the properties of distant stars.
   3.  Describe the theories of the formation and evolution of stars.
   4.  Describe the results of supernovae.
C. Cosmology
   1. Describe the structure and components of our galaxy, the Milky Way.
   2. Describe methods of measuring the properties of distant galaxies.
   3. Describe the various types of galaxies thus far discovered.
   4. Explain the current theories concerning the galaxies and the formation of the universe.

D. Our Solar System
   1. Describe the general structure of our solar system.
   2. Describe the properties of the terrestrial planets.
   3. Describe the properties of the outer planets.
   4. Describe the properties of the dwarf planets.
   5. Describe the differences between meteors, asteroids, and comets.
   6. Describe the properties of other solar bodies.
   7. Explain current theories on the formation of our solar system.

IV. METHOD OF INSTRUCTION
   Lecture, Video, Discussion, Demonstration, Laboratory

V. REQUIRED TEXTBOOK
   Explorations by Thomas T Arny, Starry Night Pro CD, McGraw- Hill Company (most recent edition)

VI. REQUIRED MATERIALS
   None

VII. SUPPLEMENTAL REFERENCES
   None

VIII. METHOD OF EVALUATION
   A. Exams 40%
   B. Assignments/ Pop-quizzes 10%
   C. Laboratory 20%
   D. Term Project 10%
   E. Final 20%
F. Random pop-quizzes may be utilized to determine students’ understanding of current material.

G. Exams and labs may be used to evaluate the students’ overall understanding of each section.

H. Should there be a problem with comprehension of a given area, review and retesting may be done.

IX. ADA STATEMENT

Any student requiring special accommodations should inform the instructor and the Coordinator of Disability Support Services (Library; phone 636-797-300, ext. 169).

X. ACADEMIC HONESTY STATEMENT

All students are responsible for complying with campus policies as stated in the Student Handbook (see College Website).