

Las Positas College
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Course Outline for ASTR 1
PRINCIPLES ASTRO/ASTROPHYSICS
Effective: Fall 1993

I. CATALOG DESCRIPTION:

ASTR 1 — PRINCIPLES ASTRO/ASTROPHYSICS — 3.00 units

Survey of astronomy exploring topics using intermediate mathematics, including college algebra and trigonometry. Includes planets, their motions, the sun and stars, stellar structure and evolution, black holes, galaxies, cosmology, and cosmology. A companion science lab, Astronomy 30 is available. Strongly recommended: Mathematics 36 and Physics 2A, 4A or 10.

3.00 Units Lecture

Strongly Recommended

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and

PHYS 2A - Introduction to Physics I

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or

PHYS 10 - Descriptive Physics

Grading Methods:

Discipline:

	MIN
Lecture Hours:	54.00
Total Hours:	54.00

II. NUMBER OF TIMES COURSE MAY BE TAKEN FOR CREDIT: 1

III. PREREQUISITE AND/OR ADVISORY SKILLS:

Before entering this course, it is strongly recommended that the student should be able to:

- A. PHYS2A
- B. PHYS10

IV. MEASURABLE OBJECTIVES:

Upon completion of this course, the student should be able to:

1. understand specific basic concepts of astronomy utilizing algebra and trigonometry
2. learn of current areas of astronomical research from reading scientific journals and periodicals.

V. CONTENT:

- A. Introduction to the earth and sky
- B. Historical models of the solar system
- C. Planetary motions and Kepler's Laws
- D. Newton's Laws of Motions applied to astronomy
- E. Planets and the solar system
- F. Motions of the moon and other satellites
- G. Comets, meteors, asteroids
- H. The sun as a star
 - I. Starts, stellar properties, distance measurements, and evolution
- J. Black holes
- K. Star clusters and galaxies
- L. Cosmology
- M. Search for extraterrestrial life

VI. METHODS OF INSTRUCTION:

- A. **Lecture** -
- B. **Demonstration** - Planetarium demonstrations.

- C. **Audio-visual Activity** - Slides, movies, audio presentations.
- D. **Discussion** -

VII. TYPICAL ASSIGNMENTS:

VIII. EVALUATION:

A. **Methods**

- 1. Quizzes
- 2. Home Work

B. **Frequency**

IX. TYPICAL TEXTS:

- 1. Smith & Jacobs *Introductory Astronomy and Astrophysics*., Wiley Publishers, 0.

X. OTHER MATERIALS REQUIRED OF STUDENTS: