

In accordance with [Board of Regents policy 3.20](#), the following required information is available below:

Fall 2026

I. Course title and number as designated in the institutional course catalog

EARTHSCI 1100 Astronomy 01

II. A course description including learning objectives that students are expected to achieve by the end of the course

A. Course Description:

Introduction to the Universe, Solar System, stars, and galaxies, including apparent motions of bodies in the sky; development of astronomy and its impact on humankind. Discussion, 3 periods.

B. Course Level Learning Objectives:

Upon completion of this course, students will be able to:

- explain how astronomical cycles and locations affect our view of the sky.
- trace the development of astronomical and astrophysical theories throughout history.
- describe the characteristics and evolution of objects in the Universe.
- apply appropriate mathematical ‘laws’ to provide quantitative information about objects in the Universe.



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III. A general outline of the topics to be covered throughout the course:

- i. History of Astronomy
 - a. Early Astronomy
 - b. Copernicus, Brahe, and Kepler
- ii. The Naked Eye Sky
 - a. The Celestial Sphere
 - b. The Ecliptic
 - c. Seasons
 - d. The Calendar
 - e. Phases of the Moon
 - f. Eclipses
- iii. Light
 - a. Electromagnetic Radiation
 - b. The Telescope
- iv. Introduction to the Solar System
 - a. Apparent Versus Physical Size
 - b. Ways of Classifying Planets
- v. Terrestrial Worlds
 - a. Mercury and the Moon
 - b. Venus
 - c. The Earth
 - d. Mars
 - e. Asteroids and Meteoroids
- vi. Jovian Worlds
 - a. Jupiter
 - b. The Outermost Planets
- vii. Ice Worlds
 - a. Icy Satellites
 - b. Kuiper Belt Objects (Example = Pluto)
 - c. Comets
- viii. Formation of the Solar System



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- ix. Spectroscopy
- x. Properties of Stars
 - a. The Sun
 - b. Stellar Distance
 - c. Stellar Brightness and Luminosity
- xi. Stellar Evolution
 - a. The Hertzsprung-Russell Diagram
 - b. Life Stories of Stars
 - c. Stellar End States
- xii. Galaxies
 - a. The Milky Way Galaxy
 - b. Other Galaxies
- xii. Cosmology and Cosmogony
 - a. The Expansion of the Universe
 - b. The Big Bang

IV. List of required textbooks, readings, and other materials necessary for the course

Explorations: An *Introduction to Astronomy*
Thomas T. Arny & Stephen E. Schneider
New York, New York: McGraw Hill (10th Edition; 2024)

V. General description of the types of assessments used in the course (e.g., exams, papers, projects, experiential learning):

- Examinations
- Homework