

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 1110 Astronomy Laboratory, 04

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

A. Course Description:

EARTHSCI 1110 (870:011). Astronomy Laboratory — 1 hr.
Exploration of astronomical phenomena through the use of telescopes, charts, computer simulations, and other laboratory equipment. Students will derive the characteristics of astronomical objects and examine their behavior. Student Learning Outcomes include Critical Thinking and Scientific Reasoning. Lab, 2 periods.

B. Course Level Learning Objectives:

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

1. Use the tools of astronomy and physics to obtain information about objects in the universe.
2. Apply the appropriate astronomy and physics laws to provide quantitative information about objects in the universe.
3. Evaluate astronomical data and draw conclusions about the characteristics of objects in the universe.

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

1. Methods for quantifying the sky – star charts, celestial spheres, planetarium, angular separation/physical distances relationship, etc.
2. Observational characteristics of the seasons and lunar phases



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3. Basic properties of tools to observe the sky: eyes, binoculars, and telescopes
4. Observations and deriving characteristics of various objects (via simulations and images)
 - a. Solar Activities
 - b. Determining the masses of the Sun and other stars
 - c. Stellar properties
 - d. Supernova, current and historic
 - e. Kuiper Belt objects
 - f. Quantifying the damage of meteorite impacts on the Earth
 - g. Determining a value for Hubble's Law and the age of the Universe

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

Weekly laboratory assignments will be provided at no charge to students.

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

Laboratory assignments are the sole source of evaluation. These are graded on mathematical calculations, correct explanations, grammar, and use of equipment.