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Governing Iowa's Public Universities

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 3135 Stars, Galaxies and the Universe

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

A. Course Description:

Study of aspects of the Universe beyond the solar system. Topics include the structure and evolution of stars, red giants, white dwarfs, supernovae, pulsars, black holes, the Milky Way galaxy, active galaxies, extragalactic structures, quasars, supermassive black holes, and the origin, evolution, and structure of the Universe. Discussion, 3 periods.

B. Course Level Learning Objectives:

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

- Describe the characteristics and evolution of stars, galaxies, and the Universe.
- Apply the appropriate astronomical and physical laws to provide quantitative information about objects ranging from stars to the entire Universe.

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

- Physical and observed properties of stars
- Stellar physics, models and evolutionary trends
- Evolution of low and high mass stars
- The Milky Way and other galaxies
- Physical properties and evolutionary trends of galaxies
- Large-scale structure and observed characteristics of the Universe
- Evolution of the Universe

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

Course material is provided at no charge and is produced by faculty. Material includes 16 chapters of topics.

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

Exams and homework assignments.