

ASTR 302 – Stars and Galaxies (3) Course Outline

Quantitative and descriptive properties of the stars, galaxies, and interstellar media; including stellar structure and evolution, structure and make-up of galaxies and cosmological models.

3 lectures. **Prerequisite:** PHYS 132 or PHYS 122 and MATH 141 or MATH 161. ASTR 301 is not a prerequisite.

Learning Objectives and Criteria:

The expected outcomes are:

- (1) A better understanding of the applications of physical laws and mathematical principals to stars and galaxies
- (2) An understanding and knowledge of the principals, methods and techniques of astronomical investigation
- (3) An understanding and knowledge of the constitution, formation and evolution of the stars and galaxies

Text and References:

Freedman & Kaufmann, *Universe*, WH Freeman

Zeilik & Gregory, *Introductory Astronomy and Astrophysics*, Saunders College Publishers

Content and Method:

Method: ASTR 302 is offered in a traditional lecture format. It meets a total of 3 hours a week.

Content: ASTR 302 will adhere to the following topics:

- Stellar populations
- Nebulae
- The Milky Way galaxy
- Exterior galaxies and objects

Lectures:

The approach is on both a descriptive and quantitative basis, emphasizing the application of mathematics and of physical laws.

A student observatory with at least one telescope is available.

The student is expected to study the text and necessary references.

Methods of Assessment:

Student accomplishment is measured by examinations, projects, and assigned problems.