**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

**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.