ASTRONOMY AND ASTROPHYSICS

Curious about what’s out there? Students who are comfortable with mathematics and physics and who want to understand the nature of the Solar System and other planetary systems, stars, galaxies and/or the universe are encouraged to pursue a B.A. in astronomy or a B.S. in astrophysics.

About this Program

• **College:** Liberal Arts and Sciences
• **Degrees:** Bachelor of Arts in Astronomy | Bachelor of Science in Astrophysics
• **Credits for Degree:** 120
• **Additional Information**
• **Related Astronomy Programs**

To graduate with this major, students must complete all university, college, and major requirements.

Astronomy and astrophysics provide knowledge of basic concepts, theories and observational findings concerning the structure and evolution of planetary systems, stars, stellar systems such as galaxies, and cosmology. Students will learn scientific methodology and its application in specific contexts, the use of observations in testing hypotheses and the limitations of astronomical observations as well as how to critically evaluate them.

The Bachelor of Arts in Astronomy enables students to become familiar with modern physics and to understand mathematics, including calculus. The Bachelor of Science in Astrophysics enables students to understand the basic concepts, theories and experimental findings in modern physics, electricity and magnetism, and mechanics as they apply to astronomy and astrophysics.

Before Graduating Students Must

• Demonstrate satisfactory (minimum grades of C) performance on a selection of coursework from each of the 4000-level astronomy courses as graded by a faculty committee independent of the instructor and not as part of the course grade.
• Complete requirements for the baccalaureate degree, as determined by faculty.

Students in the Major Will Learn to

Student Learning Outcomes (SLOs)

**Content**

1. **Bachelor of Arts in Astronomy**
   Identify, describe and define the fundamentals of astronomy, including the basic concepts, theories and observational results for planetary systems, stars, stellar systems and cosmology.

2. **Bachelor of Science in Astrophysics**
   Identify, describe and define the fundamentals of astrophysics, including mechanics, electromagnetism, modern physics and the basic concepts, theories and observational results for planetary systems, stars, stellar systems and cosmology.

3. **Critical Thinking**
   Critically evaluate results of astronomical research.

4. **Communication**
   Effectively and clearly communicate ideas and results in speech and in writing in an accepted style of presentation.

**Curriculum Map: B.A. and B.S.**

I = Introduced; R = Reinforced; A = Assessed

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**Assessment Types for Both Degrees**

• Exams
• Portfolios
• Papers
• Oral presentations