### ASTRONOMY, BSLAS

**for the degree of Bachelor of Science in Liberal Arts & Sciences Major in Astronomy**

The Department of Astronomy also offers a BSLAS in Computer Science & Astronomy (http://catalog.illinois.edu/undergraduate/eng_las/computer-science-astronomy-bs/) for the degree of Bachelor of Science in Liberal Arts & Sciences Major in Astronomy

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**Departmental distinction:** A student majoring in astronomy may earn distinction or high distinction by attaining a minimum grade point average of 3.4 or 3.75, respectively, in required major courses (defined in the table below) taken at UIUC. For highest distinction, in addition to meeting the minimum requirements for high distinction, a senior thesis (ASTR 490) must be completed with strong endorsement by the research supervisor. Questions about eligibility for distinction status should be directed to an astronomy advisor before the senior year.

**General education:** Students must complete the Campus General Education (https://courses.illinois.edu/gened/DEFAULT/DEFAULT/) requirements including the campus general education language requirement.

**Minimum required major and supporting course work:** Normally equates to 47-48 hours. Twelve hours of 300- and 400-level in the major must be taken on this campus.

**Minimum hours required for graduation:** 120 hours.

#### Code | Title | Hours
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ASTR 210 | Introduction to Astrophysics | 3
Select three of the following: | 9-10
ASTR 404 | Stellar Astrophysics | 4
ASTR 405 | Planetary Systems | 3
ASTR 406 | Galaxies and the Universe | 3
ASTR 414 | Astronomical Techniques | 1
Select at least 12 hours of 300- or 400-level ASTR or PHYS courses | 12

#### Supporting Technical Courses

- **Physics**
  - PHYS 211 | University Physics: Mechanics | 4
  - PHYS 212 | University Physics: Elec & Mag | 3
  - PHYS 213 | Univ Physics: Thermal Physics | 3
  - PHYS 214 | Univ Physics: Quantum Physics | 1

- **Mathematics**
  - MATH 221 | Calculus I | 4
  - MATH 231 | Calculus II | 3
  - MATH 241 | Calculus III | 1

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1. **Students without a background in physics or astronomy are encouraged to take ASTR 121 and ASTR 122 during their freshman year.**
2. **Other 300- or 400-level technical classes, e.g. chemistry, computer science engineering, or statistics can be substituted with academic adviser approval.**
3. **A maximum of 4 hours of credit in ASTR 390 (or equivalent “Independent Study” course, such as PHYS 497) can be counted towards this requirement.**
4. **MATH 220 may be substituted for MATH 221. MATH 220 is appropriate for students with no background in calculus.**

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Undergraduate Astronomy majors will graduate with a demonstrated ability to:

**LO1.** Understand the hierarchical architecture of the cosmos, increasing in scale from the Solar System to the Galaxy to the Universe, and decreasing in scale to atoms and their nuclei. Understand the interplay among these scales.

**LO2.** Define and use fundamental principles and techniques of astronomy and astrophysics.

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*Information listed in this catalog is current as of 11/2022*
• Identify which principles should be applied to a specified situation
• Show familiarity with astronomical observables and their physical origin.
• Understand and apply basic physics and computational techniques to solve problems in astrophysics, and interpret the results.

L03. Analyze astronomical data, and quantitative data generally.
• Demonstrate the ability to link observation and theory.
• Demonstrate the ability to draw qualitative conclusions from quantitative information, and vice versa.
• Demonstrate the ability to plan observational programs, use astronomical telescopes and instrumentation, and to analyze and present astronomical data.

L04. Plan and perform guided research, or attain an advanced-level understanding of a topic of contemporary interest in astronomy and astrophysics.

L05. Demonstrate the ability to communicate effectively both verbally and in writing.

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department website: https://astro.illinois.edu/
department faculty: Astronomy Faculty (https://astro.illinois.edu/directory/faculty/)
advising: Astronomy advising (https://astro.illinois.edu/academics/undergraduate-program/)
overview of college admissions & requirements: Liberal Arts & Sciences (http://catalog.illinois.edu/schools/las/)
college website: https://las.illinois.edu/