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/).

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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.

Graduation Requirements

Minimum hours required for graduation: 120 hours.

Minimum required major and supporting course work normally equates to 48-51 hours. Twelve hours of 300- and 400-level in the major must be taken on this campus.

University Requirements

Minimum of 40 hours of upper-division coursework, generally at the 300- or 400-level. These hours can be drawn from all elements of the degree. Students should consult their academic advisor for additional guidance in fulfilling this requirement.

The university and residency requirements can be found in the Student Code (https://studentcode.illinois.edu/article3/part8/3-801/) (§ 3-801) and in the Academic Catalog (http://catalog.illinois.edu/general-information/degree-general-education-requirements/).

General Education Requirements

Follows the campus General Education (Gen Ed) requirements (https://courses.illinois.edu/gened/DEFAULT/DEFAULT/). Some Gen Ed requirements may be met by courses required and/or electives in the program.

Code	Title	Hours
Composition I		4-6
Advanced Composition		3
Humanities & the Arts (6 hours)		6
Natural Sciences & Technology (6 hours)		6
fulfilled by PHYS 211, PHYS 212		
Social & Behavioral Sciences (6 hours)		6
Cultural Studies: Non-Western Cultures (1 course)		3
Cultural Studies: US Minority Cultures (1 course)		3
Cultural Studies: Western/Comparative Cultures (1 course)		3
Quantitative Reasoning (2 courses, at least one course must be Quantitative Reasoning I)		6-10
fulfilled by MATH 220 or MATH 221; and MATH 231, MATH 241, PHYS 211, PHYS 212		
Language Requirement (Completion of the fourth semester or equivalent of a language other than English is required)		0-20

Code	Title	Hours
Orientation and Professional Development		
LAS 101	Design Your First Year Experience	1
OR		
LAS 100 & LAS 101	Success in LAS for International Students and Design Your First Year Experience	3
OR		
LAS 102	Transfer Advantage	1
Total Hours		1 or 3

Code	Title	Hours
Astronomy Core		
ASTR 210	Introduction to Astrophysics (Students without a background in physics or astronomy are encouraged to take ASTR121 and ASTR122 during their freshman year.)	3
ASTR 310	Computing in Astronomy	3
Select three of the following:		9-10
ASTR 404	Stellar Astrophysics	
ASTR 405	Planetary Systems	
ASTR 406	Galaxies and the Universe	
ASTR 414	Astronomical Techniques	
Select at least an additional 9 hours of 300- or 400-level ASTR or PHYS courses (Other 300- or 400-level technical classes, e.g. chemistry, computer science engineering, or statistics can be substituted with academic adviser approval. Additionally, 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.)		9
Supporting Technical Courses		
Physics		12
PHYS 211	University Physics: Mechanics	
PHYS 212	University Physics: Elec & Mag	
PHYS 213	Univ Physics: Thermal Physics	
PHYS 214	Univ Physics: Quantum Physics	
Mathematics		11
MATH 221	Calculus I (MATH 220 may be substituted for MATH 221. MATH 220 is appropriate for students with no background in calculus.)	
MATH 231	Calculus II	
MATH 241	Calculus III	
Total Hours		**47-48**

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Sample Sequence

This sample sequence is intended to be used only as a guide for degree completion. All students should work individually with their academic advisors to decide the actual course selection and sequence that works

best for them based on their academic preparation and goals. Enrichment programming such as study abroad, minors, internships, and so on may impact the structure of this four-year plan. Course availability is not guaranteed during the semester indicated in the sample sequence.

Students must fulfill their Language Other Than English requirement by successfully completing a fourth level of a language other than English. See the corresponding section on the Degree and General Education Requirements page *(*http://catalog.illinois.edu/general-information/degree-general-education-requirements/*).*

First Year

First Semester	Hours		Second Semester	Hours
Free elective course		1	MATH 231	3
MATH 221 (or MATH 220)		4	PHYS 211	4
Language Other than English (3rd level)		4	Language Other than English (4th level)	4
Composition I or General Education course		4	General Education course or Composition I	3
Free elective course		3		
	16			**14**

Second Year

First Semester	Hours		Second Semester	Hours
MATH 241		4	ASTR 210	3
PHYS 212		4	PHYS 213	2
General Education course		3	PHYS 214	2
General Education course		3	General Education course	3
			Free elective course	3
			Free elective course	3
	14			**16**

Third Year

First Semester	Hours		Second Semester	Hours
ASTR Core course		3	ASTR Core Course	3
ASTR or PHYS 300- or 400-level course		3	ASTR or PHYS 300- or 400-level course	3
General Education course		3	General Education Course	3
General Education course		3	Free elective course	3
Free elective course		3	Free elective course	3
	15			**15**

Fourth Year

First Semester	Hours		Second Semester	Hours
ASTR Core course		3	ASTR or PHYS 300-or 400-level course	3
ASTR or PHYS 300- or 400- level course		3	General Education course	3
Free elective course		3	Free elective course	3
Free elective course		3	Free elective course	3
Free elective course		3	Free elective course	3
	15			**15**

Total Hours 120

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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.

- 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.

LO3. 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.

LO4. Plan and perform guided research, or attain an advanced-level understanding of a topic of contemporary interest in astronomy and astrophysics.

LO5. Demonstrate the ability to communicate effectively both verbally and in writing.

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Department of Astronomy website (https://astro.illinois.edu/)
Astronomy faculty (https://astro.illinois.edu/directory/faculty/)

Astronomy advising (https://astro.illinois.edu/academics/undergraduate-program/)

Overview of College Admissions & Requirements: Liberal Arts & Sciences (http://catalog.illinois.edu/schools/las/)
College of Liberal Arts and Sciences website (https://las.illinois.edu/)