

# BACHELOR OF SCIENCE IN ASTROPHYSICS

The astrophysics program emphasizes the physics of stars, galaxies, planets/planetary systems, and cosmology/relativity, and also introduces observational best practices and instrumentation used in modern astrophysics. Graduates move on to jobs in government, universities, the private sector, or teaching positions in middle school and high school. Others continue on to obtain a master's degree or a Ph.D. The program is designed so that obtaining dual degrees in astrophysics and physics can be accomplished in four years of study.

## Required Courses

Code	Title	Credit Hours
<b>Physics Requirements</b>		(43)
PHYS 100	Intro to the Profession	2
PHYS 123	General Physics I: Mechanics	4
PHYS 221	Gen Physics II: Elect&Magntism	4
PHYS 223	General Physics III	4
PHYS 240	Computational Science	3
PHYS 301	Math Methods of Physics	3
PHYS 304	Thermodynmics&Statistical Phys	3
PHYS 308	Classical Mechanics I	3
PHYS 309	Classical Mechanics II	3
PHYS 348	Modern Physics for Scntst&Engr	3
PHYS 405	Fndmntls of Quantum Theory I	3
PHYS 413	Electromagnetism I	3
PHYS 427	Advanced Physics Lab I	3
PHYS 485	Physics Colloquium	1
PHYS 485	Physics Colloquium	1
<b>Astronomy Requirements</b>		(16)
PHYS 360	Introduction to Astrophysics	3
PHYS 361	Observational Astrophysics	4
PHYS 403	Relativity	3
PHYS 460	Stellar Astrophysics	3
PHYS 461	Extragalactic Astrophysics	3
<b>Mathematics Requirements</b>		(18)
MATH 151	Calculus I	5
MATH 152	Calculus II	5
MATH 251	Multivariate & Vector Calculus	4
MATH 252	Introduction to Diff Equations	4
<b>Chemistry Requirements</b>		(8)
CHEM 124	Princ of Chemistry I with Lab	4
CHEM 125	Prin of Chemistry II w/Lab	4
<b>Computer Science Requirement</b>		(2)
CS 105	Intro to Computer Programming	2
<b>Humanities and Social Science Requirements</b>		(21)
See Illinois Tech Core Curriculum, sections B and C		21
<b>Interprofessional Projects (IPRO)</b>		(6)
See Illinois Tech Core Curriculum, section E		6
<b>Free Electives</b>		(12)
Select 12 credit hours		12
<b>Total Credit Hours</b>		<b>126</b>

## Bachelor of Science in Astrophysics Curriculum

		Year 1	
Semester 1	Credit Hours	Semester 2	Credit Hours
PHYS 100		2 PHYS 221	4
PHYS 123		4 MATH 152	5
MATH 151		5 CHEM 125	4
CHEM 124		4 Humanities or Social Sciences Elective	3
		15	16
		Year 2	
Semester 1	Credit Hours	Semester 2	Credit Hours
PHYS 223		4 PHYS 240	3
MATH 251		4 PHYS 348	3
CS 105		2 PHYS 360	3
Humanities 200-level Course		3 MATH 252	4
Social Sciences Elective		3 Humanities Elective (300+)	3
		16	16
		Year 3	
Semester 1	Credit Hours	Semester 2	Credit Hours
PHYS 301		3 PHYS 309	3
PHYS 308		3 PHYS 460 <sup>3</sup>	3
PHYS 361 <sup>1</sup>		4 Free Elective	3
PHYS 405 <sup>2</sup>		3 IPRO Elective I	3
Social Sciences Elective (300+)		3 Social Sciences Elective (300+)	3
		16	15
		Year 4	
Semester 1	Credit Hours	Semester 2	Credit Hours
PHYS 413		3 PHYS 304	3
PHYS 427		3 PHYS 403 <sup>3</sup>	3
PHYS 461 <sup>3</sup>		3 PHYS 485	1
PHYS 485		1 IPRO Elective II	3
Free Elective		3 Free Elective	3
Humanities Elective (300+)		3 Free Elective	3
		16	16

Total Credit Hours: 126

<sup>1</sup> PHYS 361 is offered every other fall semester.

<sup>2</sup> PHYS 405 can also be taken in the 7th semester with a free elective moved to the 5th semester.

<sup>3</sup> These three courses will be offered in a three-semester rotation and taken by 3rd and 4th year students together.