

BACHELOR OF SCIENCE IN ASTROPHYSICS WITH ARTIFICIAL INTELLIGENCE*

* Indicates that this program is an Incubator Program. Please visit Incubator Programs for more information.

Required Courses

Code	Title	Credit Hours
Physics Requirements (37)		
PHYS 100	Intro to the Profession	2
PHYS 123	General Physics I: Mechanics	4
PHYS 221	General Physics II: Electricity and Magnetism	4
PHYS 223	General Physics III	4
PHYS 240	Computational Science	3
PHYS 301	Mathematical Methods of Physics	3
PHYS 304	Thermodynamics and Statistical Physics	3
PHYS 308	Classical Mechanics I	3
PHYS 405	Fundamentals of Quantum Theory I	3
PHYS 413	Electromagnetism I	3
PHYS 485	Physics Colloquium	1
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Select 3 credit hours of PHYS 300+		3
Astrophysics Requirements (19)		
PHYS 150	Introductory Special Topics in Astrophysics	3
PHYS 360	Introduction to Astrophysics	3
PHYS 361	Observational Astrophysics	4
Select 9 credit hours ¹		9
Mathematics Requirements (18)		
MATH 151	Calculus I	5
MATH 152	Calculus II	5
MATH 251	Multivariate and Vector Calculus	4
MATH 252	Introduction to Differential Equations	4
Chemistry Requirements (4)		
CHEM 122 & CHEM 123	Principles of Chemistry I and General Chemistry Laboratory	4
Certificate in AI Fluency (9)		
MATH 123	AI for Computational Mathematics and Coding	3
COM 200	AI, Data, and Communications	3
CS 180	Artificial Intelligence Foundations	3
Certificate in AI Management (9)		
DS 151 or BUS 102	Introduction to Data Science Business Analytics Fundamentals	3
BUS 432	Artificial Intelligence in Business	3
PHIL 281 or DS 261 or PHIL 272 or PHIL 330	Artificial Intelligence, Philosophy and Ethics Data Ethics and Responsible AI Ethics of Technology and Communication Philosophy of Data Science	3
Humanities and Social Science Requirements (15)		
See Illinois Tech Core Curriculum, sections B and C		15
Interprofessional Projects (IPRO) (6)		
See Illinois Tech Core Curriculum, section E		6
Free Electives (3)		
Select 3 credit hours		3
Total Credit Hours		120

¹ Select from PHYS 403, PHYS 425, PHYS 460, and PHYS 461 which are offered on a 4-semester rotation.

Bachelor of Science in Astrophysics Curriculum + AI

		Year 1	
Semester 1	Credit Hours	Semester 2	Credit Hours
PHYS 100	2	PHYS 221	4
PHYS 123	4	PHYS 150	3
MATH 151	5	MATH 152	5
CHEM 122 & CHEM 123	4	Humanities 200-level	3
15		15	
		Year 2	
Semester 1	Credit Hours	Semester 2	Credit Hours
PHYS 223	4	PHYS 240	3
MATH 251	4	PHYS 360	3
Social Sciences Elective	3	MATH 252	4
COM 200	3	CS 180	3

PHIL 281, 272, or 330	3	Social Sciences Elective (300+)	3
	17		16
Year 3			
Semester 1	Credit Hours	Semester 2	Credit Hours
PHYS 301	3	PHYS 304	3
PHYS 308	3	Astrophysics Elective ³	3
PHYS 361 ¹	4	DS 151 or BUS 102	3
PHYS 405 ²	3	IPRO Elective I	3
MATH 123	3	Humanities Elective (300+)	3
	16		15
Year 4			
Semester 1	Credit Hours	Semester 2	Credit Hours
PHYS 413	3	PHYS 485	1
PHYS 485	1	Physics Elective (300+)	3
BUS 432	3	Astrophysics Elective ³	3
Astrophysics Elective ³	3	IPRO Elective II	3
Social Sciences Elective (300+)	3	Free Elective	3
	13		13

Total Credit Hours: 120

¹ PHYS 361 is offered every other fall semester.

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

³ Choose from among PHYS 403, PHYS 425, PHYS 460, and PHYS 461 which are offered on a four-semester rotation.