

BACHELOR OF SCIENCE IN PHYSICS 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		(50)
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 300	Instrumentation Laboratory	4
PHYS 301	Mathematical Methods of Physics	3
PHYS 304	Thermodynamics and Statistical Physics	3
PHYS 308	Classical Mechanics I	3
PHYS 309	Classical Mechanics II	3
PHYS 405	Fundamentals of Quantum Theory I	3
PHYS 406	Fundamentals of Quantum Theory II	3
PHYS 413	Electromagnetism I	3
PHYS 414	Electromagnetism II	3
PHYS 427	Advanced Physics Laboratory I	3
PHYS 485	Physics Colloquium	1
PHYS 485	Physics Colloquium	1
Physics Electives		(6)
Select 6 credit hours of PHYS 300+		6
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	Introduction to Data Science	3
or BUS 102	Business Analytics Fundamentals	
BUS 432	Artificial Intelligence in Business	3
PHIL 281	Artificial Intelligence, Philosophy and Ethics	3
or DS 261	Data Ethics and Responsible AI	
or PHIL 272	Ethics of Technology and Communication	
or PHIL 330	Philosophy of Data Science	
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
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

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Free Electives	(3)
Select 3 credit hours	3
Total Credit Hours	120

Bachelor of Science in Physics + AI Curriculum

		Year 1	
Semester 1	Credit Hours	Semester 2	Credit Hours
PHYS 100	2	PHYS 221	4
PHYS 123	4	MATH 152	5
CHEM 122 & CHEM 123	4	CS 180	3
MATH 151	5	Humanities 200-level Course	3
	15		15
		Year 2	
Semester 1	Credit Hours	Semester 2	Credit Hours
PHYS 223	4	PHYS 240	3
MATH 251	4	PHYS 304	3
MATH 123	3	MATH 252	4
PHIL 281, 272, or 330	3	COM 200	3
		Social Sciences Elective	3
	14		16
		Year 3	
Semester 1	Credit Hours	Semester 2	Credit Hours
PHYS 300	4	PHYS 309	3
PHYS 301	3	PHYS 406	3
PHYS 308	3	IPRO Elective I	3
PHYS 405	3	Humanities Elective (300+)	3
DS 151 or BUS 102	3	Social Sciences Elective	3
	16		15
		Year 4	
Semester 1	Credit Hours	Semester 2	Credit Hours
PHYS 413	3	PHYS 414	3
PHYS 427	3	PHYS 485	1
PHYS 485	1	BUS 432	3
Physics Elective	3	Physics Elective	3
IPRO Elective II	3	Social Sciences Elective (300+)	3
Free Elective	3		
	16		13
Total Credit Hours: 120			