New Program Proposal

Date Submitted: 03/16/26 2:06 am

Viewing: BS-APAI : Bachelor of Science in Astrophysics with Artificial Intelligence

Last edit: 03/16/26 2:06 am

Changes proposed by: psnopok

Program Status	Active			
Requestor ckocurek@iit.edu	Name	Carly Kocurek		E-mail
Origination Date	2026-3-16			
Is this an interdisciplinary program?	No			
Is this an incubator program?	Yes			
Is this stem-eligible?	Yes			
Available for direct application?	Yes			
Academic Unit College	Physics Lewis College of Science and Letters			
Program Title Bachelor of Science in Astrophysics with Artificial Intelligence				
Effective Academic Year	2026 - 2027 Fall 2026	Effective Term		
Academic Level	Undergraduate			

In Workflow

1. PHYS Chair
2. Academic Affairs
3. Undergraduate Academic Affairs
4. Director of Assessment
5. LS Dean
6. Marketing and Communications
7. Undergraduate Studies Committee Chair
8. Faculty Council Chair
9. Faculty Council Chair
10. Provost
11. President
12. Board of Trustees
13. Academic Affairs

Approval Path

1. 03/06/26 1:11 pm Pavel Snopok (psnopok): Approved for PHYS Chair
2. 03/09/26 12:18 pm Ayesha Qamer (aqamer): Approved for Academic Affairs
3. 03/09/26 3:48 pm Joseph Gorzkowski (jgorzkow): Rollback to Initiator
4. 03/09/26 10:13 pm Pavel Snopok (psnopok): Approved for PHYS Chair

5. 03/10/26 2:31 pm Ayesha Qamer (aqamer): Approved for Academic Affairs

6. 03/12/26 10:27 am Joseph Gorzkowski (jgorzkow): Approved for Undergraduate Academic Affairs

7. 03/13/26 2:39 pm Nicholas Menhart (menhart): Rollback to Undergraduate Academic Affairs for Director of Assessment

8. 03/13/26 3:21 pm Joseph Gorzkowski (jgorzkow): Rollback to Initiator

9. 03/16/26 2:07 am Pavel Snopok (psnopok): Approved for PHYS Chair

10. 03/17/26 11:55 am Ayesha Qamer (aqamer): Approved for Academic Affairs

11. 03/17/26 3:22 pm Joseph Gorzkowski (jgorzkow): Approved for Undergraduate Academic Affairs

If all courses in a subject in your department are required, please enter each subject followed by the number ranges in the "Quick Add" field in the pop up box when you click the green plus button below. For example: ARCH 100-499.

What courses will factor the major GPA?	PHYS 100 - Intro to the Profession
	PHYS 150 - Introductory Special Topics in Astrophysics
	PHYS 151 - Introductory Special Topics in Physics
	PHYS 123 - General Physics I: Mechanics
	PHYS 221 - General Physics II: Electricity and Magnetism
	PHYS 224 - General Physics III for Engineers
	PHYS 225 - General Physics III Lab only

PHYS 240 - Computational Science
PHYS 300-399 - Course PHYS 300-399 not Found
PHYS 400-499 - Course PHYS 400-499 not Found
PHYS 500-599 - Course PHYS 500-599 not Found
PHYS 223 - General Physics III

Program Type	Degree
Degree Type	Bachelor of Science (BS)

CIP Code
  40.0202 - Astrophysics.

Is there more than one Academic Unit proposer?

  No

Program Code	BS-APAI

Program Attribute

Total Program Credit Hours	120

Program Narrative and Justification

Narrative description of how the institution determined the need for the program. For example, describe what need this program will address and how the institution became aware of that need. If the program is replacing a current program(s), identify the current program(s) that is being replaced by the new program(s) and provide details describing the benefits of the new program(s). If the program will be offered in connection with, or in response to, an initative by a governmental entity, provide details of that initiative.

  Incubator program for Astrophysics + AI.

Narrative description of how the program was designed to meet local market needs, or for an online program, regional or national market needs. For example, indicate if Bureau of Labor Statistics data or State labor data systems information was used, and/or if State, regional, or local workforce agencies were consulted. Include how the course content, program length, academic level, admission requirements, and prerequisites were decided; including information received from potential employers about course content; and information regarding the target students and employers.

  Incubator program for Astrophysics + AI.

Narrative description of any wage analysis the institution may have performed, including any consideration of Bureau of Labor Statistics wage data related to the new program.

  Incubator program for Astrophysics + AI.

Narrative description of how the program was reviewed or approved by, or developed in conjunction with, one or more of the following: a) business advisory committees; b) program integrity boards; c) public or private oversight or regulatory agencies (not including the state licensing/authorization agency and accrediting agency); and d) businesses that would likely employ graduates of the program. For example, describe the steps taken to develop the program, identify when and with whom discussions were held, provide relevant details of any proposals or correspondence generated, and/or describe any process used to evaluate the program.

Incubator program for Astrophysics + AI.

Admission Entry Details

Available Fall Admit	Yes		Available Spring Admit	Yes	Available Summer Admit
	Yes				
Available On Campus	Yes Yes			Available Online	
Available Full-Time	Yes Yes			Available Part-Time	
Available International	Yes Yes			Available Domestic	

What are the enrollment estimates?

Year 1	10	Year 2	20	Year 3	40

Attach Additional
Program
Justification
Document(s)

Academic Information

Advising

Since quality advising is a key component of good retention, graduation, and career placement, how will students be mentored? What student professional organizations will be formed? How will the department work with the Career Services office to develop industry connections?

Same as astrophysics.

Program Resources

Which program
resources are

necessary to offer
this program?

Proposed Catalog Entry

Admission
Requirements

Course Requirements

Required Courses

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
PHYS 485	Physics Colloquium	1
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 124	Principles of Chemistry I with 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	Introduction to Data Science	3
or BUS 102	Introduction to Business Analytics	
BUS 432	Artificial Intelligence in Business	3
PHIL 381	Artificial Intelligence, Philosophy and Ethics	3
or DS 261	Ethics and Privacy in Data Science	
or PHIL 372	Ethics of Technology and Communication	
or PHIL 330	Philosophy of Data Science	
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.

Sample
Curriculum/Program
Requirements

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 124	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 381, 330, or 372	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.

Specialization
Requirements

Program Outcomes and Assessment Process

What are your learning objectives in this program? Please list each learning objective in the boxes below:

Note: These should be the same as described in your assessment plan at the bottom of this form.

Upload your
assessment plan
here:

Undergraduate Program Requirements

What courses will
factor the major
GPA?

Undergraduate Degree Requirements

Minimum credit   120
hours

Specialization
required?
   No

Minor required?
   No

Proposed General Curriculum

List Major Course
Requirements
See course requirements above

List Mathematics
Requirements
See course requirements above

List Science
Requirements
See course requirements above

List Computer
Science
Requirements
See course requirements above

List Humanities and
Social Sciences
Requirements
See course requirements above

List
Interprofessional
Project (IPRO)
Requirements
See course requirements above

List Technical
Elective Course
Options
See course requirements above

List Free Elective   3
Credit Hours (if
applicable)

Semester-by-
semester plan of
study for the
degree program

Reviewer
Comments

Ayesha Qamer (aqamer) (03/09/26 12:18 pm): 3/9/2026, AQ: Adjusted program code

Joseph Gorzkowski (jgorzkow) (03/09/26 3:48 pm): Rollback: Rollback per Carlo's request.

Nicholas Menhart (menhart) (03/13/26 2:39 pm): Rollback: per request JDW 13 mar 2026

Joseph Gorzkowski (jgorzkow) (03/13/26 3:21 pm): Rollback: Rollback per Jeff W's request.

Key: 701