New Program Proposal

Date Submitted: 03/09/26 10:07 pm

Viewing: BS-PHAI : Bachelor of Science in Physics with Artificial Intelligence

Last edit: 03/16/26 1:43 am

Changes proposed by: segre

Program Status	Active		
Requestor	Name	Carly Kocurek	E-mail ckocurek@iit.edu
Origination Date	2026-3-9		
Is this an interdisciplinary program?	No		
Is this an incubator program?	Yes		
Is this stem-eligible?	Yes		
Available for direct application?	Yes		
Academic Unit	Physics		
College	Lewis College of Science and Letters		
Program Title	Bachelor of Science in Physics with Artificial Intelligence		
Effective Academic Year	2026 - 2027	Effective Term	Fall 2026
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 10:03 pm Ayesha Qamer (aqamer): Rollback to Initiator
3. 03/09/26 10:13 pm Pavel Snopok (psnopok): Approved for PHYS Chair
4. 03/10/26 2:32 pm Ayesha Qamer (aqamer): Approved for Academic Affairs

5. 03/12/26 10:27 am Joseph Gorzkowski (jgorzkow): Approved for Undergraduate Academic Affairs
6. 03/13/26 2:38 pm Nicholas Menhart (menhart): Rollback to PHYS Chair for Director of Assessment
7. 03/16/26 1:52 am Pavel Snopok (psnopok): Approved for PHYS Chair
8. 03/17/26 1:27 pm Ayesha Qamer (aqamer): Approved for Academic Affairs
9. 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 123 - General Physics I: Mechanics PHYS 221 - General Physics II: Electricity and Magnetism PHYS 223 - General Physics III 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
Program Type	Degree
Degree Type	Bachelor of Science (BS)

CIP Code

40.0801 - Physics, General.

Is there more than one Academic Unit proposer?

No

Program Code	BS-PHAI
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 combining Physics + AI module.

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 combining Physics + AI module.

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 combining Physics + AI module.

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 combining Physics + AI module.

Admission Entry Details

Available Fall Admit	Yes	Available Spring Admit	Yes
Available Summer Admit	Yes		
Available On Campus	Yes	Available Online	No
Available Full-Time	Yes	Available Part-Time	Yes
Available International	Yes	Available Domestic	Yes

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 for BS-PHYS

Program Resources

Which program resources are necessary to offer this program?

Proposed Catalog Entry

Admission Requirements

Course Requirements

Required Courses

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	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	
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
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

Sample Curriculum/Program Requirements

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 124	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 381, 330, or 372	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

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 hours 120

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

See Course requirements above

List Humanities and Social Sciences Requirements	
List Interprofessional Project (IPRO) Requirements	See Course requirements above
List Technical Elective Course Options	See Course requirements above
List Free Elective Credit Hours (if applicable)	12
Semester-by-semester plan of study for the degree program	

Reviewer Comments

Ayesha Qamer (aqamer) (03/09/26 10:03 pm): Rollback: Rollback requested by Carlo Segre

Nicholas Menhart (menhart) (03/13/26 2:38 pm): Rollback: per request JDW 13 mar 2026

Key: 700