PHYSICS, B.S. (BEHREND)

Seven Penn State campuses are scheduled for closure after Spring 2027: DuBois, Fayette, New Kensington, Mont Alto, Shenango, Wilkes-Barre, and York. New students are not being admitted at these campuses.

Begin Campus: Any Penn State Campus

End Campus: Erie

Suggested Academic Plan

The suggested academic plan(s) listed on this page are the plan(s) that are in effect during the 2026-27 academic year. To access previous years' suggested academic plans, please visit the archive (https://bulletins.psu.edu/undergraduate/archive/) to view the appropriate Undergraduate Bulletin edition.

General Physics Option: Physics, B.S. at Erie Campus

The course series listed below provides **only one** of the many possible ways to move through this curriculum. The University may make changes in policies, procedures, educational offerings, and requirements at any time. This plan should be used in conjunction with your degree audit (accessible in LionPATH as either an **Academic Requirements** or **What If** report). Please consult with a Penn State academic adviser on a regular basis to develop and refine an academic plan that is appropriate for you.

First Year

Fall	Credits	Spring	Credits
CHEM 110*#†	3	CHEM 112†	3
CHEM 111†	1	CHEM 113†	1
MATH 140*‡#†	4	MATH 141*‡#†	4
ENGL 15 or 30H‡†	3	PHYS 211*#	4
General Education Course	3	General Education Course	3
General Education Course (GHW)	1.5	General Education Course (GWH)	1.5
PSU 7	1		
	16.5		**16.5**

Second Year

Fall	Credits	Spring	Credits
PHYS 212*#	4	CMPSC 121	3
PHYS 213*	2	PHYS 237*	3
PHYS 214*	2	MATH 251	4
MATH 220	2	CAS 100‡†	3
MATH 230	4	General Education Course	3
General Education Course	3		
	17		**16**

Third Year

Fall	Credits	Spring	Credits
PHYS 414 (Supports Additional Course Selection)*[1]	3	PHYS 419*	3
PHYS 420*	3	PHYS 421W*	3
CMPSC 122 (or World Language - 4 credits)	3	CMPSC 465 or 474 (or World Language - 4 credits)*	3
ENGL 202C†	3	PHYS 494 or 495*	3
General Education Course (GN)	3	Additional Course Selection*	3
	15		**15**

Fourth Year

Fall	Credits	Spring	Credits
PHYS 400*	3	PHYS 410*	3
PHYS 402*	4	PHYS 458*	4
Additional Course Selection*	3	Supporting Courses and Related Areas	3-4
Supporting Courses and Related Areas	3-4	General Education Course	3
General Education Course	3		
	16-17		**13-14**

Total Credits 125-127

* Course requires a grade of C or better for the major
‡ Course requires a grade of C or better for General Education
# Course is an Entrance to Major requirement
† Course satisfies General Education and degree requirement

[1] See adviser for acceptable substitutions

University Requirements and General Education Notes:

US and IL are abbreviations used to designate courses that satisfy Cultural Diversity Requirements (United States and International Cultures).

W, M, X, and Y are the suffixes at the end of a course number used to designate courses that satisfy University Writing Across the Curriculum requirement.

General Education includes Foundations (GWS and GQ), Knowledge Domains (GHW, GN, GA, GH, GS) and Integrative Studies (Inter-domain) requirements. N or Q (Honors) is the suffix at the end of a course number used to help identify an Inter-domain course, but the inter-domain attribute is used to fill audit requirements. Foundations courses (GWS and GQ) require a grade of 'C' or better.

Program Notes

Scheduling patterns for courses not taught each semester
Some major requirements will be offered only once a year or every other year depending on demand. 400 level physics courses are taught on a rotating basis; courses are taught only once every other year.
-Fall only courses include: CMPSC 474, MATH 455, PHYS 400, PHYS 402, PHYS 414, PHYS 420
-Spring only courses include: CMPSC 455,
MATH 421, ME 428, MATH 456, PHYS 410, PHYS 419, PHYS 421W, PHYS 458

1.) All first year baccalaureate degree candidates are required to complete, during the first academic year, a seminar course.
2.) Any 300 or 400 level science or mathematics course requires a C or better.
3.) Students with a prior introduction to calculus may take MATH 140 and PHYS 211 concurrently in their first semester.
4. A course noting "Supports Additional Course Selection" counts as an "Additional Course Selection." A total of 23 credits must be taken in this area. Possible course substitutions are listed below in the Additional Course Selection List. Please note that three credits of PHYS 494 and/

or PHYS 495 are prescribed. Any additional credits in PHYS 494 or PHYS 495 (up to a maximum of 3 credits) may be applied to the additional course requirement.
5.) Supporting Courses - students must select (3) credits from the following: CMPSC 459 , CMPSC 456 Introduction to Numerical Analysis II, CMPSC 474 Operating System & Systems Programming. CMPSC 456 is recommended.
6.) Students must select (3) credits from the Supporting Course List below. MATH 456 or CMPSC 456 is recommended.

Advising Notes

Additional Course Selection List*
EE 352 Signals and Systems: Continuous and Discrete-Time
PHYS 414 Solid State Physics
MATH 421 Complex Analysis
MATH 455 Introduction to Numerical Analysis I
MATH 456 Introduction to Numerical Analysis II
PHYS 402 Electronics for Scientists
PHYS 446
PHYS 494 Physics Research Project
PHYS 495 Internship

Supporting Course List
ASTRO 291 or higher
BIOL 110 or higher
CHEM 210 or higher
CMPSC 200 or higher
MATH 300 or 400 level*
Any PHYS 400-level
STAT 300 or 400 level*

Unacceptable Courses for the Physics Major or Minor
Math courses below MATH 140
Physics courses below PHYS 211
PHYS 250
PHYS 251

Computational Physics Option: Physics, B.S. at Erie Campus

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First Year

Fall	Credits	Spring	Credits
CHEM 110*#†	3	CHEM 112†	3
CHEM 111†‡	1	CHEM 113†	1
MATH 140*#†	4	MATH 141*‡#†	4
ENGL 15 or 30H‡†	3	PHYS 211*#	4
General Education Course	3	General Education Course	3
General Education Course (GHW)	1.5	General Education Course (GHW)	1.5
PSU 7	1		
	16.5		**16.5**

Second Year

Fall	Credits	Spring	Credits
PHYS 212*#	4	PHYS 237*	3
PHYS 213*	2	MATH 251	4
PHYS 214*	2	CAS 100‡†	3
MATH 220	2	CMPSC 122	3
MATH 230	4	General Education Course	3
CMPSC 121	3		
	17		**16**

Third Year

Fall	Credits	Spring	Credits
PHYS 414 (Supports Additional Course Selection)*[1]	3	PHYS 419*	3
PHYS 420*	3	PHYS 421W*	3
General Education Course (GN)†	3	CMPSC 465*	3
CMPSC 474*	3	PHYS 494 or 495*	3
ENGL 202C‡†	3	General Education Course	3
	15		**15**

Fourth Year

Fall	Credits	Spring	Credits
PHYS 400*	3	EE 352 (Supports Additional Course Selection)*	4
PHYS 402*	4	PHYS 458*	4
MATH 455 or CMPSC 455*	3	MATH 456 or CMPSC 456 (MATH 456 Supports Additional Course Selection)*	3
Additional Course Selection*	3	General Education Course	3
General Education Course	3		
	16		**14**

Total Credits 126

* Course requires a grade of C or better for the major
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# Course is an Entrance to Major requirement
† Course satisfies General Education and degree requirement

[1] See adviser for acceptable substitutions

University Requirements and General Education Notes:

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Program Notes

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-Spring only courses include: CMPSC 455,
MATH 421, ME 428, MATH 456, PHYS 410, PHYS 419, PHYS 421W, PHYS 458

1.) All first-year baccalaureate candidates are required to complete, during the first academic year, a seminar course.
2.) Any 300 or 400 level Science or Math course requires a C or better.
3.) Students with a prior introduction to calculus may take MATH 140 and PHYS 211 concurrently in their first semester.
4.) A course noting "Supports Additional Course Selection" counts as an "Additional Course Selection." A total of 23 credits must be taken in this area. Possible course substitutions are listed below in the Additional Course Selection List. Please note that three credits of PHYS 494 and/or PHYS 495 are prescribed. Any additional credits in PHYS 494 or PHYS 495 (up to a maximum of 3 credits) may be applied to the additional course requirement.
5.) Supporting Courses - students must select (3) credits from the following: CMPSC 459 , CMPSC 456 Introduction to Numerical Analysis II, CMPSC 474 Operating System & Systems Programming. CMPSC 456 is recommended.
6.) Students must select (3) credits from the Supporting Course List below. MATH 456 or CMPSC 456 is recommended.

Advising Notes

Additional Course Selection List*
EE 352 Signals and Systems: Continuous and Discrete-Time
EE 453 Fundamentals of Digital Signal Processing
MATH 456 Introduction to Numerical Analysis II
ME 410 Heat Transfer
ME 428 Applied Computational Fluid Dynamics
PHYS 410 Introduction to Quantum Mechanics I

PHYS 414 Solid State Physics
PHYS 494 Physics Research Project
PHYS 495 Internship

Supporting Course List
ASTRO 291 or higher
BIOL 110 or higher
CHEM 210 or higher
CMPSC 200 or higher
MATH 300 or 400 level*
Any PHYS 400-level
STAT 300 or 400 level*

Unacceptable Courses for the Physics Major or Minor
Math courses below MATH 140
Physics courses below PHYS 211
PHYS 250
PHYS 251