

Mathematics and Physics BS

Overview

The **Bachelor of Science in Mathematics and Physics**, a program administered jointly between the Department of Physics and the Department of Mathematics, is an interdisciplinary program providing a foundation in physical sciences with a strong emphasis on the mathematical techniques needed for analysis and modeling. It prepares the student for science or analysis careers which use these mathematical tools along with problem-solving skills, as well as for graduate studies in either mathematics or physics.

Campus Location: Main

Program Code: ST-MAPH-BS

Distinction in Major

To graduate with distinction in this major, a student must satisfy the following criteria:

- achieve a minimum 3.50 cumulative GPA;
- achieve a minimum 3.50 GPA in all Physics and Math courses required for the major;
- achieve a minimum 3.50 GPA in the following courses:
 - MATH 3098,
 - MATH 3141,
 - MATH 3142,
 - MATH 4051,
 - Any 4000-level course other than Individual Study; and,
- carry out an independent study, undergraduate research or undergraduate thesis project.

Consult the undergraduate Physics faculty advisor for more details.

Undergraduate Contact Information

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Learn more about the Bachelor of Science in Mathematics and Physics.

These requirements are for students who matriculated in academic year 2024-2025. Students who matriculated prior to fall 2024 should refer to the Archives to view the requirements for their Bulletin year.

Bachelor of Science Requirements

Summary of Requirements for the Degree

1. University Requirements (123 total s.h.)

- Students must meet all University requirements including those listed below.
- All undergraduate students must complete at least two writing-intensive courses for a total of at least six credits at Temple as part of their major. The specific writing-intensive course options for this major are:

Code	Title	Credit Hours
MATH 3098	Modern Algebra	3
MATH 4096	Senior Problem Solving	3
PHYS 2796	Introduction to Modern Physics	4
PHYS 4796	Experimental Physics	3

- Students must complete the General Education (GenEd) requirements.
 - See the General Education section of the *Undergraduate Bulletin* for the GenEd curriculum.
 - Students who complete CST majors receive a waiver for 2 Science & Technology (GS) and 1 Quantitative Literacy (GQ) GenEd courses.
- Students must satisfy general Temple University residency requirements.

2. College Requirements

- A minimum of 90 total credits within the College of Science & Technology (CST), the College of Liberal Arts (CLA), and/or the College of Engineering (ENG).
 - A minimum of 45 of these credits must be upper-level (courses numbered 2000 and above).
- Complete a one-credit first-year or transfer seminar.
 - SCTC 1001 CST First Year Seminar for every entering first-year CST student.
 - SCTC 2001 CST Transfer Seminar for every entering transfer CST student.

3. Major Requirements for Bachelor of Science (76 s.h.)

At least 10 courses required for the major must be completed at Temple. At least 6 Math and 5 Physics courses must be completed at Temple.

Code	Title	Credit Hours
Mathematics Courses		
MATH 1041 or MATH 1941	Calculus I Honors Calculus I	4
MATH 1042 or MATH 1942	Calculus II Honors Calculus II	4
MATH 2043 or MATH 2943	Calculus III Honors Calculus III	4
MATH 2045	Differential Equations with Linear Algebra (F)	4
MATH 2111	Basic Concepts of Math	3
MATH 3031	Probability Theory I	3
MATH 3051	Theoretical Linear Algebra (S)	4
MATH 3098	Modern Algebra (F)	3
MATH 3141	Advanced Calculus I (F)	3
MATH 3142	Advanced Calculus II (S)	3
MATH 4051	Complex Analysis (F)	3
Physics Courses		
Select one of the following:		4
PHYS 1061	Elementary Classical Physics I	
PHYS 1961	Honors Elementary Classical Physics I (F)	
PHYS 2021	General Physics I	
PHYS 2921	Honors General Physics I (F)	
Select one of the following:		4
PHYS 1062	Elementary Classical Physics II	
PHYS 1962	Honors Elementary Classical Physics II (S)	
PHYS 2022	General Physics II	

PHYS 2922	Honors General Physics II (S)	
PHYS 2101	Classical Mechanics (S)	3
PHYS 2502	Mathematical Physics (S)	4
PHYS 2796	Introduction to Modern Physics (S)	4
PHYS 3101	Analytical Mechanics (F)	3
PHYS 3301	Electricity and Magnetism (F)	4
PHYS 3302	Classical Electromagnetism (S)	3
PHYS 3701	Introduction to Quantum Mechanics I (S)	3
PHYS 4101	Thermal Physics (F)	3
Capstone Course		
MATH 4096 or PHYS 4796	Senior Problem Solving Experimental Physics	3

Total Credit Hours **76**

Code	Title	Credit Hours
(F) - Fall only course		
(S) - Spring only course		

Suggested Academic Plan

Bachelor of Science in Mathematics and Physics

Suggested Plan for New Students Starting in the 2024-2025 Academic Year

Year 1		Credit Hours
Fall		
MATH 1041 or MATH 1941	Calculus I or Honors Calculus I	4
Select one of the following:		4
PHYS 1061	Elementary Classical Physics I	
PHYS 1961	Honors Elementary Classical Physics I (F)	
PHYS 2021	General Physics I	
PHYS 2921	Honors General Physics I (F)	
SCTC 1001	CST First Year Seminar	1
ENG 0802 or ENG 0812 or ENG 0902	Analytical Reading and Writing [GW] or Analytical Reading and Writing: ESL [GW] or Honors Analytical Reading and Writing [GW]	4
GenEd Breadth Course		3
Credit Hours		16
Spring		
MATH 1042 or MATH 1942	Calculus II or Honors Calculus II	4
Select one of the following:		4
PHYS 1062	Elementary Classical Physics II	
PHYS 1962	Honors Elementary Classical Physics II (S)	
PHYS 2022	General Physics II	
PHYS 2922	Honors General Physics II (S)	
IH 0851 or IH 0951	Intellectual Heritage I: The Good Life [GY] or Honors Intellectual Heritage I: The Good Life [GY]	3
GenEd Breadth Course		3
Elective		1
Credit Hours		15

Year 2		
Fall		
MATH 2043 or MATH 2943	Calculus III or Honors Calculus III	4
MATH 2111	Basic Concepts of Math	3
MATH 2045	Differential Equations with Linear Algebra (F)	4
IH 0852 or IH 0952	Intellectual Heritage II: The Common Good [GZ] or Honors Intellectual Heritage II: The Common Good [GZ]	3
Elective		1
Credit Hours		15
Spring		
PHYS 2502	Mathematical Physics (S)	4
PHYS 2796	Introduction to Modern Physics [WI] (S)	4
MATH 3051	Theoretical Linear Algebra (S)	4
GenEd Breadth Course		3
Credit Hours		15
Year 3		
Fall		
MATH 3031	Probability Theory I	3
MATH 3141	Advanced Calculus I (F)	3
PHYS 3301	Electricity and Magnetism (F)	4
GenEd Breadth Course		3
Elective		3
Credit Hours		16
Spring		
MATH 3142	Advanced Calculus II (S)	3
PHYS 2101	Classical Mechanics (S)	3
PHYS 3701	Introduction to Quantum Mechanics I (S)	3
GenEd Breadth Course		3-4
Elective		3
Elective		1-0
Credit Hours		16
Year 4		
Fall		
MATH 3098	Modern Algebra [WI] (F)	3
MATH 4051	Complex Analysis (F)	3
PHYS 3101	Analytical Mechanics (F)	3
PHYS 4101	Thermal Physics (F)	3
Elective		3
Credit Hours		15
Spring		
MATH 4096 or PHYS 4796	Senior Problem Solving [WI] or Experimental Physics [WI]	3
PHYS 3302	Classical Electromagnetism (S)	3
Elective		3
Elective		3
Elective		3
Credit Hours		15
Total Credit Hours		123

Code	Title	Credit Hours
(F) - Fall only course.		
(S) - Spring only course.		