

Mathematics, B.A.

Learn more about the Bachelor of Arts in Mathematics.

The Bachelor of Arts in Mathematics provides a solid mathematical foundation and also allows for the most flexibility. This program prepares students for a variety of jobs in business and industry, as well as for graduate study in fields related to mathematics.

Students should consult with an advisor to design a program best fitted to their interests and goals.

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Bachelor of Arts

Summary of Requirements for the Degree

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

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

Code	Title	Credit Hours
MATH 3096	Introduction to Modern Algebra	3
MATH 4096	Senior Problem Solving	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

- 45 Upper Level (2000+) credits within the College of Science & Technology (CST), the College of Liberal Arts (CLA), or the College of Engineering (ENG).
- 90 credits within the College of Science & Technology (CST), the College of Liberal Arts (CLA), or the College of Engineering (ENG).
- Two (2) Upper Level (2000+) Liberal Art courses.
- Second (2nd) Level of a Foreign Language (1002).
- All students in the College of Science and Technology are required to take a one credit first year seminar. SCTC 1001 CST First Year Seminar is the appropriate course option for every entering first year CST major. Transfer students should use SCTC 2001 CST Transfer Seminar to fulfill this requirement. Other courses that fulfill this requirement may be found on the CST College Requirements page.

3. Major Requirements for Bachelor of Arts (53-55 s.h.)

At least 7 courses required for the major must be completed at Temple. At least 7 Math courses must be completed at Temple.

Code	Title	Credit Hours
Computer Programming course		
Select one of the following:		3-4
CIS 1051 or CIS 1951	Introduction to Problem Solving and Programming in Python Honors Introduction to Problem Solving and Programming in Python	
CIS 1057	Computer Programming in C	

CIS 1068 or CIS 1968	Program Design and Abstraction Honors Program Design and Abstraction	
MATH 1033 & MATH 1034	Computing in MATLAB and Applications in MATLAB	
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 2101 or MATH 2103	Linear Algebra Linear Algebra with Computer Lab	3-4
MATH 2111	Basic Concepts of Math	3
MATH 3031	Probability Theory I	3
MATH 3096	Introduction to Modern Algebra	3
MATH 3137	Real & Complex Analysis I (F)	3
MATH 3138	Real & Complex Analysis II (S)	3
MATH 4096	Senior Problem Solving	3
Three Mathematics electives at the 3000 level or above ¹		9
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)	
Total Credit Hours		53-55

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

¹ (MATH 2041 or MATH 2941 or MATH 2045), MATH 2061, or MATH 2121 may be used to fulfill up to two of the Mathematics electives at the 3000 level or above.

Calculation of Major GPA

Courses listed under the major requirements for the degree will be included in the calculation of the major GPA. Courses that could not apply toward the major as an elective or required course would not be counted in the calculation of the major GPA. This would include MATH 1022, for example.

Distinction in Major

To graduate with Distinction in Mathematics a student should meet the following requirements:

1. All requirements for the B.A. degree in Mathematics must be met with a GPA of at least 3.50 in the Mathematics courses.
2. At the time of graduation, the student's overall GPA, including all college-level courses, must be at least 3.25.
3. Bachelor of Arts students must complete MATH 3141, MATH 3142 and MATH 4051 instead of MATH 3137 and MATH 3138, as well as MATH 3098 instead of MATH 3096 in order to qualify for a Distinction in Major.

4. A student must have a GPA of 3.50 or higher in the following courses:

Code	Title	Credit Hours
MATH 3141	Advanced Calculus I	3
MATH 3142	Advanced Calculus II	3
MATH 3098	Modern Algebra	3
MATH 4051	Complex Analysis	3
Any additional courses from the following list:		
MATH 3043	Numerical Analysis I	4
MATH 3044	Numerical Analysis II	3
MATH 3101	Topics in Modern Algebra	3
Any 4000-level course other than individual study		

Suggested Academic Plan

Bachelor of Arts in Mathematics

Requirements for New Students starting in the 2022-2023 Academic Year

Year 1		
Fall		Credit Hours
MATH 1041 or 1941	Calculus I	4
Select one of the following:		3-4
CIS 1051 or 1951	Introduction to Problem Solving and Programming in Python	
CIS 1057	Computer Programming in C	
CIS 1068 or 1968	Program Design and Abstraction	
MATH 1033 & MATH 1034	Computing in MATLAB	
SCTC 1001	CST First Year Seminar	1
ENG 0802, 0812, or 0902	Analytical Reading and Writing [GW]	4
Elective		3-2
Term Credit Hours		15
Spring		
MATH 1042 or 1942	Calculus II	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)	
IH 0851 or 0951	Intellectual Heritage I: The Good Life [GY]	3
GenEd Breadth Course		3
Elective		1
Term Credit Hours		15
Year 2		
Fall		Credit Hours
MATH 2043 or 2943	Calculus III	4
MATH 2101 or 2103	Linear Algebra	3-4
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 0852 or 0952	Intellectual Heritage II: The Common Good [GZ]	3

Elective		2-1
Term Credit Hours		16
Spring		
MATH 2111	Basic Concepts of Math	3
MATH 3031	Probability Theory I	3
GenEd Breadth Course		3
GenEd Breadth Course		3
Elective		3
Term Credit Hours		15
Year 3		
Fall		
MATH 3137	Real & Complex Analysis I (F)	3
3000+ Mathematics Elective ¹		3
GenEd Breadth Course		3
Elective		3
Elective		3
Term Credit Hours		15
Spring		
MATH 3096	Introduction to Modern Algebra [WI]	3
MATH 3138	Real & Complex Analysis II (S)	3
3000+ Mathematics Elective ¹		3
GenEd Breadth Course		3-4
Elective		3-2
Term Credit Hours		15
Year 4		
Fall		
3000+ Mathematics Elective ¹		3
Elective		3
Elective		3
Elective		3
Elective		3
Elective		1
Term Credit Hours		16
Spring		
MATH 4096	Senior Problem Solving [WI]	3
Elective		3
Elective		3
Elective		3
Elective		3
Elective		1
Term Credit Hours		16
Total Credit Hours:		123
Code	Title	Credit Hours

(F) - Fall only course

(S) - Spring only course

¹ (MATH 2041 or MATH 2941 or MATH 2045), MATH 2061, or MATH 2121 may be used to fulfill up to two of the Mathematics electives at the 3000 level or above.