

# Mathematics, B.S.

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Learn more about the Bachelor of Science in Mathematics (<https://www.temple.edu/academics/degree-programs/mathematics-major-st-math-bs>).

The Bachelor of Science in Mathematics provides an in-depth theoretical background focusing on the traditional core areas of mathematics. This program provides a foundation for graduate study or careers in fields using sophisticated quantitative and mathematical analysis. In particular, this program is suitable preparation for graduate study in mathematics.

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

## Undergraduate Contact Information:

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## Bachelor of Science

### Summary of Requirements for the Degree

- University Requirements (123 total s.h.)
  - MATH 0701 (4 s.h.) and/or ENG 0701 (4 s.h.), if required by placement testing.
  - All Temple students must take a minimum of two writing-intensive courses at Temple as part of their major. Following is a list of courses that can be used to satisfy the writing-intensive requirement: MATH 3098 and MATH 4096.
  - Students must complete the General Education (GenEd) requirements.
    - See the General Education (<http://bulletin.temple.edu/undergraduate/general-education>) section of the *Undergraduate Bulletin* for the GenEd curriculum.
    - Students who complete CST majors typically receive a waiver for 2 Science & Technology (GS) and 1 Quantitative Literacy (GQ) GenEd courses.
  - Students must satisfy general Temple University residency requirements (<http://bulletin.temple.edu/undergraduate/academic-policies/academic-residency-requirements>).
- College Requirements
  - 90 credits within the College of Science & Technology (CST) or the College of Liberal Arts (CLA).
  - 45 Upper-Level (2000+) credits within the College of Science & Technology (CST) or the College of Liberal Arts (CLA).
- Major Requirements for Bachelor of Science (65 s.h.)  
At least 9 courses required for the major must be completed at Temple. At least 8 Math courses must be completed at Temple.

Code	Title	Credit Hours
<b>Computer &amp; Technology Science course</b>		
Select one of the following:		4
CIS 1053	Programming in Matlab	
CIS 1057	Computer Programming in C	
CIS 1068	Program Design and Abstraction	
CIS 1968	Honors Program Design and Abstraction	
<b>Mathematics courses</b>		
MATH 1041 or MATH 1941	Calculus I Honors Calculus I	4

MATH 1042	Calculus II	4
or MATH 1942	Honors Calculus II	
MATH 2043	Calculus III	4
or MATH 2943	Honors Calculus III	
MATH 2111	Basic Concepts of Math	3
MATH 3031	Probability Theory I	3
MATH 3045	Differential Equations with Linear Algebra (F)	4
MATH 3051	Theoretical Linear Algebra (S)	4
MATH 3098	Modern Algebra (F)	3
MATH 3101	Topics in Modern Algebra (S)	3
MATH 3141	Advanced Calculus I (F)	3
MATH 3142	Advanced Calculus II (S)	3
MATH 4051	Complex Analysis (F)	3
MATH 4096	Senior Problem Solving	3
Three Mathematics electives at the 3000+level or above <sup>1</sup>		9
<b>Physics courses</b>		
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		65

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

<sup>1</sup> Must be approved by Mathematics faculty advisor.

## 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:

- All requirements for the B.S. degree in Mathematics must be met with a GPA of at least 3.50 in the Mathematics courses.
- At the time of graduation, the student's overall GPA, including all college-level courses, must be at least 3.25.
- 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	3 or 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 Science in Mathematics

#### Requirements for New Students starting in the 2018-2019 Academic Year

Year 1		Credit Hours
<b>Fall</b>		
MATH 1041 or 1941	Calculus I	4
Select one of the following:		4
CIS 1053	Programming in Matlab	
CIS 1057	Computer Programming in C	
CIS 1068	Program Design and Abstraction	
CIS 1968	Honors Program Design and Abstraction	
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)	
General Education/Elective Credits		4
Term Credit Hours		16
<b>Spring</b>		
MATH 1042 or 1942	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)	
General Education/Elective Credits		7
Term Credit Hours		15
<b>Year 2</b>		
<b>Fall</b>		
MATH 2043 or 2943	Calculus III	4
MATH 2111	Basic Concepts of Math	3
MATH 3045	Differential Equations with Linear Algebra (F)	4
General Education/Elective Credits		6
Term Credit Hours		17
<b>Spring</b>		
MATH 3031	Probability Theory I	3
MATH 3051	Theoretical Linear Algebra (S)	4
General Education/Elective Credits		8
Term Credit Hours		15
<b>Year 3</b>		
<b>Fall</b>		
MATH 3098	Modern Algebra [WI] (F)	3
MATH 3141	Advanced Calculus I (F)	3
General Education/Elective Credits		9
Term Credit Hours		15
<b>Spring</b>		

MATH 3101	Topics in Modern Algebra (S)	3
MATH 3142	Advanced Calculus II (S)	3
3000+ Mathematics Elective <sup>1</sup>		3
General Education/Elective Credits		6
Term Credit Hours		15

**Year 4****Fall**

MATH 4051	Complex Analysis (F)	3
3000+ Mathematics Elective <sup>1</sup>		3
General Education/Elective Credits		9
Term Credit Hours		15

**Spring**

MATH 4096	Senior Problem Solving [WI]	3
3000+ Mathematics Elective <sup>1</sup>		3
General Education/Elective Credits		9
Term Credit Hours		15

Total Credit Hours:		123
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Code	Title	Credit Hours
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(F) - Fall only courses

(S) - Spring only courses

<sup>1</sup> Must be approved by Mathematics faculty advisor.