

MATHEMATICS MAJOR, BS

Campus: NYC, Westchester

The BS program in Mathematics is a specialized program that helps prepare students for employment in quantitative or technical fields (such as actuarial science, computer science, finance, operations research, statistics, and science) or for graduate study.

Major Completion Summary

Requirement	Credits
University Core Requirements	44-55
Major Requirements	46-48
Open Electives	25-38
Total Credits	128

University Core Requirements (44-45 Credits)

See complete University Core (<http://catalog.pace.edu/undergraduate/university-core-curriculum/>) requirements.

Code	Title	Credits
University Core		
Complete University Core Requirements ¹		44-55
Total Credits		44-55

¹ MAT 131 Calculus I (4 credits) may be used to satisfy Math core requirement; otherwise it must be taken for major credit.

Major Requirements (46-48 Credits)

Code	Title	Credits
Required Major Courses		
MAT 131	Calculus I ¹	4
MAT 132	Calculus II	4
MAT 137	Introduction to Discrete Mathematics	4
or MAT 233	Mathematical Structures and Models	
MAT 234	Introduction to Probability and Statistical Analysis	4
MAT 236	Multivariable Calculus	4
MAT 238	Linear Algebra	4
MAT 253	Differential Equations	4
MAT 301	Algebraic Structures	3
MAT 315	Introduction to Real and Complex Analysis	4
MAT 400	Mathematics: Connections, Communications, Research (or MAT 490 and MAT 491)	3
Approved CS or CIT Programming Course		3-4
Required Major Electives		6-7
Two electives selected from courses below		
MAT 218	Applied Regression Models	
MAT 222	Applied Multivariable Statistical Methods	
MAT 225	Bayesian Statistics and Modeling	
MAT 303	Modern Geometry	
or other elective approved by Department Chair		
Total Credits		47-49

¹ MAT 131 Calculus I (4 credits) may be used to satisfy Math core requirement; otherwise it must be taken for major credit.

Open Electives (25-38 Credits)

Code	Title	Credits
Open Electives		
Select 25-38 credits		25-38
Total Credits		25-38

In addition to the courses listed below, students are required to complete two courses with the Anti-Racism Education attribute and two courses with the Writing Enhanced attribute attached. These courses may be taken during any semester of their education. See advisor for more information.

Course	Title	Credits
First Year		
Fall		
ENG 110	Composition	3
UNV 101	First-Year Seminar: Introduction to University Community	1
MAT 131	Calculus I	4
Take any two remaining Area of Knowledge and Learning Community (LC) courses		6
Take any one remaining Area of Knowledge course		3
Credits		17
Spring		
MAT 132	Calculus II	4
ENG 120	Critical Writing	4
MAT 234	Introduction to Probability and Statistical Analysis (Analysis of Human, Social, and Natural Phenomena (AOK5))	4
One Lab science course		3
Credits		15
Second Year		
Fall		
MAT 233 or MAT 137	Mathematical Structures and Models or Introduction to Discrete Mathematics	4
MAT 236	Multivariable Calculus	4
First Second Language Course. See Advisor for guidelines		3
One Civic Engagement (CE) course		3
Open Elective Course		3
Credits		17
Spring		
ENG 201	Writing in the Disciplines	3
MAT 253	Differential Equations	4
Second Language Course, if applicable		3
Take any one remaining Area of Knowledge course		4
Take any one remaining Area of Knowledge course		3
Credits		17
Third Year		
Fall		
CS 121	Introduction to Computer Science	4
MAT 238	Linear Algebra	4
Take any one remaining Area of Knowledge course		3
One 200-level or higher elective course in MAT (except MAT 260)		3
Open Elective Course		3
Credits		17
Spring		
MAT 301 or MAT 315	Algebraic Structures (Or 200-level elective course in MAT) or Introduction to Real and Complex Analysis	3 or 4
One 200-level or higher elective course in MAT (except MAT 260)		3

COM 200	Public Speaking	3
Approved CS or CIT Programming Course		3 or 4
Open Elective Course		3
Credits		15-17
Fourth Year		
Fall		
MAT 490 or MAT 400	Mathematics Seminar Capstone Experience I or Mathematics: Connections, Communications, Research	1 or 3
Open Elective Course		3
Open Elective Course		3
Open Elective Course		3
Open Elective Course		3
Credits		13-15
Spring		
MAT 491	Mathematics Seminar Capstone Experience II (Only if student took MAT 490 and not MAT 400)	2
MAT 301 or MAT 315	Algebraic Structures or Introduction to Real and Complex Analysis	3 or 4
Open Elective Course		3
Open Elective Course		3
Open Elective Course		3
Open Elective Course		3
Credits		17-18
Total Credits		128-133