

# 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
<b>Total Credits</b>	<b>128</b>

## NYC Students

### University Core Requirements (44-55 Credits)

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

Code	Title	Credits
<b>University Core</b>		
Complete University Core Requirements <sup>1</sup>		44-55
<b>Total Credits</b>		<b>44-55</b>

<sup>1</sup> 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
<b>Required Major Courses</b>		
MAT 131	Calculus I <sup>1</sup>	4
MAT 132	Calculus II	4
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 305	Complex Variables	3
MAT 311	Real Analysis	3
MAT 233	Mathematical Structures and Models	4
MAT 490	Mathematics Seminar Capstone Experience I	1
MAT 491	Mathematics Seminar Capstone Experience II	2
<b>Required Major Electives</b>		
Select two approved mathematics courses 200-level or higher.		6-8
<b>Total Credits</b>		<b>46-48</b>

<sup>1</sup> 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
<b>Open Electives</b>		
Select 25-38 credits		25-38
<b>Total Credits</b>		<b>25-38</b>

## PLV Students

### University Core Requirements (44-55 Credits)

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

Code	Title	Credits
<b>University Core</b>		
Complete University Core Requirements <sup>1</sup>		44-55
<b>Total Credits</b>		<b>44-55</b>

<sup>1</sup> 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
<b>Required Major Courses</b>		
MAT 131	Calculus I <sup>1</sup>	4
MAT 132	Calculus II	4
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 305	Complex Variables	3
MAT 311	Real Analysis	3
MAT 137	Introduction to Discrete Mathematics	4
MAT 400	Mathematics: Connections, Communications, Research	3
<b>Required Major Electives</b>		
Select two approved mathematics courses 200-level or higher.		6-8
<b>Total Credits</b>		<b>46-48</b>

<sup>1</sup> 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
<b>Open Electives</b>		
Select 25-38 credits		25-38
<b>Total Credits</b>		<b>25-38</b>
<b>Course Title Credits</b>		
<b>First Year</b>		
<b>Fall</b>		
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
<b>Credits</b>		<b>17</b>
<b>Spring</b>		
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
<b>Credits</b>		<b>15</b>

**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
<b>Credits</b>		<b>17</b>

**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
<b>Credits</b>		<b>17</b>

**Third Year**
**Fall**

CS 121	Computer Programming I	4
MAT 238	Linear Algebra	4
MAT 305 or MAT 311	Complex Variables or Real Analysis	3
Take any one remaining Area of Knowledge course		3
Open Elective Course		3
<b>Credits</b>		<b>17</b>

**Spring**

MAT 301	Algebraic Structures (Or 200-level elective course in MAT)	3
One 200-level or higher elective course in MAT		3
COM 200	Public Speaking	3
Open Elective Course		3
Open Elective Course		3
<b>Credits</b>		<b>15</b>

**Fourth Year**
**Fall**

MAT 490	Mathematics Seminar Capstone Experience I (Or MAT 400 (MAT 400 is 3 credits))	1
MAT 305 or MAT 311	Complex Variables or Real Analysis	3
Open Elective Course		3
Open Elective Course		3
Open Elective Course		3
Open Elective Course		3
<b>Credits</b>		<b>16</b>

**Spring**

MAT 491	Mathematics Seminar Capstone Experience II (Only if student took MAT 490 and not MAT 400)	2
MAT 301	Algebraic Structures (Or 200-level or higher elective course in MAT)	3
Open Elective Course		3
Open Elective Course		3
Open Elective Course		3
<b>Credits</b>		<b>14</b>
<b>Total Credits</b>		<b>128</b>