

# BIOCHEMISTRY MAJOR, BS

**Campus:** NYC, Westchester

Prepares students for medical school, graduate school, or employment in the industry. This program is approved by the American Chemical Society (ACS).

## Major Completion Summary

Requirement	Credits
University Core Requirements	44-55
Major Requirements	65-66
Open Electives	7-20
<b>Total Credits</b>	<b>128</b>

## University Core Requirements (44-55 Credits)

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

Includes several of the major-required Math, Biology and Physics courses listed below:

Code	Title	Credits
<b>Major-Required Math and Science Courses</b>		
The following University Core courses satisfy several Math and Science foundation requirements of the Biochemistry Major, BS:		
BIO 101	General Biology I	4
BIO 102	General Biology II	4
MAT 132	Calculus II	4
PHY 111	General Physics I	4
PHY 112	General Physics II	4
BIO 231 or BIO 264	Genetics Microbiology	4

## Major Requirements (65-66 Credits)

Code	Title	Credits
<b>Required Major Courses</b>		
CHE 111	General Chemistry I	4
CHE 112	General Chemistry II	4
CHE 200	Mathematical Methods for Physical Chemistry	4
CHE 221	Analytical Methods and Techniques	4
CHE 223	Organic Chemistry I	5
CHE 224	Organic Chemistry II	5
CHE 301	Physical Chemistry I	4
CHE 302	Physical Chemistry II	4
CHE 326	Biochemistry	4
CHE 328	Advanced Biochemistry	3
CHE 329	Advanced Biochemistry Laboratory	0-2
CHE 330	Advanced Inorganic Chemistry	4
CHE 331	Instrumental Analysis	4
CHE 340	Polymer Chemistry	3
CHE 392	Chemistry Seminar I	1
CHE 480	Research in Chemistry	3
CHE 492	Chemistry Seminar II	1
CHE 333 (NYC) or CHE XXX Recommended Advanced CHE Course (PLV)		3
<b>Required Science Course <sup>1</sup></b>		

FOR 505 (NYC) or BIO 335 (PLV)

3

**Total Credits****63-65**<sup>1</sup> Not taken for University Core Credit**Open Electives (7-20Credits)**

Code	Title	Credits
<b>Open Electives</b>		
Select 7-20 credits <sup>1</sup>		7-20
<b>Total Credits</b>		<b>7-20</b>

<sup>1</sup> Includes UNV 101 First-Year Seminar. Introduction to University Community and Major-required Biology, Math, and Physics courses not taken for University Core credit.

Course	Title	Credits
<b>First Year</b>		
<b>Fall</b>		
ENG 110	Composition	3
BIO 101	General Biology I	4
CHE 111	General Chemistry I	4
MAT 131	Calculus I	4
UNV 101	First-Year Seminar: Introduction to University Community (STEM Major section)	1
<b>Credits</b>		<b>16</b>
<b>Spring</b>		
ENG 120	Critical Writing	4
BIO 102	General Biology II	4
CHE 112	General Chemistry II	4
MAT 132	Calculus II	4
CIS 101	Introduction to Computing	3
<b>Credits</b>		<b>19</b>
<b>Second Year</b>		
<b>Fall</b>		
CHE 223	Organic Chemistry I	5
PHY 111	General Physics I	4
BIO 264	Microbiology (or Take any one remaining Area of Knowledge course)	4
First Second Language Course. See Advisor for guidelines		3
<b>Credits</b>		<b>16</b>
<b>Spring</b>		
CHE 200	Mathematical Methods for Physical Chemistry	4
CHE 224	Organic Chemistry II	5
PHY 112	General Physics II (Counts for Analysis of Human, Social, and Natural Phenomena (AOK5))	4
Second Language Course, if applicable		3
<b>Credits</b>		<b>16</b>
<b>Third Year</b>		
<b>Fall</b>		
CHE 221	Analytical Methods and Techniques	4
CHE 301	Physical Chemistry I	4
CHE 392	Chemistry Seminar I	1
ENG 201	Writing in the Disciplines	3-4
Take any one remaining Area of Knowledge course (Learning Community (LC))		3
<b>Credits</b>		<b>15-16</b>

**Spring**

CHE 331	Instrumental Analysis	4
CHE 302	Physical Chemistry II	4
BIO 231	Genetics (or Any one remaining Area of Knowledge course)	4
CHE 326	Biochemistry	4
<b>Credits</b>		<b>16</b>

**Fourth Year****Fall**

CHE 328	Advanced Biochemistry	3
CHE 340	Polymer Chemistry	3
CHE 492	Chemistry Seminar II	1
CHE 480	Research in Chemistry	3
Take any one remaining Area of Knowledge course		4
<b>Credits</b>		<b>14</b>

**Spring**

CHE 333	Advanced Organic Chemistry	3
CHE 330	Advanced Inorganic Chemistry	4
CHE 329	Advanced Biochemistry Laboratory	2
FOR 505	Molecular Biology	3
Take any one remaining Area of Knowledge course		3
<b>Credits</b>		<b>15</b>
<b>Total Credits</b>		<b>127-128</b>