

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
Total Credits	128

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
Major-Required Math and Science Courses		
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	Genetics	4
or BIO 264	Microbiology	

Major Requirements (65-66 Credits)

Code	Title	Credits
Required Major Courses		
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: Quantum Mechanics and Spectroscopy	4
CHE 302	Physical Chemistry II: Thermodynamics, Molecular Interactions and Kinetics	4
CHE 326	Biochemistry	4
CHE 328	Advanced Biochemistry	3
CHE 329	Advanced Biochemistry Laboratory	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
Required Science Course ¹		

FOR 505 (NYC) or BIO 335 (PLV)	3
Total Credits	65

¹ Not taken for University Core Credit

Open Electives (7-20Credits)

Code	Title	Credits
Open Electives		
Select 7-20 credits ¹		7-20
Total Credits		7-20

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

In addition to the courses listed below, students are required to complete two courses with the Anti-Racism Education 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
BIO 101	General Biology I	0-4
CHE 111	General Chemistry I	0-4
MAT 131	Calculus I	0-4
UNV 101	First-Year Seminar: Introduction to University Community (STEM Major section)	1
Credits		4-16
Spring		
ENG 120	Critical Writing	4
BIO 102	General Biology II	0-4
CHE 112	General Chemistry II	0-4
MAT 132	Calculus II	0-4
CIS 101	Introduction to Computing	0-3
Credits		4-19
Second Year		
Fall		
CHE 223	Organic Chemistry I	0-5
PHY 111	General Physics I	0-4
BIO 264	Microbiology (or Take any one remaining Are of Knowledge course)	0-4
First Second Language Course. See Advisor for guidelines		3
Credits		3-16
Spring		
CHE 200	Mathematical Methods for Physical Chemistry	4
CHE 224	Organic Chemistry II	0-5
PHY 112	General Physics II (Counts for Analysis of Human, Social, and Natural Phenomena (AOK5))	0-4
Second Language Course, if applicable		3
Credits		7-16
Third Year		
Fall		
CHE 221	Analytical Methods and Techniques	0-4
CHE 301	Physical Chemistry I: Quantum Mechanics and Spectroscopy	0-4
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
Credits		7-16
Spring		
CHE 331	Instrumental Analysis	0-4
CHE 302	Physical Chemistry II: Thermodynamics, Molecular Interactions and Kinetics	0-4
BIO 231	Genetics (or Any one remaining Area of Knowledge course)	0-4
CHE 326	Biochemistry	0-4
Credits		0-16
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
Credits		14
Spring		
CHE 333	Advanced Organic Chemistry	3
CHE 330	Advanced Inorganic Chemistry	0-4
CHE 329	Advanced Biochemistry Laboratory	0-2
FOR 505	Molecular Biology	3
Take any one remaining Area of Knowledge course		3
Credits		9-15
Total Credits		48-128