

BIOCHEMISTRY B.S.

Biochemistry can be an excellent choice for a career in industry, medical settings, and academic or government positions. The degree is also an excellent choice to prepare students for medical, dental, veterinary, and pharmacy school.

Biochemistry is the study of the structure, composition, and chemical reactions of substances in living systems. Biochemistry emerged as a separate discipline when scientists combined biology with organic, inorganic, and physical chemistry and began to study how living things obtain energy from food, the chemical basis of heredity, what fundamental changes occur in disease, and related issues. Biochemistry includes the sciences of molecular biology, immunochemistry, and neurochemistry, as well as bioinorganic, bioorganic, and biophysical chemistry.

Pre-Medical/Pre-Dental/Pre-Veterinary/Pre-Health

Students interested in attending medical school, dental school, veterinary school, or other health programs should refer to the Pre-Medical/Pre-Dental/Pre-Veterinary/Pre-Health Advising Track (<https://catalog.dyouville.edu/degree-programs/arts-sciences-education/pre-med/>) page for more details.

Students within the department must maintain a minimum of 2.0 G.P.A. in courses taken at D'Youville in coursework required for their major. Students who fail to earn this G.P.A will be placed on probation in the major. Probation may continue for a maximum of three consecutive semesters or a total of four nonconsecutive semesters. Students who exceed these limits will be dismissed from the major. Students may appeal these decisions on academic status by submitting, in writing to the department chairperson, reasons why exceptional consideration may be justified.

Course Requirements for the Major:

Code	Title	Credits
General Education Requirements		27
Chemistry/Biology courses		53
Additional mathematics and natural science courses		15
Electives		27
Total Credits		122

In the specific area of concentration:

Code	Title	Credits
CHE-101	General Chemistry I	3
CHE-101L	General Chemistry Laboratory	1
CHE-102	General Chemistry II	3
CHE-102L	General Chemistry Laboratory II	1
CHE-219	Organic Chemistry	3
CHE-219L	Organic Chemistry Lab	1
CHE-220	Organic Chemistry II	3
CHE-220L	Organic Chemistry II Lab	1
CHE-303	Biochemistry	3
or BIO-303	Biochemistry	
CHE-303L	Biochemistry Laboratory	1
or BIO-303L	Biochemistry Lab	
CHE-344	Advanced Biochemistry	3

or BIO-344	Advanced Biochemistry	
CHE-344L	Advanced Biochemistry Lab	1
or BIO-344L	Advanced Biochemistry Lab	
CHE-311	Physical Chemistry I	3
or CHE-321	Physical Chemistry for the Life Sciences	
CHE-331	Analytical Chemistry	4
CHE-351	Medicinal Chemistry	3
BIO-101	Introductory Biology I	4
BIO-101L	Intro Bio Lab I	0
BIO-102	Introductory Biology II	4
BIO-102L	Intro Bio Lab II	0
BIO-302	Genetics	4
BIO-302L	Genetics Lab	0
BIO-312	Molecular Cell Biology	4
BIO-499	Capstone Experience	3
or CHE-499	Capstone Experience	
Total Credits		53

In other academic areas required for the major:

Code	Title	Credits
MAT-125	Calculus I	4
MAT-201	Biostatistics	3
PHY-101	General Physics I	3
or PHY-111	Introduction to Physics	
PHY-101L	Gen Physics Lab I	1
or PHY-111L	Introduction to Physics Lab	
PHY-102	General Physics II	3
or PHY-112	Introduction to Physics	
PHY-102L	Gen Physics Lab II	1
or PHY-112L	Introduction to Physics Lab	
Total Credits		15

Admission into the Biochemistry B.S. degree program requires a minimum high school average of 85% and three years of high school Math and Science. Transfer students and those entering after D'Youville University matriculation are required to have a minimum overall and required science G.P.A. of 2.75.