Name:
Date Drafted:

Biochemistry Major

UVM |College of Agriculture and Life Sciences | Department of Microbiology and Molecular Genetics

Advising Form 2025-2026

Graduates of this major will be able to:

- Demonstrate general knowledge in biochemistry, chemistry and biology and will be able to apply principles from these disciplines in the solution of qualitative and quantitative biochemical problems.
- Understand the interplay of observational data, hypotheses, and hypothesis-driven experimentation through application of the scientific method.
- Become proficient in biochemical laboratory techniques and be able to apply these to practical and current problems in research.
- Be able to read and critically evaluate biochemical and biochemistry-related literature.
- Learn to present scientific data clearly and effectively through both written and verbal communication.

UVM students meet the above goals by completion of at least 120 credits. Students then tailor their education to their interests, selecting courses from a broad range of electives in the biological sciences. Students must maintain a minimum cumulative GPA of 2.0 to remain in good standing in the college.

Catamount Core Curriculum | 42 credits

Liberal Arts | 21 credits

Discipline	Credits	Course designations
Arts and Humanities	6	AH1, AH2, AH3
Social Sciences	6	S1
Natural Sciences	6	N1 and N2
Mathematics	3	MA

Core Skills | 9 credits

Discipline	Credits	Course designations
Quantitative and Data Literacy	3	QD
Writing and Information Literacy	3	WIL1
Oral Communication	3	OC

Common Ground Values | 12 credits

Discipline	Credits	Course designations
Diversity	6	Must take 3 credits of D1, and 3 credits D1 or D2
Sustainability	3	SU
Global Citizenship	3	GC1 or GC2

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Biochemistry Major Requirements

Ancillary Requirements (minimum 27 credits)

Number	Name	Credits	Semester
BIOC 1010	Biochemistry: Modern Perspectives 1	1	Fall
BIOC 1011	Biochemistry: Modern Perspectives 2	1	Spring
BCOR 1400 (NS)	Exploring Biology 1	4	Fall
BCOR 1450 (NS)	Exploring Biology 2	4	Spring
MATH 1234 (MA)	Calculus 1	4	Any
MATH 1248	Calculus 2	4	Any
PHYS 1600	Fundamentals of Physics 1	4	Fall
PHYS 1650	Fundamentals of Physics 2	4	Spring
STAT 1410	Basic Statistical Methods	3	Any

Core Requirements (minimum 32 credits)

Number	Name	Credits	Semester
CHEM 1410	Exploring Chemistry 1	1	
CHEM 1460 (NS)	Exploring Chemistry 2	1	
CHEM 2400 (NS)	Inorganic Chemistry	3	
CHEM 1500 (NS)	Organic Chemistry for Majors 1	4	
CHEM 1550 (NS)	Organic Chemistry for Majors 2	4	
CHEM 2600	Intro Physical Chemistry	3	
BCOR 2300 (NS)	Genetics	3	
BCOR 2500	Cell and Molecular Biology (with lab)	4	
BIOC 3005	Biochemistry 1	3	
BIOC 3006	Biochemistry 2	3	
BIOC 3007	Biochemistry lab	3	
BIOC 4084 OR BIOC 4996	Biochemistry Senior Seminar Honors	1 1-6	

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Advanced Courses (13-16 credits)

Number	Name	Credits	Semester
BIOC 3030	Adv Biochem Lab: Protein Cure	4	Fall
BIOL 4630	Adv Genetics Laboratory	3	Any
BIOL 4635	Advanced Genetics and Proteomics Lab	3	Fall
CHEM 2310	Quantitative Analysis	3	Fall
MMG 2040	Intro Molecular Genetics	4	Spring
MMG 3010	Applied Cell and Molecular Bio Lab	4	Fall

Advanced Biochemistry Related Electives[1] (9-12 credits)

Number	Name	Credits	Semester
ASCI 3180	Endocrinology	3	
BIOC 3063	Nutritional Biochemistry	3	
BIOC 3075	Adv Biochem of Human Disease	3	
BIOL 3565	Developmental Molecular Genetics	3	
BIOL 4135	Molecular Ecology	4	
BIOL 4405	Comparative Physiology	4	
CHEM 3320	Instrumental Analysis	3	
CHEM 3600	Adv Physical Chemistry	3	
MMG 3250	Eukaryotic Virology	3	
MMG 3300	Adv Studies Emerging Inf Disease	3	
MMG 3310	Survey Bioinformatic Databases	3	
MMG 3320	Adv Bioinformatics	3	
NFS 3243	Adv Nutrition	3	
NSCI 3250	Human Neuroanatomy	3	
PHRM 3010	Pharmacology and Therapeutics	3	
PSYS 3250	Psychopharmacology	3	
STAT 3210	Adv Statistical Methods	3	

[1] For complete selection of approved electives, see undergraduate catalog

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Date	Career Goal	Research interests	Demonstrated Skills	My next steps

Name:
Date Drafted:

Advisor:
Major(s): Minor(s):
Study Abroad (Y/N/Maybe)
Career Goals/Interests:

	FALL			SPRING			
Year	Number	Name	Credits	**Year**	Number	Name	Credits
2025				**2026**			
2026				**2027**			
2027				**2028**			
2028				**2029**			