BIOCHEMISTRY B.S.

All students must meet the Degree and University Requirements.

All students must meet the Catamount Core Curriculum Requirements.

All students must meet the College Requirements.

MAJOR REQUIREMENTS

Students who are pursuing the B.S. in Biochemistry in the College of Arts and Sciences are required to take at least 84 credits of coursework in the College of Arts and Sciences.

At least 46 credits in major courses, plus 23-27 credits in ancillary courses, including:

ANCILLARY REQUIREMENTS. At least 23 credits.

INTRODUCTORY BIOLOGY. Choose 1 of the following options: 4-8

Option A (recommended):

**BCOR 1400 & BCOR 1450** Exploring Biology 1 and Exploring Biology 2

Option B:

**BCOR 1425** Accelerated Biology

Option C:

**BIOL 1400 & BIOL 1450** Principles of Biology 1 and Principles of Biology 2

MATHEMATICS. Choose 1 of the following options: 8

Option A (recommended):

**MATH 1234 & MATH 1248** Calculus I and Calculus II

Option B:

**MATH 1212 & MATH 1242** Fundamentals of Calculus I and Transitional Calculus

STATISTICS. 3

**STAT 1410** Basic Statistical Methods I

PHYSICS. Choose 1 of the following options: 8

Option A (recommended):

**PHYS 1600 & PHYS 1650** Fundamentals of Physics I and Fundamentals of Physics II

Option B:

**PHYS 1400 & PHYS 1450** Elementary Physics I and Elementary Physics II

CORE REQUIREMENTS. At least 32 credits.

INTERMEDIATE BIOLOGY. 7

GENERAL CHEMISTRY. Choose 1 of the following options: 5-8

Option A (recommended):

**CHEM 1410 & CHEM 1460 & CHEM 2400** Exploring Chemistry 1 and Exploring Chemistry 2 and Inorganic Chemistry

Option B:

**CHEM 1400 & CHEM 1450** General Chemistry 1 and General Chemistry 2

ORGANIC CHEMISTRY. Choose 1 of the following options: 8

Option A (recommended):

**CHEM 1500 & CHEM 1550** Organic Chemistry for Majors 1 and Organic Chemistry for Majors 2

Option B:

**CHEM 2580 & CHEM 2585** Organic Chemistry 1 and Organic Chemistry 2

PHYSICAL CHEMISTRY. 3

**CHEM 2600** Intro Physical Chemistry

BIOCHEMISTRY. 9

**BIOC 3005** Biochemistry I

**BIOC 3006** Biochemistry II

**BIOC 3007** Biochemistry Lab

ADVANCED COURSES. 14 credits.

INTERMEDIATE LABORATORY ELECTIVE. Choose 1 of the following: 4

**CHEM 2310** Quantitative Analysis

**MMG 2040** Intro Molecular Genetics

**MMG 3010** Applied Cell & Mol Bio Lab

**BIOL 4630** Adv Genetics Laboratory

**BIOL 4635** Adv Genetics & Proteomics Lab

ADVANCED BIOCHEMISTRY ELECTIVES. 5-9 additional credits from the Undergraduate and/or Graduate Elective lists below, in any combination.

Undergraduate Elective Courses: ASCI 3180, BIOC 3063, BIOC 3075, BIOL 3500, BIOL 3505, BIOL 3535, BIOL 3560, BIOL 3565, BIOL 4135, BIOL 4405, CHEM 3320, CHEM 3400, CHEM 3600, CHEM 4580, MMG 3110, MMG 3230, MMG 3250, MMG 3300, MMG 3310, MMG 3320, MMG 3330, NFS 3243, NSCI 3250, PHRM 3010, PHRM 3720, PHRM 3900, PHYS 3700, PYS 3250, STAT 3210
**Research.** Up to 4 credits from the following: BIOC 3995, BIOC 4996, CHEM 3995, or MMG 3995. Research credits in other related disciplines may be applied with the approval of the Biochemistry Directors.

<table>
<thead>
<tr>
<th>Graduate Elective Courses Requiring Instructor Permission: BIOC 6051, BIOC 6072, CHEM 6410, CHEM 6460, CHEM 6560, CHEM 6580, CHEM 6590, CHEM 6610, CHEM 6620, CLBI 6010, MMG 6200, MPBP 6010, MPBP 6100, NSCI 5230, NSCI 6020, PHRM 5400, STAT 5310</th>
</tr>
</thead>
</table>

**Senior Project.** Choose 1 of the following:

| BIOC 4084 | Biochemistry Senior Seminar |
| BIOC 4996 | Honors |

Additional courses, including graduate-level courses, may be accepted as electives with prior approval from the Biochemistry Directors.

**Restrictions**

Students completing the B.S. in Biochemistry may not also receive the B.A. in Chemistry or the B.S. in Chemistry.

**Other Information**

In the College of Arts and Sciences (CAS), only one course may overlap between a major and a minor or between two CAS majors.

For a Bachelor of Science degree, no more than 50 credits in courses with the same departmental prefix may be used toward completion of the 120 credits required for graduation.

At least half of the credits used to complete major requirements must be taken at the University of Vermont.