

## BIOCHEMISTRY AMP

All students must meet the Requirements for the Accelerated Master's Degree Pathways

### OVERVIEW

Our accelerated master's degree entry pathway (AMP) in Biochemistry is a thesis-based program designed to offer select UVM undergraduate science majors the opportunity to obtain both a B.S. and a M.S. in biochemistry in a total of 5 years of study. The objective of this program is to provide students both a theoretical and practical knowledge of fundamental biochemical concepts while preparing students for careers in research (academic or industrial) or increasing their competitiveness for additional graduate degrees.

### SPECIFIC REQUIREMENTS

#### Requirements for Admission to Graduate Studies for the Degree of Master of Science

Students could apply for admission into the accelerated master's in biochemistry program in the beginning of the Fall semester of their Junior year and as late as the Fall semester of their Senior year. Admission into this program requires the following:

- A minimum cumulative grade point average of 3.00;
- Satisfactory completion of BIOC 3005 & BIOC 3006;
- Completion of the Graduate College Application form;
- Agreement of a UVM Biochemistry faculty member to serve as AMP advisor (this faculty member should also write 1 of the 3 recommendation letters in support of the student's application to the Graduate College).

GRE/GMAT scores are NOT an admission requirement for the accelerated master's in biochemistry program.

Note: Students MUST be admitted through the Graduate College before taking any courses that will be applied to the master's degree requirements. Students may start full-time master's degree coursework in the summer following their undergraduate graduation.

#### Minimum Degree Requirements for the Degree of Master of Science

A minimum of 30 credits (at least 17 of which must be taken from graduate courses offered by the Department of Biochemistry and 6 of which must be graded credits at the 6000-level) and successful completion of a comprehensive exam are required for completion of the accelerated master's degree in biochemistry. Students must meet all of the requirements stipulated by the UVM Graduate College for the Master's Degree.

Students may take up to 9 credit hours of graduate-level coursework before the conferral of the B.S. that can also count toward the M.S. Students would then be expected to complete remaining master's degree requirements during a 5<sup>th</sup> year of study.

Students must complete the following courses:

Requirement Description		Credits
BIOC 6001	General Biochemistry I *	3
BIOC 6002	General Biochemistry II *	3
BIOC 6990	Special Topics (Proteins I: Structure & Function)	3
BIOC 6072	Cancer Biology	3

\*Successful completion of BIOC 3005/BIOC 3006 can substitute for the BIOC 6001/BIOC 6002 requirement for AMP students. However, these will not count towards the 30 graduate credit requirement. Therefore, BIOC 3005 and BIOC 3006 cannot be used as courses that will double count towards bachelor's degree and the M.S.

Note: If a physical chemistry course has not been taken previously, a student must take Physical Chemistry (CHEM 2600) in their 1<sup>st</sup> year (for which they do not receive credit toward the MS degree).

Remaining credits in the degree program should be selected from the following approved list. Special topics or other graduate courses maybe acceptable by prior approval from the Chair of the Departmental Graduate Studies Committee.

Requirement Description		Credits
CLBI 6010	Cell Biology	3
MPBP 6010	Human Physiology & Pharm I	4
PHRM 6010	Applied Systems Pharmacology	3
PHRM 6080	Integrative Physiol. & Pharm.	3

Thesis Track:

At least 9 (and up to 13) credits of Master's Thesis Research (BIOC 6391) are required. In addition, a written thesis and defense of this thesis must occur according to the guidelines laid out by the Graduate College.

Non-Thesis Track:

At least 6 (and up to 9) credits of Independent Study (BIOC 6993) and 2 credits of independent research set up as a special topics course (BIOC 6995) with your mentor are required. In addition, a manuscript in the format of a review article must be submitted to the Departmental Graduate Studies Committee and a seminar on the manuscript must be presented to the Department.

#### Comprehensive Examination

The comprehensive examination must be taken by the end of the 2<sup>nd</sup> semester as a matriculated graduate student for students admitted in the accelerated program. The examination will cover broad knowledge of the student's discipline. The details and format of the examination and its form (written or oral or both) are decided

upon by the Departmental Graduate Studies Committee and will be discussed with the student well in advance of the exam. A single re-take is permitted for the comprehensive exam.

**Requirements for Advancement to Candidacy for the Degree of Master of Science**

Advancement to candidacy requires satisfactory completion of the comprehensive exam.