BIOCHEMISTRY AMP

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

OVERVIEW

Our accelerated master's degree program (AMP) in Biochemistry is designed to offer select UVM undergraduate science majors the opportunity to obtain both their bachelor's degree and a master's degree in biochemistry in a total of five years of study. Students may choose to complete either a thesis-based or non-thesis AMP. 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 fall semester 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 3.2;
- Satisfactory completion of BIOC 205 & BIOC 206;
- 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 one of the three 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 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 nine credit hours of graduate level coursework before the conferral of the bachelor's degree. Of these, a maximum of six credit hours may be counted for both the bachelor's and master's degrees. The other three credit hours can only count toward the master's degree provided they are not used in completing the bachelor's degree. Students would then be expected to complete remaining master's degree requirements during a fifth year of study.

Students must complete the following courses:

BIOC 301	General Biochemistry *	3
BIOC 302	General Biochemistry *	3
BIOC 381	Seminar	1

*Successful completion of BIOC 205/BIOC 206 can substitute for the BIOC 301/BIOC 302 requirement for previous UVM students only. However, these will not count towards the 30 graduate credit requirement.

Note: If a physical chemistry course has not been taken previously, a student must take Physical Chemistry (CHEM 162 or CHEM 165) in their first year (for which they do not receive credit toward the MS degree). CHEM 162 is no longer offered, but if a student has already taken this course, it is acceptable for the Physical Chemistry requirement.

Students must complete at least two upper level courses (6 credits) from the following selection of courses:

BIOC 351	Proteins I: Structure&Function	3
BIOC 352	Protein: Nucleic Acid Interact	3
BIOC 353	Proteins II: Enzymology	3
BIOC 370	Physical Biochemistry	3
BIOC 372	Cancer Biology	3

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.

BIOC 325	Data Analysis&Presentation I	2
BIOC 326	Data Analysis&Presentation II	2
CHEM 223	Mass Spectrometry	3
CLBI 301	Cell Biology	3
MMG 211	Prokaryotic Molecular Genetics	3
MMG 232	Methods in Bioinformatics	3
MPBP 301	Human Physiology & Pharm I	4
MPBP 323	Biophysical Techniques	4
PHRM 201	Introduction to Pharmacology	3
PHRM 272	Toxicology	3

Thesis Track:

At least nine (and up to 13) credits of Master's Thesis Research (BIOC 391) 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 six (and up to 9) credits of Independent Literature Research (BIOC 392) and two credits of independent research set up as a special topics course (BIOC 395) 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 second 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.