BIOCHEMISTRY AND BIOPHYSICS PH.D.

The Ph.D. program in Biochemistry and Biophysics (BCBP) provides the highest quality theoretical and hands-on research training to students interested in life processes at the molecular level. Training in the first and second years includes required and elective coursework in areas of study including proteins, nucleic acids, biophysics, and an array of courses related to human health and disease. Students begin laboratory research during rotations in the first year and typically devote all of their time to research by the end of the second academic year. Students have a wide range of potential research topics to pursue in areas as diverse as protein folding, cutting edge biophysical methodologies, and molecular mechanisms of infectious disease, mentored by participating BCBP faculty in the Department of Chemistry and Biochemistry, the Division of Biological Sciences, and the College of Health. Graduate students who earn the Ph.D. degree are typically employed as researchers in academic, government, and pharmaceutical industry jobs.

General Graduate Program Requirements

Graduate School policies and standards can be found on the Graduate School Policies page (https://catalog.umt.edu/graduate/school-policies/).

The minimum GPA for any graduate program is 3.0. Individual programs may require more than a 3.0 to remain in good standing.

The minimum grade for a course to be accepted toward any master's or doctoral requirement is C. The minimum grade for a course to be accepted toward a certificate program is B-. Individual programs may require higher grades for specific courses.

Doctor of Philosophy - Biochemistry and Biophysics

- Additional requirements include an original research proposal and exam.
- Coursework for Biochemistry & Biophysics graduate students is determined by the Advisory Committee. Electives may be substituted, if appropriate, with the approval of the student's Advisory Committee. All course work will normally be completed during the first two years of graduate study.

Course Requirements

Code	Title	Hours
Core Requirements		
Complete all of the following courses:		
BCH 581	Physical Biochemistry	3
BCH 582	Proteins and Enzymes	3
BCH 584	Nucleic Acids	3
BMED 605	Biomedical Research Ethics	1
Lab Rotations		
Complete the following course:		
BCH 570	Intro to Research	1
Electives		
Complete 3 credits of the following courses:		3
BCH 486	Biochemistry Research Lab	
BCH 591	Special Topics	
BCH 600	Cell Organization & Mechanisms	
BIOM 502	Advanced Immunology	
BIOM 535	Advanced Virology	
BMED 615	Molecular Pharmacology	
BMED 621	Drug Design: Medicinal Chemistry and Pharmacology	
CHMY 562	Organic Structure and Mechanisms	
CHMY 591	Special Topics	
CSCI 558	Intro to Bioinformatics	
NEUR 661	Neuroscience I	
NEUR 667	Topics in Neurobiology	
Seminar, Data Club, and Research		
Complete 46 credits of the following courses:		46
BCH 547	Experimental Molecular, Cellular, and Chemical Biology [1]	
BCH 590	Research	
BCH 694	Biochemistry & Biophysics Seminar [1]	
Total Hours		**60**

[1] Students are required to register for 1 credit of BCH 547 and 1 credit of BCH 694 each fall and spring semester they are in the program.