

Biochemistry (MS)

Master of Science Degree Requirements

Code	Title	Hours	Counts towards
Core Courses		13	
BCH 701	Macromolecular Structure		
BCH 703	Macromolecular Synthesis and Regulation		
BCH 705	Molecular Biology Of the Cell		
BCH 801	Seminar In Biochemistry ¹		
Elective Courses		11	
See "Elective Courses" listed below ^{2,3}			
Thesis		6	
BCH 695	Master's Thesis Research ²		
Total Hours		30	

¹ Every semester for 2 years, 4 credit hours total; 1/semester

² Students may choose other courses approved in conjunction with the academic committee

³ Credit hours flexible to meet 30 total hours

Elective Courses

Code	Title	Hours	Counts towards
Select at least three courses below:		9	
BCH 552	Experimental Biochemistry	3	
BCH 553	Biochemistry of Gene Expression	3	
BCH 555	Proteins and Molecular Mechanisms	3	
BCH 560	Molecular Biology for Teachers	3	
BCH 571	Regulation of Metabolism	3	
BCH 590	Special Topics in Biochemistry	1-6	
BCH 701	Macromolecular Structure	3	
BCH 703	Macromolecular Synthesis and Regulation	3	
BCH 705	Molecular Biology Of the Cell	3	

BCH 710	Biological Scanning Electron Microscopy	2
BCH 751	Biophysical Chemistry	3
BCH 760	Protein Crystallography and Macromolecular Modeling	3
BCH 761	Advanced Molecular Biology Of the Cell	3
BCH 763	Biochemistry Of Hormone Action	3
BCH 768	Nucleic Acids: Structure and Function	3
BCH 770	Enzyme Kinetics and Mechanisms	3

Additional Requirements

- Successful completion of the M.S. degree requires a minimum of 30 credit hours.
- At least 18 credit hours of letter-graded courses ("A," "B," "C", etc.) must be included in the program.

Accelerated Bachelor's/Master's Degree Requirements

In addition to the standard University and Biochemistry requirements for a B.S. in Biochemistry, students must complete 30 credit hours at the graduate level for the Master's degree component. This is accomplished as outlined below:

Code	Title	Hours	Counts towards
Undergraduate Core Courses		6	
BCH 552	Experimental Biochemistry		
BCH 553	Biochemistry of Gene Expression		
	or BCH 555 Proteins and Molecular Mechanisms		
400-level Courses with a 500-level Counterpart ^{1,2}		6	
See "400/500 Level Courses" listed below			
Graduate Core Courses ^{1,2}		12	
BCH 701	Macromolecular Structure		
BCH 703	Macromolecular Synthesis and Regulation		
BCH 705	Molecular Biology Of the Cell		
Select one additional course:			

GN 701	Molecular Genetics	
BCH/GN 761	Advanced Molecular Biology Of the Cell	
MB 714	Microbial Metabolic Regulation	
MB 718	Introductory Virology	
PO 757	Comparative Immunology	
Research/Scholarship/Education Course		6
BCH 685	Master's Supervised Teaching	
BCH 693	Master's Supervised Research	
BCH 695	Master's Thesis Research	
Total Hours		30

¹ Indicates courses double counted for both Bachelor's and Master's degree

² Students may choose other courses approved in conjunction with the academic committee

400/500-Level Courses

Code	Title	Hours	Counts towards
Select two courses listed below:		6	
CH 463/563	Molecular Origins of Life		
BIO 488/588	Neurobiology		
GN 441/541	Human and Biomedical Genetics		

Faculty

Joe Barycki

Dennis Brown

Linda Kay Hanley-Bowdoin

Eric S. Miller

Melanie Simpson

Colleen Jennifer Doherty

Michael B. Goshe

Charles C. Hardin

Thomas Makris

Flora Meilleur

Robert B. Rose

Joshua J. Strable

Guozhou Xu

Ruben Rellan Alvarez

Abdulkerim Eroglu

Arion Kennedy

Xiaojing Liu

Ryan Charles Sartor

Joshua Strable

Jose Trinidad Ascencio-Ibanez

Raquel Hernandez

David G. Presutti

Paul Douglas Swartz

Cynthia L. Hemenway

Horace R. Horton

Joseph Stephan Kahn

James Arthur Knopp

Earl S. Maxwell

William Laubach Miller

James W. Moyer

Ron Ross Sederoff

Harold E. Swaisgood

Elizabeth C. Theil

Paul L. Wollenzien

Jason Locasale

Michael Milburn

Whitney Stutts

Peter Thompson