

Molecular Biology and Biochemistry (MBB) Degree Requirements (as of 2003-2)

To graduate with a degree in MBB: A student must complete a minimum of 44 upper division credit hours and a total of 120 credit hours (upper and lower division).

LOWER LEVEL CORE REQUIREMENTS:		UPPER LEVEL CORE REQUIREMENTS:	
All of:		All of:	
<input type="checkbox"/>	MBB 221-3 Cell Biology and Biochemistry	<input type="checkbox"/>	MBB 308-3 Molecular Biology & Biochemistry Lab I
<input type="checkbox"/>	MBB 222-3 Molecular Biology and Biochemistry	<input type="checkbox"/>	MBB 309-3 Molecular Biology & Biochemistry lab II
<input type="checkbox"/>	Bisc 101-4 General Biology	<input type="checkbox"/>	MBB 321-3 Intermediary Metabolism
<input type="checkbox"/>	Bisc 102-4 General Biology	<input type="checkbox"/>	MBB 322-3 Molecular Physiology
<input type="checkbox"/>	Bisc 202-3 Genetics	<input type="checkbox"/>	MBB 331-3 Molecular Biology
<input type="checkbox"/>	Chem 121-4 General Chemistry and Laboratory I	<input type="checkbox"/>	MBB 432-3 Advanced Molecular Biol. Techniques
<input type="checkbox"/>	Chem 122-2 General Chemistry II		
<input type="checkbox"/>	Chem 126-2 General Chemistry Laboratory II	One of:	
<input type="checkbox"/>	Chem 215-4 Introduction to Analytical Chemistry	<input type="checkbox"/>	MBB 323-3 Intro to Physical Biochemistry
<input type="checkbox"/>	Chem 281-4 Organic Chemistry I	<input type="checkbox"/>	CHEM 360-3 Thermodynamics and Chemical Kinetics
<input type="checkbox"/>	Chem 282-2 Organic Chemistry II		
<input type="checkbox"/>	Chem 286-2 Organic Chemistry Laboratory II	A minimum of 4 courses from the following list which must include a minimum of one of the courses indicated by # and a minimum of one of the courses indicated by * (you may take as many as you want)	
One of:		<input type="checkbox"/>	MBB 402-3 Molecular Genetics
<input type="checkbox"/>	Math 151-3 Calculus I	<input type="checkbox"/>	MBB 403-3 Physical Biochemistry
<input type="checkbox"/>	Math 154-3 Calculus I for the Biological Sciences	<input type="checkbox"/>	MBB 412-4 Enzymology
One of:		<input type="checkbox"/>	MBB 420-3 Special Topics in Biochemistry
<input type="checkbox"/>	Math 152-3 Calculus II	<input type="checkbox"/>	MBB 421-3 Nucleic Acids #
<input type="checkbox"/>	Math 155-3 Calculus II for the Biological Sciences	<input type="checkbox"/>	MBB 422-3 Biomembranes #
One of:		<input type="checkbox"/>	MBB 423-3 Protein Structure and Function #
<input type="checkbox"/>	Phys 101-3 General Physics I	<input type="checkbox"/>	MBB 426-3 Immunology
<input type="checkbox"/>	Phys 120-3 Modern Physics and Mechanics	<input type="checkbox"/>	MBB 435-3 Genomic Analysis *
One of:		<input type="checkbox"/>	MBB 438-3 Human Molecular Genetics
<input type="checkbox"/>	Phys 102-3 General Physics II	<input type="checkbox"/>	MBB 440-3 Special Topics in Molecular Biology
<input type="checkbox"/>	Phys 121-3 Optics, Electricity and Magnetism	<input type="checkbox"/>	MBB 441-3 Bioinformatics *
One of:		<input type="checkbox"/>	MBB 442-3 Proteomics *
<input type="checkbox"/>	Cmpt 101-4 Introduction to Computer Programming	<input type="checkbox"/>	MBB 443-3 Protein Biogenesis and Degradation #
<input type="checkbox"/>	Cmpt 102-3 Intro to Scientific Computer Programming		
<input type="checkbox"/>	Cmpt 110-3 Event-Driven Programming in Visual Basic		
One of:			
<input type="checkbox"/>	Math 310-3 Intro to Ordinary Differential Equations		
<input type="checkbox"/>	Stat 201-3 Statistics for the Life Sciences		
Electives: 9 credit hours of the 120 total must be electives from outside the Faculty of Science and 6 of these credit hours <u>must</u> be electives from the Faculty of Arts. Can be upper or lower division courses.		Recommended Upper Division Electives:	
<input type="checkbox"/>		<input type="checkbox"/>	Bisc 303-3 Microbiology
<input type="checkbox"/>		<input type="checkbox"/>	Bisc 333-3 Developmental Biology
<input type="checkbox"/>		<input type="checkbox"/>	Bisc 403-3 Advanced Cell Biology
<input type="checkbox"/>		<input type="checkbox"/>	Chem 333-3 Inorganic Chem of Biol. Processes
<input type="checkbox"/>			
<input type="checkbox"/>			
<input type="checkbox"/>			
<input type="checkbox"/>			

Minors: All lower division core requirements (except for Bisc 202, Stat 201/Math 310 and Cmpt) plus any five upper division MBB courses.		Honours Requirements: In addition to fulfilling the MBB Major requirements, honours students must complete an Individual Study Semester (ISS) over one (MBB 493-15) or two semesters (MBB 491-5 and MBB 492-10). Honours students must also complete a total of 132 credit hours. Of the 132 credit hours, 60 must be upper division credits (and includes the ISS).	
<input type="checkbox"/>		<input type="checkbox"/>	MBB 493-15 Individual Study Semester
<input type="checkbox"/>		<input type="checkbox"/>	MBB 491-5 Undergraduate Research
<input type="checkbox"/>		<input type="checkbox"/>	MBB 492-10 Individual Study Semester
<input type="checkbox"/>			
<input type="checkbox"/>			
Revised Feb. 28, 2003			