

Molecular Biology and Biochemistry (MBB) Degree Requirements (as of 2008-3)

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 222-3	Molecular Biology and Biochemistry	<input type="checkbox"/> MBB 308-3	Molecular Biology & Biochemistry Lab I
<input type="checkbox"/> MBB 231-3	Cell Biology and Biochemistry	<input type="checkbox"/> MBB 309W-4	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"/> Chem 122-2	General Chemistry II		
<input type="checkbox"/> Chem 126-2	General Chemistry Laboratory II		
<input type="checkbox"/> Chem 215-4	Introduction to Analytical Chemistry	One of:	
<input type="checkbox"/> Chem 281-4	Organic Chemistry I	<input type="checkbox"/> MBB 323-3	Intro to Physical Biochemistry
<input type="checkbox"/> Chem 282-2	Organic Chemistry II	<input type="checkbox"/> CHEM 360-3	Thermodynamics and Chemical Kinetics
<input type="checkbox"/> Chem 286-2	Organic Chemistry Laboratory II		
One of:		A minimum of 5 courses from the following list which must include a <u>minimum</u> of <u>one</u> of the courses indicated by # and a minimum of <u>one</u> of the courses indicated by * (you may take as many as you want)	
<input type="checkbox"/> Math 150-4	Calculus I with Review		
<input type="checkbox"/> Math 151-3	Calculus I		
<input type="checkbox"/> Math 154-3	Calculus I for the Biological Sciences		
One of:			
<input type="checkbox"/> Math 152-3	Calculus II	<input type="checkbox"/> MBB 402-3	Molecular and Developmental Genetics
<input type="checkbox"/> Math 155-3	Calculus II for the Biological Sciences	<input type="checkbox"/> MBB 403-3	Physical Biochemistry (413)
		<input type="checkbox"/> MBB 412-4	Enzymology (4XX)
One of:		<input type="checkbox"/> MBB 420-3	Special Topics in Biochemistry
<input type="checkbox"/> Phys 101-3	Phys 120-3	<input type="checkbox"/> MBB 421-3	Nucleic Acids #
<input type="checkbox"/> Phys 125-3	Phys 140-4	<input type="checkbox"/> MBB 422-3	Biomembranes #
One of:		<input type="checkbox"/> MBB 423-3	Protein Structure and Function #
<input type="checkbox"/> Phys 102-3	Phys 121-3	<input type="checkbox"/> MBB 426-3	Immunology
<input type="checkbox"/> Phys 126-3	Phys 141-4	<input type="checkbox"/> MBB 430-3	Mechanisms of Secretory Transport
		<input type="checkbox"/> MBB 432-3	Advanced Molecular Biol. Techniques
CGPA of above courses:		<input type="checkbox"/> MBB 435-3	Genomic Analysis *
One of:		<input type="checkbox"/> MBB 436-3	Gene Expression
<input type="checkbox"/> Cmpt 102-3	Intro to Scientific Computer Programming	<input type="checkbox"/> MBB 437-3	Selected Topics in Signal Transduction
<input type="checkbox"/> Cmpt 110-3	Event-Driven Programming in Visual Basic	<input type="checkbox"/> MBB 438-3	Human Molecular Genetics
<input type="checkbox"/> Cmpt 120-3	Intro to Cmpt Science & Programming I	<input type="checkbox"/> MBB 440-3	Special Topics in Molecular Biology
One of:		<input type="checkbox"/> MBB 441-3	Bioinformatics *
<input type="checkbox"/> Math 310-3	Intro to Ordinary Differential Equations	<input type="checkbox"/> MBB 442-3	Proteomics *
<input type="checkbox"/> Stat 201-3	Statistics for the Life Sciences	<input type="checkbox"/> MBB 443-3	Protein Biogenesis and Degradation #
<input type="checkbox"/> Stat 270-3	Introduction to Probability and Statistics	<input type="checkbox"/> MBB 444-3	Developmental Neurobiology
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.		<input type="checkbox"/> PHYS 433-3	Biological Physics Lab
<input type="checkbox"/>			
<input type="checkbox"/>		Recommended Upper Division Electives:	
<input type="checkbox"/>		<input type="checkbox"/> Bisc 303-3	Microbiology
		<input type="checkbox"/> Bisc 333-3	Developmental Biology
		<input type="checkbox"/> Bisc 403-3	Advanced Cell Biology
		<input type="checkbox"/> Chem 333-3	Inorganic Chem of Biol. Processes

Minors: All lower division core requirements (except for Bisc 202, Chem 215, Stat 201/270 and Math 310 and Cmpt) plus any five upper division MBB courses.

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Revised May 26, 2008

Honors Requirements: In addition to fulfilling the MBB Major requirements, honors students must complete an Individual Study Semester (ISS) over one (MBB 493-15) or two semesters (MBB 491-5 and MBB 492-10). Honors 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).

- ☐ MBB 481-5, MBB 482-5, MBB 483-5
- ☐ MBB 491-5 Undergraduate Research
- ☐ MBB 492-10 Individual Study Semester