

Molecular Biology and Biochemistry (MBB) Degree Requirements (as of 2006-1)

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"/> 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"/> 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 432-3 Advanced Molecular Biol. Techniques
One of:	<input type="checkbox"/> MBB 435-3 Genomic Analysis *
<input type="checkbox"/> Phys 102-3 General Physics II	<input type="checkbox"/> MBB 436-3 Gene Expression
<input type="checkbox"/> Phys 121-3 Optics, Electricity and Magnetism	<input type="checkbox"/> MBB 437-3 Selected Topics in Signal Transduction
CGPA of above courses:	<input type="checkbox"/> MBB 438-3 Human Molecular Genetics
One of:	<input type="checkbox"/> MBB 440-3 Special Topics in Molecular Biology
<input type="checkbox"/> Cmpt 102-3 Intro to Scientific Computer Programming	<input type="checkbox"/> MBB 441-3 Bioinformatics *
<input type="checkbox"/> Cmpt 110-3 Event-Driven Programming in Visual Basic	<input type="checkbox"/> MBB 442-3 Proteomics *
<input type="checkbox"/> Cmpt 120-3 Intro to Cmpt Science & Programming I	<input type="checkbox"/> MBB 443-3 Protein Biogenesis and Degradation #
One of:	
<input type="checkbox"/> Math 310-3 Intro to Ordinary Differential Equations	Recommended Upper Division Electives:
<input type="checkbox"/> Stat 201-3 Statistics for the Life Sciences	<input type="checkbox"/> Bisc 303-3 Microbiology
<input type="checkbox"/> Stat 270-3 Introduction to Probability and Statistics	<input type="checkbox"/> Bisc 333-3 Developmental Biology
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"/> 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"/>	

<p>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.</p> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<p>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).</p> <input type="checkbox"/> MBB 493-15 Individual Study Semester <input type="checkbox"/> MBB 491-5 Undergraduate Research <input type="checkbox"/> MBB 492-10 Individual Study Semester
Revised July 13, 2006	