# 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:
- All of:
  - MBB 222-3 Molecular Biology and Biochemistry
  - MBB 231-3 Cell Biology and Biochemistry
  - Bisc 101-4 General Biology
  - Bisc 102-4 General Biology
  - Bisc 202-3 Genetics
  - Chem 121-4 General Chemistry and Laboratory I
  - Chem 122-2 General Chemistry II
  - Chem 126-2 General Chemistry Laboratory II
  - Chem 215-4 Introduction to Analytical Chemistry
  - Chem 281-4 Organic Chemistry I
  - Chem 282-2 Organic Chemistry II
  - Chem 286-2 Organic Chemistry Laboratory II

## Upper Level Core Requirements:
- All of:
  - MBB 308-3 Molecular Biology & Biochemistry Lab I
  - MBB 309W-4 Molecular Biology & Biochemistry lab II
  - MBB 321-3 Intermediary Metabolism
  - MBB 322-3 Molecular Physiology
  - MBB 331-3 Molecular Biology

## One of:
- MBB 323-3 Intro to Physical Biochemistry
- CHEM 360-3 Thermodynamics and Chemical Kinetics

A minimum of 5 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)
- MBB 402-3 Molecular and Developmental Genetics
- MBB 403-3 Physical Biochemistry (413)
- MBB 412-4 Enzymology (4XX)
- MBB 420-3 Special Topics in Biochemistry
- MBB 421-3 Nucleic Acids #
- MBB 422-3 Biomembranes #
- MBB 423-3 Protein Structure and Function #
- MBB 426-3 Immunology
- MBB 430-3 Mechanisms of Secretory Transport
- MBB 432-3 Advanced Molecular Biol. Techniques
- MBB 435-3 Genomic Analysis *
- MBB 436-3 Gene Expression
- MBB 437-3 Selected Topics in Signal Transduction
- MBB 438-3 Human Molecular Genetics
- MBB 440-3 Special Topics in Molecular Biology
- MBB 441-3 Bioinformatics *
- MBB 442-3 Proteomics *
- MBB 443-3 Protein Biogenesis and Degradation #
- MBB 444-3 Developmental Neurobiology
- PHYS 433-3 Biological Physics Lab

## Recommended Upper Division Electives:
- Bisc 303-3 Microbiology
- Bisc 333-3 Developmental Biology
- Bisc 403-3 Advanced Cell Biology

## Electives: 9 credit hours of the 120 total must be electives from outside the Faculty of Science and 6 of these credit hours must be electives from the Faculty of Arts. Can be upper or lower division courses.

## 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.

## 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

Revised May 26, 2008