

**To graduate with a degree in MBB:** A student must complete a minimum of 44 upper division credit hours with a total of 120 credit hours (upper and lower division). **Prerequisite Grade:** For a course to be accepted as fulfilling a prerequisite for any upper division MBB course, a student must have obtained a minimum grade of C. Acceptance into and continuation in the major requires a minimum cumulative grade point average (CGPA) of 2.5 upon completion of the lower division core courses (not including the CMPT courses). Fall 2010.

### Major Program (120 semester hours)

All students must complete the lower and upper division core requirements.

#### Lower Division Core

- ☐ 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 and Laboratory I
  - ☐ CHEM 282-2 Organic Chemistry II
  - ☐ CHEM 286-2 Organic Chemistry Laboratory II
- one of:
- ☐ CMPT 102-3 Intro to Scientific Computer Program
  - ☐ CMPT 110-3 Event-Driven Program in Visual Basic
  - ☐ CMPT 120-3 Intro to Computing Science & Program. I
- one of:
- ☐ MATH 150-4 Calculus I with Review
  - ☐ MATH 151-3 Calculus I
  - ☐ MATH 154-3 Calculus I for the Biological Sciences
- one of:
- ☐ MATH 152-3 Calculus II
  - ☐ MATH 155 -3 Calculus II for the Biological Sciences
- one of :
- ☐ PHYS 101-3 Physics for the Life Sciences I
  - ☐ PHYS 120-3 Modern Physics and Mechanics
  - ☐ PHYS 125-3 Mechanics and Special Relativity
  - ☐ PHYS 140-4 Studio Physics – Mechanics and Modern Physics
- one of :
- ☐ PHYS 102-3 Physics for the Life Sciences II
  - ☐ PHYS 121-3 Optics, Electricity and Magnetism
  - ☐ PHYS 126-3 Electricity, Magnetism and Light
  - ☐ PHYS 141-4 Studio Physics – Optics, Electricity and Magnetism
- one of:
- ☐ MATH 310-3 Intro to Ordinary Differential Equations
  - ☐ STAT 201-3 Statistics for the Life Sciences
  - ☐ STAT 270-3 Intro to Probability & Statistics

**Electives:** 9 credit hours of the 120 total must be electives from outside of 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.

### Upper Division Core

- ☐ MBB 308-3 Molecular Biology Lab
- ☐ MBB 309W-4 Biochemistry Lab
- ☐ MBB 321-3 Intermediary Metabolism
- ☐ MBB 322-3 Molecular Physiology
- ☐ MBB 331-3 Molecular Biology

A minimum of five courses from the following list:

- ☐ MBB 323-3 Introduction to Physical Biochemistry
- ☐ MBB 402-3 Molecular Genetics
- ☐ MBB 420-3 Special Topics in Biochemistry
- ☐ MBB 421-3 Nucleic Acids
- ☐ MBB 422-3 Biomembranes
- ☐ MBB 423-3 Protein Structure and Function
- ☐ MBB 424-3 Membrane Transport Mechanisms
- ☐ MBB 426-4 Immune System I
- ☐ MBB 427-3 Immune System II
- ☐ MBB 428-3 Molecular Mechanisms of Microbial Pathogenesis
- ☐ MBB 430-3 Mechanisms of Secretory Transport
- ☐ MBB 431-3 Cells and Disease
- ☐ MBB 432-3 Advanced Molecular Biology Laboratory
- ☐ MBB 435-3 Genome Biology
- ☐ MBB 436-3 Gene Expression
- ☐ MBB 437-3 Molecular Genetics of 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

**Minor Requirements:** 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 481-5/482-5/483-5 taken concurrently) 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).

**Note:** All students are subject to WQB requirements  
[http://www.sfu.ca/ugcr/For\\_Students/WQB\\_Requirements](http://www.sfu.ca/ugcr/For_Students/WQB_Requirements)