

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 2009.

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

One of:

- ☐ MBB 323-3 Introduction to Physical Biochemistry
- ☐ CHEM 360-3 Thermodynamics & Chemical Kinetics

A minimum of five courses from the following list:

- ☐ 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 426-3 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