

Bachelor of Science – Cellular and Molecular Biology 2018/19

Name: _____

Student #: _____ Admission Year: _____

| YEAR ONE – FALL | | |
|--|---|--|
| BIOL 1202 ^{FW} | Introduction to Cell Biology | |
| CHEM 1201 ^{FW} | General Chemistry I – Structure and Bonding | |
| MATH 1200 ^{FW} | Calculus for Scientists I | |
| PHYS 1201 ^{FW} | Classical Physics I | |
| GNEDE Foundation Cluster 4 ^{FW} | | |
| YEAR ONE - WINTER | | |
| CHEM 1202 ^{FW} | General Chemistry II – Introduction to Quantitative Chemistry | |
| PHYS 1202 ^{FW} | Classical Physics II (pre-req: MATH 1200 and PHYS 1201) | |
| BIOL 1204 ^{FW} | Evolution of Eukaryotes | |
| GNEDE Foundation Cluster 1 ^{FW} | | |
| GNEDE Foundation Cluster 2 ^{FW} | | |
| YEAR TWO - FALL | | |
| BIOL 2101 ^{FW} | Genetics | |
| CHEM 2101 ^{FW} | Organic Chemistry I | |
| MATH 2233 ^{FW} | Statistics for Biological Sciences | |
| GNEDE Foundation Cluster 3 ^{FW} | | |
| GNEDE Tier 2 Cluster 2 ^{FW} | | |
| YEAR TWO - WINTER | | |
| BCEM 2201 ^{FW} | General Biochemistry | |
| BIOL 2202 ^{FW} | Cellular Molecular Biology | |
| CHEM 2102 ^{FW} | Organic Chemistry II | |
| BIOL 2105 ^{FW} | Microbiology I | |
| GNEDE Tier 2 Cluster 3 ^{FW} | | |
| YEAR THREE - FALL | | |
| BIOL 3101 ^F | Molecular Genetics | |
| BIOL 3203 ^F | Genomes | |
| BIOL 3105 ^{FW} | Microbiology II | |
| GNEDE Tier 2 Cluster 4 ^{FW} | | |
| GNEDE Tier 3 ^{FW} | | |
| YEAR THREE - WINTER | | |
| BIOL 3102 ^W | Cell Dynamics and Signaling | |
| BCEM 3202 ^W | Enzymes and Metabolic Systems | |
| PHIL 2223 | Bio Ethics | |
| GNEDE Tier 3 ^{FW} | | |
| GNEDE Tier 3 ^{FW} | | |
| YEAR FOUR - FALL | | |
| BIOL 4101 ^F | Advanced Cell and Molecular Biology I | |
| Approved Option | | |
| Approved Option | | |
| Elective | | |
| Elective | | |
| YEAR FOUR - WINTER | | |
| BIOL 4202 ^W | Advanced Cellular and Molecular Biology II | |
| BIOL 4203 ^W | Current Topics in Cellular and Molecular Biology | |
| Approved Option | | |
| Elective | | |
| Elective | | |

PLEASE READ:

General Education: General Education approved courses, otherwise known as “GNED requirements” are designed to give you a well-rounded knowledge base and are organized into 4 thematic clusters. Each Cluster has 3 levels; tier 1 (foundation), tier 2 and tier 3.

- Cluster 1: Numeracy & Scientific Literacy
- Cluster 2: Values, beliefs & Identity
- Cluster 3: Community & Society
- Cluster 4: Communication

Students must take a foundation level from each of the four clusters, three tier 2 GNEDs (one from each of cluster 2, 3, and 4), and a total of three tier 3 GNEDs from at least two clusters, for a total of 10 GNED courses. Visit mtroyal.ca/gened/courses for more information and a list of GNED courses.

Junior courses: are courses at the 1000 level. Students are allowed a maximum of 16 junior courses for graduation purposes.

Electives: an elective is any 3 credit course. It is advised that students in this major select senior level electives wherever possible to avoid exceeding the 16 junior course limit.

Approved Options: It is advised that these courses be taken in the 4th year of study. Choose *three* courses from the list below.

- BIOL 2213 – Principles of Ecology and Evolution ^F
- BIOL 2203 – Human Anatomy ^{FW}
- BIOL 3103 – Introduction to Biophysics ^W
- BIOL 3104 – Human Physiology I ^F
- BIOL 3106 – Evolutionary Biology ^F
- BIOL 3107 – Evolution in Health and Disease ^W
- BIOL 3205 – Human Physiology II ^W
- BIOL 3204 – Histology ^W
- BIOL 4209 – Neurobiology ^W
- BIOL 4310 – Molecular Ecology (every other year, check with Department)
- BCEM 3201 – Protein Biochemistry ^F
- CHEM 2301 – Analytical Chemistry I: Quantitative Analysis ^F
- CHEM 2302 – Analytical Chemistry II: Introduction to Instrumental Analysis ^W

Prerequisites & Course descriptions: can be found in the Academic Calendar or by visiting: mtroyal.ca/ProgramsCourses/CourseListings

Advising Plan: This is a suggested sequence for taking the required courses for your major. This plan factors in prerequisite requirements and will allow you to complete your degree in four years provided you complete five courses per semester and attain the necessary required grade (C-) in your prerequisites. To be considered full time, a student must be enrolled in a minimum of three, three-credit courses. Please make note that core third and fourth year courses are offered only *once per year* and should be noted if a reduced course load is being considered.

“F” Indicates that the course is offered in Fall semester only.
 “W” Indicates that the course is offered in Winter semester only.
 “FW” Indicates that the course is offered in both Fall and Winter semester.
 “S” – indicates Spring term. Students should check the Spring course listings in March when the schedule of classes is released to determine what offerings *may be* available for Spring. (Spring term is 6.5 weeks in duration and is considered an optional term)