

Bachelor of Science – Cellular and Molecular Biology 2019/20



Faculty of
Science and Technology

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 ^{FW} Cluster 1 or 4	(Cluster 4 recommended)	
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 ^{FW} Cluster 1 or 4	(Cluster 1 recommended)	
GNEDE Foundation ^{FW} Cluster 2 or 3		
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 5203 ^W	Cellular and Molecular Biology Capstone	
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: Choose **three** courses from the list below (**subject to availability**).

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 – Neuroscience ^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)