

Bachelor of Science - Computer Science 2020-21



Faculty of
Science and Technology

STUDENT NAME:

STUDENT ID #:

ADMISSION YEAR/CATALOGUE YEAR:

YEAR ONE - FALL		
COMP 1631 ^F	Introduction to Computer Science I	
MATH 1200 ^{FW}	Calculus for Scientists I	
Cognate Course ^{***}	(pg.2 for options)	
GNED Foundation ^{FW} Cluster 1	One of: GNED 1101 or GNED 1103	
GNED Foundation ^{FW} Cluster 2	One of: GNED 1201, 1202, 1203 Or 1204	
YEAR ONE - WINTER		
COMP 1633 ^W	Introduction to Computer Science II	
MATH 1203 ^{FW}	Linear Algebra for Scientists and Engineers	
PHIL 1179	Introduction to Symbolic Logic	
Cognate Course ^{***}	(pg.2 for options)	
GNED Foundation ^{FW} Cluster 4	One of: GNED 1401 or GNED 1404	
YEAR TWO - FALL		
COMP 2631 ^F	Data Structures	
COMP 2655 ^F	Computing Machinery I	
MATH 1271 ^F	Discrete Mathematics	
Cognate Course ^{***}		
GNED Foundation ^{FW} Cluster 3	One of: GNED 1301, 1302 or 1303	
YEAR TWO - WINTER		
COMP 2633 ^W	Software Engineering	
COMP 2659 ^W	Computing Machinery II	
MATH 2234 ^W	Mathematical Statistics	
Elective		
GNED Tier 2 Cluster 2		
YEAR THREE - FALL		
COMP 3659 ^F	Operating Systems	
COMP 2613 ^F	Introduction to Computability	
Approved Option [*]		
GNED Tier 2 Cluster 3		
Elective		
YEAR THREE - WINTER		
COMP 3649 ^W	Programming Paradigms	
COMP 3614 ^W	Algorithms and Complexity	
Approved Option [*]		
Elective		
GNED Tier 2 Cluster 4		
YEAR FOUR - FALL		
Approved Option [*]		
Approved Senior Option ^{**}		
COMP 3309 ^{FW}	Information Technology and Society	
GNED Tier 3		
Elective		
YEAR FOUR - WINTER		
Approved Senior Option ^{**}		
Approved Senior Option ^{**}		
GNED Tier 3		
GNED Tier 3		
Cognate Course ^{***}		

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 course from each of the four clusters, three tier 2 GNEDs (one from each of cluster 2, 3, and 4), and three tier 3 GNEDs from at least two clusters, for a total of 10 GNED courses.

Junior courses are courses at the 1000 level. Students are allowed a maximum of 16 junior courses.

Prerequisites & Course descriptions can be found in the Academic Calendar or by visiting: catalog.mtroyal.ca under ‘courses’.

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 5 courses per semester. This is just one example of how you can complete your degree requirements; you may find that a different sequence or smaller course load works better for you. To be considered full time a student must be enrolled in a minimum of three, 3-credit courses.

- ^F Indicates that the course normally runs in Fall semester.
- ^W Indicates that the course normally runs in Winter semester.
- ^{FW} Indicates that the course normally runs both Fall and Winter.

***Approved Options: (Choose three)**

- COMP 2521: Database I: Data Mod. & Query Language^{FW}
- COMP 3533: Network Infrastructure and Security^{FW}
- COMP 3553: Human Computer Interaction^W
- COMP 3625: Artificial Intelligence (2021-22 earliest)
- MATH 2101: Abstract Algebra^{every other W}

****Approved Senior Options: (Choose three)**

- COMP 4555: Games Development^F
- COMP 4633: Software Engineering II (2021-22 earliest)
- COMP 4635: Distributed Systems^W
- COMP 4622: Advanced Databases^{every other W} (2021-22 earliest)
- COMP 4630: Machine Learning (2021-22 earliest)
- COMP 5690: Senior Computer Science Project^{FW}

*****Approved cognate courses: see page 2**

Prerequisites and course descriptions: can be found in the Academic Calendar under the ‘courses’ link at <https://catalog.mtroyal.ca/>

Course offerings in Fall or Winter semesters: to properly plan your courses, semesters and degree program please check with the departments directly for an indication of when a course is normally offered.

Approved Cognate Courses:

Astronomy:

ASTR 2107: Celestial Mechanics and Relativity
MATH 2200: Calculus for Scientists II
PHYS 1201: Classical Physics I
One of:
ASTR 1301: Planetary Astronomy
ASTR 1303: Stars, Galaxies, and Cosmology

Biology:

BIOL 1202: Introduction to Cell Biology ^{FW}
BIOL 1204: The Evolution of Eukaryotes ^{FW}
Two of:
BIOL 2101: Genetics ^W
BIOL 2202: Cellular and Molecular Biology ^{FW}
BIOL 2213: Principles of Ecology and Evolution ^F

Chemistry:

CHEM 1201: General Chemistry – Structure and Bonding ^{FW}
CHEM 1202: General Chemistry – Introduction to Quantitative Chemistry ^{FW}
CHEM 2301: Analytical Chemistry I: Quantitative Analysis ^F
CHEM 2205: Computers in Chemistry (not currently running – please consult with Advisors about an appropriate substitution)

Geographic Information Systems:

GEOG 1101: The Physical Environment ^{FW}
GEOG 1105: Intro to Mapping, GIS and Remote Sensing
GEOG 2553: Geographic Information Systems ^{FW}
GEOG 3553: Spatial Analysis and GIS ^W

Geology:

GEOL 1101: The Dynamic Earth ^F
GEOL 1103: Earth Through Time ^W
GEOL 2109: Stratigraphy and Sedimentation ^W
GEOL 2151: Environmental Geology and Earth Resources

Mathematics (choose four from):

MATH 2101: Abstract Algebra ^{every other W}
MATH 2200: Calculus for Scientists II ^{FW}
MATH 2307: Differential Equations I (not currently running – please consult with Advisors about an appropriate substitution)
MATH 2311: Linear Algebra II ^{every other W opposite 2101}
MATH 3200: Mathematical Methods ^W
MATH 3101: Numerical Analysis ^{every other W}

Physics:

MATH 2200: Calculus for Scientists II ^{FW}
PHYS 1201: Classical Physics I ^{FW}
PHYS 1202: Classical Physics II ^{FW}
PHYS 2201: Acoustics, Optics, and Radiation ^F