

Course Sequence
Honours with Specialization in Computer Science, Bioinformatics Option

1st YEAR (30 credits)

		<u>Session</u>	<u>Prerequisite</u>
ENG1112	Technical Report Writing	Fall	
ITI1120	Introduction to computing I	Fall	
MAT1320	Calculus I	Fall	
MAT1341	Introduction to Linear Algebra	Fall	One of MAT1339, Ontario 4U Calculus and Vectors MCV4U) or an equivalent.
Elective ¹		Fall	MAT1339 or Ontario 4U Calculus and Vectors (MCV4U), or an equivalent.
BIO1140	Introduction to Cell Biology	Winter	4U Biology or BIO1109
ITI1100	Digital systems I	Winter	
ITI1121	Introduction to computing II	Winter	ITI1120
MAT1322	Calculus II	Winter	MAT1320
MAT1348	Discrete Mathematics for Computing	Winter	

¹ 12 credits of non-computing, non-mathematics electives. It is recommended to choose humanities and social sciences courses.

2nd YEAR (30 credits)

		<u>Session</u>	<u>Prerequisite</u>
CEG2136	Computer architecture I	Fall	ITI1100
CSI2110	Data Structures and Algorithms	Fall	ITI1121, MAT1348
SEG2105	Introduction to Software Engineering	Fall	ITI1121
Free elective ²		Fall	
Free elective ²		Fall	
BIO2133	Genetics	Winter	BIO1140
CSI2101	Discrete Structures	Winter	MAT1348
CSI2120	Programming Paradigms	Winter	CSI2110
CSI2132	Databases I	Winter	CSI2110
CSI2911	Professional Practice in Computing	Winter	

¹ 12 credits of non-computing, non-mathematics electives. It is recommended to choose humanities and social sciences courses.

² 18 credits of free electives. It is recommended to take CHM1321, CHM2120 and BCH2333.

3rd YEAR (30 credits)

		<u>Session</u>	<u>Prerequisite</u>
BPS3101	Genomics	Fall	BIO2133
CSI3105	Design and Analysis of Algorithms I	Fall	CSI2110, CSI2101 or for honors mathematics students: CSI2110, (MAT2141 or MAT2143)
CSI3120	Programming Language Concepts	Fall	CSI2101, CSI2120
Elective ¹		Fall	
Free elective ²		Fall	
BIO3102	Molecular Evolution	Winter	BIO2133
CSI3104	Introduction to Formal Languages	Winter	CSI2101 or MAT2143
CSI3131	Operating systems	Winter	CEG2136, CSI2110
MAT2377	Probability and Statistics for Engineers	Winter	MAT1320 or MAT1330; corequisite: MAT1322 or MAT1325 or MAT1332
Free elective ²		Winter	

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² 18 credits of free electives. It is recommended to take CHM1321, CHM2120 and BCH2333.

4th YEAR (30 credits)

		<u>Session</u>	<u>Prerequisite</u>
CSI4126	Algorithms in bioinformatics	Fall	CSI3105
Elective (CSI 4000)		Fall	
Elective (CEG, ELG, SEG 3000)		Fall	
or			
CSI2372	Advanced Programming Concepts with C++	Fall	ITI1121, ITI1100
Elective ¹		Fall	
Free elective ²		Fall	
BPS4104	Bioinformatics Laboratory	Winter	BPS3101, BIO3102
CSI4900	Honours Project	Winter	18 credits from CSI or SEG 3000 level
Elective (CSI 4000)		Winter	
Elective ¹		Winter	
Free elective ²		Winter	

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² 18 credits of free electives. It is recommended to take CHM1321, CHM2120 and BCH2333.