

# B.Sc. Double Honours Computer Science - Major 1

## C1. College Requirement (15cu)

	6cu from <b>English Language Writing</b>	Y1
		Y1
	<b>Indigenous Learning</b>	
MATH 110 (or 176)	Calculus	<b>Quantitative Reasoning</b>
MATH 164 (or 1\266)	Linear Algebra	
		Y1

## C2. Breadth Requirement (9cu)

	3cu from <b>Humanities</b> or <b>Social Science</b>	
	6cu from <b>Fine Arts, Humanities, Social Science, or Interdisciplinary Studies</b>	

Refer to the [programme description](#) for the full list of courses that fulfill C1 and C2 requirements.

## C3. Cognate Requirement (9cu)

	9 cu from <b>Junior*</b>	
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**Junior: Biology:** BIOL 120, 121; **Chemistry:** CHEM 112, 115, 250;  
**Earth Sciences:** GEOG 120, GEOL 121, 122;  
**Physics&Astronomy :** ASTR 113; PHYS 115, 117 or 125.

No more than 6 credit units from one subject may be used in C1, C2, and C3 Junior.

## C5. Open Electives Requirement (3–9cu)

	Arts and Science courses, or other approved courses, to complete 120 credit unit Double Honours program; at least 66 must be at the 200-level or higher.	
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## C4. Major 1 (42cu)

CMPT 141 (or 116)	Introduction to Computer Science	Y1
CMPT 145 (or 117)	Principles of Computer Science	Y1
CMPT 214	Programming Principles and Practice	Y2
CMPT 215 (or CME 331)	Computer Organization and Architecture	Y2
CMPT 260	Mathematical Logic and Computing	Y2
CMPT 270	Developing Object Oriented Systems	Y2
CMPT 280	Intermediate Data Structures and Algorithms	Y2
CMPT 360	Machines and Algorithms	Y3
CMPT 364	Automata and Formal Languages	Y3
CMPT 400	<i>Honours Thesis (must apply to register)</i>	Y4
CMPT	9cu from: 317, 332, 340, 353, 370, 381	Y3
CMPT		Y3
CMPT		Y3
CMPT		3cu from CMPT 410 or higher

## C5. Electives in Major 2 (36–42cu)

	The prerequisite structure of courses in <b>C4</b> of this programme assumes 9 credit units of Math or Stats, 6 credit units of which are required in <b>C1</b> . Students wishing to combine this program with another double honours program will need at least 3 additional credit units in Math or Stats (STAT 245 recommended).	
	Students wishing to combine this program with a <b>Double Honours—Major 2</b> in a <b>Type C</b> program that requires additional Math or Stats beyond those stated in <b>C4</b> will be able to meet all prerequisites of courses in <b>C4</b> of this program. However, students in specializations with minimal math requirements may not be able to meet the prerequisites for courses in <b>C4</b> without taking additional Math or Stats. For these students, the recommended courses are MATH 110, MATH 266 or MATH 164 or 266, STAT 245.	

For further details, please see the [Academic Information & Policies](#) in the Arts and Science section of the Calendar.