COMPUTER SCIENCE (CS)

School of Computer Science, College of Engineering and Physical Sciences

Major Requirements (Honours)

This is a major within the degree: Bachelor of Computing (calendar.uoguelph.ca/undergraduate-calendar/degree-programs/bachelor-computing-bcomp/)**.**

Since many courses are offered in only one semester and course pre-requisites place an ordering on courses, the following program of studies is designed so that students can schedule their courses over 8 semesters of study. Students deviating from this schedule must consult with their academic advisor.

Code	Title	Credits
Semester 1		
CIS*1300	Programming	0.50
CIS*1910	Discrete Structures in Computing I	0.50
MATH*1200	Calculus I	0.50
1.00 credits in the Area of Application or electives		1.00
Semester 2		
CIS*2500	Intermediate Programming	0.50
CIS*2910	Discrete Structures in Computing II	0.50
MATH*1160	Linear Algebra I	0.50
1.00 credits in the Area of Application or electives		1.00
Semester 3		
CIS*2030	Structure and Application of Microcomputers	0.50
CIS*2430	Object Oriented Programming	0.50
CIS*2520	Data Structures	0.50
1.00 credits in the Area of Application or electives		1.00
Semester 4		
CIS*2750	Software Systems Development and Integration	0.75
CIS*3110	Operating Systems I	0.50
CIS*3490	The Analysis and Design of Computer Algorithms	0.50
0.75 credits in the Area of Application or elective		0.75
Semester 5		
CIS*3150	Theory of Computation	0.50
CIS*3750	System Analysis and Design in Applications	0.75
STAT*2040	Statistics I	0.50
0.75 credits in the Area of Application or electives		0.75
Semester 6		
CIS*3760	Software Engineering	0.75
0.50 CIS electives at the 3000 level or above		0.50
1.25 credits in the Area of Application or electives		1.25
Semester 7		
1.00 credits in the Area of Application or electives		1.00
0.50 credits in CIS at 3000 level or above		0.50
1.00 credits in CIS at the 4000 level		1.00
Semester 8		
CIS*4650	Compilers	0.50
1.00 credits in the Area of Application or electives		1.00
0.50 credits in CIS at the 3000 level or above		0.50
0.50 credits in CIS at the 4000 level		0.50

Co-op Requirements (Honours)

This is a major within the degree: Bachelor of Computing (calendar.uoguelph.ca/undergraduate-calendar/degree-programs/bachelor-computing-bcomp/)**.**

The Co-op program in Computer Science is a five year program, including five work terms. Students must complete a Fall, Winter and Summer work term and must follow the academic work schedule as outlined below (also found on the Co-operative Education website: https://www.recruitguelph.ca/cecs/). Please refer to the Co-operative Education program policy with respect to adjusting this schedule.

Academic and Co-op Work Term Schedule

Year	Fall	Winter	Summer
1	Academic Semester 1	Academic Semester 2	Off
2	Academic Semester 3 COOP*1100	Academic Semester 4	COOP*1000 Work Term I
3	COOP*2000 Work Term II	Academic Semester 5	COOP*3000 Work Term III
4	Academic Semester 6	COOP*4000 Work Term IV	COOP*5000 Work Term V
5	Academic Semester 7	Academic Semester 8	N/A

Please refer to the Co-operative Education program policy with respect to work term performance grading, work term report grading and program completion requirements.

For additional program information students should consult with their Co-op Co-ordinator and Co-op Faculty Advisor, listed on the Co-operative Education web site.

Students are advised to plan their schedule of studies well in advance so that they can take all required prerequisites for later (especially 4000 level) courses. Students should note that some 4000 level courses are only given in alternate years. Failure to plan may result in the inability to take a particular senior CIS course. Not all sequences may be viable. Please check with the CIS Co-op faculty advisor for semester planning.

Credit Summary

(22.00 Total Credits)[1]

Code	Title	Credits
Required Core Courses		12.25
Area of Application		4.00
Free Electives		3.75
Co-op Work Terms		2.00
Total Credits		**22**

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Note: A minimum of four Co-op work terms including a Summer, Fall, and Winter are necessary to complete the Co-op requirement. A fifth Co-op work term is optional and if completed the total number of credits will equal 22.50.

Recommended Program Sequence

The recommended schedule of studies for Co-op is as follows:

Code	Title	Credits
Semester 1 - Fall		
CIS*1300	Programming	0.50
CIS*1910	Discrete Structures in Computing I	0.50
MATH*1200	Calculus I	0.50
1.00 credits in the Area of Application or electives		1.00
Semester 2 - Winter		
CIS*2500	Intermediate Programming	0.50
CIS*2910	Discrete Structures in Computing II	0.50
MATH*1160	Linear Algebra I	0.50
1.00 credits in the Area of Application or electives		1.00
Summer Semester		
No academic semester or work term		
Semester 3 - Fall		
CIS*2030	Structure and Application of Microcomputers	0.50
CIS*2430	Object Oriented Programming	0.50
CIS*2520	Data Structures	0.50
COOP*1100	Introduction to Co-operative Education	0.00
1.00 credits in the Area of Application or electives		1.00
Semester 4 - Winter		
CIS*2750	Software Systems Development and Integration	0.75
CIS*3110	Operating Systems I	0.50
CIS*3490	The Analysis and Design of Computer Algorithms	0.50
0.75 credits in the Area of Application or elective		0.75
Summer Semester		
COOP*1000	Co-op Work Term I	0.50
Fall Semester		
COOP*2000	Co-op Work Term II	0.50
Semester 5 - Winter		
CIS*3750	System Analysis and Design in Applications	0.75
0.50 CIS electives at the 3000 level or above		0.50
1.25 credits in the Area of Application or electives		1.25
Summer Semester		
COOP*3000	Co-op Work Term III	0.50
Semester 6 - Fall		
CIS*3150	Theory of Computation	0.50
CIS*3760	Software Engineering	0.75
STAT*2040	Statistics I	0.50
0.75 credits in the Area of Application or electives		0.75
Winter Semester		
COOP*4000	Co-op Work Term IV	0.50
Summer Semester		
COOP*5000	Co-op Work Term V	0.50
Semester 7 - Fall		
1.00 credits in the Area of Application or electives		1.00
0.50 credits in CIS at 3000 level or above		0.50
1.00 credits in CIS at the 4000 level		1.00
Semester 8 - Winter		
CIS*4650	Compilers	0.50
1.00 credits in the Area of Application or electives		1.00
0.50 credits in CIS at 3000 level or above		0.50
0.50 credits in CIS at the 4000 level		0.50