2015-2016 Course Sequence
BASc in Software Engineering (CO-OP)

1st YEAR (30 credits)

		Session	Prerequisite(s)
CHM1311	Principles of Chemistry	Fall	4U or OAC Chemistry or equivalent
GNG1105	Engineering Mechanics	Fall	Physics 4U, advanced functions and Introductory Calculus 4U or equivalent
ITI1120	Introduction to Computing I	Fall	
MAT1320	Calculus I	Fall	One of MAT1339, Ontario 4U Calculus and Vectors MCV4U) or an equivalent
MAT1341	Introduction to Linear Algebra	Fall	MAT1339 or Ontario 4U Calculus and Vectors (MCV4U), or an equivalent
ITI1100	Digital Systems I	Winter	
ITI1121	Introduction to Computing II	Winter	ITI1120
MAT1322	Calculus II	Winter	MAT1320
MAT1348	Discrete Mathematics for Computing	Winter	MAT1318, Ontario 4U Advanced Functions (MHF4U) or equivalent
PHY1124	Fundamentals of Physics for Engineers	Winter	OAC or 4U Physics, MAT1320
SEG2901	CO-OP Work Term I	Summer	

2nd YEAR (36 credits)

		Session	Prerequisite(s)
ADM1100	Introduction to Business Management	Fall	
CEG2136	Computer architecture I	Fall	ITI1100
CSI2110	Data Structures and Algorithms	Fall	ITI1121, MAT1348
ENG1112	Technical Report Writing	Fall	
SEG2105	Introduction to Software Engineering	Fall	ITI1121
SEG3901	CO-OP Work Term II	Winter	
CSI3131	Operating Systems	Summer	CEG2136, CSI2110
SEG3103	Software Quality Assurance	Summer	SEG2105
SEG3125	Analysis and Design of User Interfaces	Summer	SEG2105
CEG3185	Introduction to Data Communications and Networking	Summer	MAT2377 or (MAT2371, MAT2375)
Complementary Elective		Summer	
SEG3902	CO-OP Work Term III	Fall	
CSI2101	Discrete Structures	Winter	MAT1348
CSI2132	Databases I	Winter	CSI2110
MAT2377	Probability and Statistics for Engineers	Winter	MAT1320 or MAT1330; corequisite: MAT1322 or MAT1325 or MAT1332
SEG2106	Software Construction	Winter	CSI2110, SEG2105
SEG2911	Professional Software Engineering Practice	Winter	
SEG4901	CO-OP Work Term IV	Summer	

3rd YEAR (33 credits)

		Session	Prerequisite(s)
CSI3105	Design and Analysis of Algorithms I	Fall	CSI2110, CSI2101
SEG3101	Software Requirements Analysis	Fall	SEG2105
SEG3102	Software Design and Architecture	Fall	
ECO1192	Engineering Economics	Fall	
Engineering Elective[1]		Fall	

[1] 3 credits from: {CHG2317/2717, CVG2132/CVG2532, CVG2141/2541, CVG2149/2549, ELG2138/2538, MCG2108/2508, MCG2130/2530 and MCG2360/2760}

4th YEAR (15 credits)

		Session	Prerequisite(s)
SEG4145	Real Time and Embedded Software Design	Winter	CEG2136, CSI3131, SEG2106
SEG4910	Engineering Capstone Project - Part 1	Winter	Completion of all 3000 series SEG courses required by the SEG program. Note: The project started in SEG4910 must be completed in SEG4911; if a student has to start a new project, SEG4910 must be repeated. Completion of 2 COOP terms
Software Engineering Elective[2]		Winter	
Computing Elective[3]		Winter	
Science Elective		Winter	
SEG4902	CO-OP Work Term V	Summer	

[2] 3 credit from (CSI2372, SEG3904, SEG4110, SEG4156, SEG4189, CEG3136, CEG3155, CEG4399)
-CSI2372 course is recommended

[3] 3 credits from CSI2120 or any {CEG/CSI/ELG/SEG} at 3000 level and above
-Suitably qualified students with permission may also take graduate courses offered in the School of Electrical Engineering and Computer Science

5th YEAR (18 credits)

		Session	Prerequisite(s)
SEG4105	Software Project Management	Fall	SEG2105 plus two third year SEG or CSI courses
SEG4911	Engineering Capstone Project - Part 2	Fall	SEG4910
Free Elective[4]		Fall	
Free Elective[4]		Fall	
Science Elective		Fall	

[4] Any course in the Faculty of Engineering, Arts, Health sciences, Science, Social sciences, or the Telfer school of Business. The following courses are recommended, as are any of the Engineering, software engineering or computing elective listed above:
GNG4171, GNG4170, GNG4120, ADM3378, HIS2129, PHI2394, ADM1340, BIO1109,

For the *Extended French Stream* program, in addition to the above you will also have to fulfill the following requirements:

- The student must be admitted as an Anglophone in the program; the Admissions officers will ensure that the student is coming from an English high school and the student must pass a French proficiency test.
- The student must complete at least 42 credits in courses whose language of instruction is French. Note that bilingual courses such as research courses, do not count. However if the capstone project is solely completed in French, these credits can be applied against the 42 credits.
- A minimum of 6 credits (within the maximum of 42 credits) must be done in approved, non-technical courses such as Complementary studies courses or electives in the Humanities; it may also include courses within the Faculty of Engineering related to professional development, management and communication.
- 12 credits (within the minimum number of 42 credits) must be done in required first year courses, another 12 credits must be done in required second year courses within the program of study, and another 12 credits must be done in required third year courses within the program of study.
- Students must pass FLS3500. This test ensures that the immersion graduates are indeed fluently bilingual.