

2015-2016 Course Sequence
Software Engineering (COOP), Management and Entrepreneurship Option

1st YEAR (30 credits)

| | | <u>Session</u> | <u>Prerequisite(s)</u> |
|---------|---------------------------------------|-----------------------|---|
| 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 | |
| PHY1124 | Fundamentals of Physics for Engineers | Winter | OAC or 4U Physics, MAT1320 |
| SEG2901 | CO-OP Work Term I | Summer | |

2nd YEAR (36 credits)

| | | <u>Session</u> | <u>Prerequisite(s)</u> |
|---------|--|-----------------------|--|
| 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 |
| 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 | |
| SEG3901 | CO-OP Work Term II | Summer | |

3rd YEAR (33 credits)

| | | <u>Session</u> | <u>Prerequisite(s)</u> |
|-----------------------------------|---|-----------------------|---|
| CSI3105 | Design and Analysis of Algorithms I | Fall | CSI2110, CSI2101 |
| SEG3101 | Software Requirements Analysis | Fall | SEG2105 |
| SEG3102 | Software Design and Architecture | Fall | SEG2105 |
| ECO1192 | Engineering Economics | Fall | |
| Engineering Elective ¹ | | Fall | |
| SEG3902 | CO-OP Work Term III | Winter | |
| ADM1340 | Financial Accounting | Summer | ADM1100 or ADM1300 |
| CSI3131 | Operating Systems | Summer | CEG2136, CSI2110 |
| SEG3103 | Software Quality Assurance | Summer | SEG2105 |
| SEG3125 | Analysis and Design of User Interfaces | Summer | SEG2105 |
| CEG3185 | Introduction to Communication and Data Networking | Summer | MAT2377 or (MAT2371, MAT2375) or corequisite: ELG3126 |

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

4th YEAR (15 credits)

| | | <u>Session</u> | <u>Prerequisite(s)</u> |
|--|--|----------------|--|
| SEG4901 | CO-OP Work Term IV | Fall | |
| 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 |
| ADM2320 | Marketing | Winter | ADM1100 or ADM1300 |
| Software Engineering Elective ² | | Winter | |
| Management Option Elective ³ | | Winter | |
| SEG4902 | CO-OP Work Term V | Summer | |

² 3 credit from (CSI2372, SEG3904, SEG4110, SEG4156, SEG4189, CEG3136, CEG3155, CEG4399)

-CSI2372 course is recommended

-Suitably qualified students with permission may also take graduate courses offered in the School of Electrical Engineering and Computer Science

³ 3 credits from: {ADM1101/1501, ADM2336/2736, 3318/3718, 3319/3719, ADM3326/3726, ADM3313/3713, GNG4170/4570, GNG4171/4571 et PHI2397/2797}

5th YEAR (18 credits)

| | | <u>Session</u> | <u>Prerequisite(s)</u> |
|------------------|---|----------------|--|
| GNG4120 | Technology Entrepreneurship for Engineers and Computer Scientists | Fall | ADM1100 or ADM1300 |
| SEG4105 | Software Project Management | Fall | SEG2105 plus two third year SEG or CSI courses |
| SEG4911 | Engineering Capstone Project - Part 2 | Fall | SEG4910 |
| Science Elective | | Fall | |
| Science Elective | | Fall | |

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.