

## Software Engineering: IoT Specialization 2019-2020

Year	Course	Course	Course	Course	Course	Course
1-1	COMM 1050U Technical Communications	ENGR 1015U Introduction to Engineering	MATH 1010U Calculus I	MATH 1850U Linear Algebra for Engineers (Coreq: MATH 1010U)	PHY 1010U Physics I	
1-2	CHEM 1800U Chemistry for Engineers	ENGR 1025U Engineering Design (ENGR 1015U)	ENGR 1200U Introduction to Programming for Engineers	MATH 1020U Calculus II (MATH 1010U)	PHY 1020U Physics II (PHY 1010U)	SSCI 1470U Impact of Science and Technology on Society
2-1	ELEE 2110U Discrete Mathematics for Engineers (MATH 1020U, MATH 1850U)	ELEE 2790U Electric Circuits (MATH 1020U, PHY1020U, MATH 1850U)	SOFE 2710U Object Oriented Programming and Design (ENGR 1200U)	SOFE 2800U Web Programming (ENGR 1200U)	SOFE 2850U Natural Foundations for Information Technology (ENGR 1015U)	Liberal Studies Elective **
2-2	ELEE 2450U Digital Systems (ELEE 2110U)	STAT 2800U Statistics and Probability for Engineers (MATH 1020U)	SOFE 2715U Data Structures (SOFE 2710U)	SOFE 2720U Principles of Software and Requirements Engineering (SOFE 2710U, SOFE 2800U)	Science Elective	
3-1	ELEE 3450U Microprocessors and Computer Architecture (ELEE 2450U)	SOFE 3200U Systems Programming (SOFE 2720U, Coreq: ELEE 3450U)	SOFE 3650U Software Design and Architectures (SOFE 2720U)	SOFE 3700U Data Management Systems (SOFE 2715U, SOFE 2720U Coreq: SOFE 3770U)	SOFE 3770U Design and Analysis of Algorithms (ELEE 2110U, SOFE 2715U, MATH 1850U)	Liberal Studies Elective **
3-2	ENGR 3360U Engineering Economics	SOFE 3490U Software Project Management (54 credit hours)	SOFE 3720U Introduction to Artificial Intelligence (SOFE 3650U, SOFE 3770U)	SOFE 3850U Computer Networks (54 credit hours)	SOFE 3950U Operating Systems (SOFE 3200U, ELEE 3450U)	SOFE 3980U Software Quality (SOFE 3200U, SOFE 3650U, SOFE 3700U, SOFE 3770U)
4-1	ENGR 4940U Capstone Systems Design for Electrical, Computer and Software Engineering I (Successful completion of all non-elective courses in year three)	SOFE 4590U Embedded Systems (ELEE 3450U, SOFE 3950U)	SOFE 4610U Design and Analysis of IoT Software Systems (SOFE 3850U, SOFE 3980U, Coreq: SOFE 4790U)	SOFE 4640U Mobile Application Development (SOFE 3950U)	SOFE 4790U Distributed Systems (SOFE 3770U, SOFE 3850U, SOFE 3950U)	
4-2	ENGR 4760U Ethics, Law and Professionalism for Engineers	ENGR 4941U Capstone Systems Design for Electrical, Computer and Software Engineering II (ENGR 4940U)	SOFE 4620U Machine Learning and Data Mining (SOFE 3720U)	SOFE 4630U Cloud Computing (SOFE 4790U)	SOFE 4840U Software and Computer Security (SOFE 3850U, SOFE 4790U)	

\*\*A list of approved Liberal Studies Electives can be found on [engineering.ontariotechu.ca](http://engineering.ontariotechu.ca)