

**DEGREE CHECKLIST
2016-2017**

**BACHELOR OF ENGINEERING
SOFTWARE ENGINEERING**

Students are strongly advised to refer to online Academic Calendars before enrolling into courses: <http://calendars.registrar.yorku.ca/>

		COURSES	
First Year Courses			
	<input type="checkbox"/>	SC/CHEM 1100 4.00	Chemistry and Materials Science for Engineers
	<input type="checkbox"/>	LE/EECS 1011 3.00	Computational Thinking Through Mechatronics
	<input type="checkbox"/>	LE/EECS 1021 3.00	Object Oriented Programming from Sensors to Actuators
	<input type="checkbox"/>	LE/EECS 1028 3.00	Discrete Mathematics for Engineers
	<input type="checkbox"/>	LE/ENG 1101 4.00	Renaissance Engineering 1: Ethics, Communication and Problem Solving
	<input type="checkbox"/>	LE/ENG 1102 4.00	Renaissance Engineering 2: Engineering Design Principles
	<input type="checkbox"/>	SC/MATH 1013 3.00	Applied Calculus I
	<input type="checkbox"/>	SC/MATH 1014 3.00	Applied Calculus II
	<input type="checkbox"/>	SC/MATH 1025 3.00	Applied Linear Algebra
	<input type="checkbox"/>	SC/PHYS 1800 3.00	Engineering Mechanics
	<input type="checkbox"/>	SC/PHYS 1801 3.00	Electricity, Magnetism and Optics for Engineers
Second Year Courses			
	<input type="checkbox"/>	SC/MATH 1090 3.00	Introduction to Logic for Computer Science
	<input type="checkbox"/>	LE/EECS 2011 3.00	Fundamentals of Data Structures
	<input type="checkbox"/>	LE/EECS 2021 4.00	Computer Organization
	<input type="checkbox"/>	LE/EECS 2030 3.00	Advanced Object-Oriented Programming
	<input type="checkbox"/>	LE/EECS 2031 3.00	Software Tools
	<input type="checkbox"/>	LE/EECS 2200 3.00	Electrical Circuits
	<input type="checkbox"/>	LE/EECS 2311 3.00	Software Development Project
	<input type="checkbox"/>	LE/ENG 2001 3.00	Engineering Projects: Management, Economics & Safety
	<input type="checkbox"/>	LE/ENG 2003 3.00	Effective Communication for Engineers
	<input type="checkbox"/>	SC/MATH 2015 3.00	Applied Multivariate and Vector Calculus
	<input type="checkbox"/>	SC/MATH 2930 3.00	Introduction to Probability and Statistics
	<input type="checkbox"/>	SC/PHYS 2020 3.00	Electricity and Magnetism
	<input type="checkbox"/>	SC/PHYS 2211 1.00	Experimental Electromagnetism

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		COURSES	
Third Year Courses			
	<input type="checkbox"/>	LE/EECS 3101 3.00	Design and Analysis of Algorithms
	<input type="checkbox"/>	LE/EECS 3201 4.00	Digital Logic Design
	<input type="checkbox"/>	LE/EECS 3215 4.00	Embedded Systems
	<input type="checkbox"/>	LE/EECS 3221 3.00	Operating System Fundamentals
	<input type="checkbox"/>	LE/EECS 3311 3.00	Software Design
	<input type="checkbox"/>	LE/EECS 3342 3.00	System Specification and Refinement
	<input type="checkbox"/>	LE/ENG 3000 3.00	Professional Engineering Practice
	<input type="checkbox"/>	ES/ENVS 2150 3.00 (OR LE/ESSE 2210 3.00)	Environment, Technology and Sustainable Society (OR Engineering and the Environment)
Three credits chosen from: SC/BIOL 1000 3.00; SC/BIOL 1001 3.00; SC/CHEM 1001 3.00; SC/CHEM 2011 3.00; LE/ESSE 1011 3.00; LE/ESSE 1012 3.00; SC/PHYS 1070 3.00; SC/PHYS 1470 3.00; SC/PHYS 2010 3.00; SC/PHYS 2040 3.00; SC/PHYS 2060 3.00; HH/IHST 1001 3.00; HH/IHST 1002 3.00	<input type="checkbox"/>		
Complementary Studies (9 credits)	<input type="checkbox"/>		
	<input type="checkbox"/>		
Fourth Year Courses			
	<input type="checkbox"/>	LE/EECS 4312 3.00	Software Engineering Requirements
	<input type="checkbox"/>	LE/EECS 4313 3.00	Software Engineering Testing
	<input type="checkbox"/>	LE/EECS 4314 3.00	Advanced Software Engineering
	<input type="checkbox"/>	LE/EECS 4315 3.00	Mission-Critical Systems
	<input type="checkbox"/>	LE/EECS 4413 3.00	Building E-Commerce Systems
	<input type="checkbox"/>	LE/ENG 4000 6.00	Engineering Project
Complementary Studies (3 credits)	<input type="checkbox"/>		
Choose ONE of the following options (16 credits):			
General Option:	<input type="checkbox"/>	LE/EECS 3451 4.00	Signals and Systems
	<input type="checkbox"/>	LE/ENG 4550 3.00	Introduction to Control Systems
	<input type="checkbox"/>	Plus 9 additional credits from computer science courses at the 3000 and 4000 level. At least 6 of these credits must be from the following list: LE/EECS 3214 3.0, LE/EECS 3421 3.0, LE/EECS 3461 3.0, LE/EECS 3481 3.0, LE/EECS 3482 3.0, LE/EECS 4214 3.0, LE/EECS 4215 3.0, LE/EECS 4411 3.0, LE/EECS 4412 3.0, LE/EECS 4441 3.0, LE/EECS 4481 4.0, LE/EECS 4482 3.0, LE/EECS 4404 3.0	
Software Security Option:	<input type="checkbox"/>	LE/EECS 3214 3.00	Computer Network Protocols and Applications
	<input type="checkbox"/>	LE/EECS 3481 3.00	Applied Cryptography
	<input type="checkbox"/>	LE/EECS 3482 3.00	Introduction to Computer Security
	<input type="checkbox"/>	LE/EECS 4481 4.00	Computer Security Laboratory
	<input type="checkbox"/>	LE/EECS 4482 3.00	Computer Security Management: Assessment and Forensics
TOTAL CREDITS & CGPA (minimum overall GPA of 5.00 required to graduate in the BEng program)			
¹ General prerequisites for EECS courses: CGPA of 4.5 or better on completed major (i.e., second digit is not 5) EECS courses			
A Co-op option is highly recommended for all engineering students, but is not a degree requirement.			
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