



**DEGREE CHECKLIST
2022-2023**

**BACHELOR OF ENGINEERING (BEng)
SOFTWARE ENGINEERING
BIG DATA STREAM**

NAME

STUDENT #

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

		COURSES		CREDITS EARNED	GRADE
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 Engineer 1: Ethics, Communication and Problem Solving			
<input type="checkbox"/>	LE/ENG 1102 4.00	Renaissance Engineer 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 2032 4.00	Introduction to Embedded Systems			
<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 Engineering Communication			
<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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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		
Big Data Stream	<input type="checkbox"/>	LE/EECS 3421 3.0	Introduction to Database Systems		
	<input type="checkbox"/>	LE/EECS 3216 3.00	Digital Systems Engineering: Modeling, Implementation and Validation		
	<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"/>	LE/ESSE 2210 3.00 or ES/ENVS 2150 3.00	Engineering and the Environment or Environment, Technology and Sustainable Society I		
At least 3 additional credits 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 (6 credits)	<input type="checkbox"/>				
	<input type="checkbox"/>				
Fourth Year Courses					
Complementary Studies (6 credits)	<input type="checkbox"/>				
	<input type="checkbox"/>				
	<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		
Big Data Stream	<input type="checkbox"/>	LE/EECS 4404 3.0	Introduction to Machine Learning and Pattern Recognition		
Big Data Stream	<input type="checkbox"/>	LE/EECS 4412 3.0	Data Mining		
Big Data Stream	<input type="checkbox"/>	LE/EECS 4415 3.0	Big Data Systems		
Big Data Stream	<input type="checkbox"/>	LE/EECS 4411 3.0 or LE/EECS 4414 3.0	Database Management Systems or Information Networks		
Full year course	<input type="checkbox"/>	LE/ENG 4000 6.00	Engineering Project		
TOTAL CREDITS & CGPA (minimum overall GPA of 5.00 required to graduate in the BEng program)					
General Prerequisite: Most 2000-, 3000-, and 4000-level EECS courses require the following general (that is, common) prerequisites, in addition to other course-specific prerequisites: a cumulative grade point average of 4.50 or better over all completed major EECS courses. Note: "Major" courses are all EECS courses with second digit other than 5 and include LE/EECS 1028 3.00 (cross-listed to: SC/MATH 1028 3.00) and LE/EECS 1019 3.00 (cross-listed to: SC/MATH 1019 3.00).					
Participation in the Co-Op Program is highly recommended for all engineering students, but is not a degree requirement.					
Notes					
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