



**DEGREE CHECKLIST  
2019-2020**

**BACHELOR OF ENGINEERING (BEng)  
SPACE ENGINEERING**

**NAME**

**STUDENT #**

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

|  | <b>COURSES</b>           |   | <b>CREDITS<br/>EARNED</b>      | <b>GRADE</b>       |
|--|--------------------------|---|--------------------------------|--------------------|
| <b>First Year Courses</b>                |                          |   |                                |                    |
|  | <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/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"/> | LE/ESSE 1012 3.00 The Earth Environment   |                                |                    |
|  | <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                           |                                |                    |
| <b>Second Year Courses</b>               |                          |   |                                |                    |
|  | <input type="checkbox"/> | LE/ENG 2001 3.00 Engineering Projects: Management, Economics & Safety                       |                                |                    |
|  | <input type="checkbox"/> | LE/ESSE 2030 3.00 Geophysics and Space Science  |                                |                    |
|  | <input type="checkbox"/> | LE/ESSE 2220 3.00 Algorithmic and Computational methods for Geomatics and Space Engineering |                                |                    |
|  | <input type="checkbox"/> | LE/ESSE 2361 3.00 Space Systems Engineering   |                                |                    |
|  | <input type="checkbox"/> | LE/ESSE 2470 3.00 Introduction to Continuum Mechanics                                       |                                |                    |
|  | <input type="checkbox"/> | LE/MECH 2302 3.00 Dynamics  |                                |                    |
|  | <input type="checkbox"/> | LE/MECH 2401 3.00 Engineering Graphics & CAD Modelling                                      |                                |                    |
|  | <input type="checkbox"/> | SC/MATH 2015 3.00 Applied Multivariate and Vector Calculus                                  |                                |                    |
|  | <input type="checkbox"/> | SC/MATH 2271 3.00 Differential Equations for Scientists and Engineers                       |                                |                    |
|  | <input type="checkbox"/> | SC/MATH 2930 3.00 Introduction to Probability and Statistics                                |                                |                    |
|  | <input type="checkbox"/> | SC/PHYS 2020 3.00 Electricity and Magnetism   |                                |                    |
| <b>Complementary Studies (3 credits)</b> | <input type="checkbox"/> |   |                                |                    |
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|  | <b>COURSES</b>           |   | <b>CREDITS<br/>EARNED</b>      | <b>GRADE</b>       |
| <b>Third Year Courses</b>                |                          |   |                                |                    |
|  | <input type="checkbox"/> | LE/ENG 3000 3.00 Professional Engineering Practice  |                                |                    |
|  | <input type="checkbox"/> | LE/ENG 3330 3.00 Materials for Space Applications   |                                |                    |

|  |                          |  |  |                                |                    |
|--|--------------------------|--|--|--------------------------------|--------------------|
|  | <input type="checkbox"/> | ES/ENVS 2150 3.00<br>or<br>LE/ESSE 2210 3.00 | Environment, Technology and Sustainable Society I<br>or<br>Engineering and the Environment |                                |                    |
|  | <input type="checkbox"/> | LE/ESSE 3280 3.00                            | Physics of the Space Environment   |                                |                    |
|  | <input type="checkbox"/> | LE/ESSE 3360 3.00                            | Heat Transfer and Thermal Design   |                                |                    |
|  | <input type="checkbox"/> | LE/ESSE 4110 3.00                            | Dynamics of Space Vehicles   |                                |                    |
|  | <input type="checkbox"/> | LE/MECH 3302 3.00                            | Mechanisms for Mechanical Systems  |                                |                    |
|  | <input type="checkbox"/> | SC/PHYS 2030 3.00                            | Computational Methods for Physicists and Engineers   |                                |                    |
|  | <input type="checkbox"/> | SC/PHYS 3050 3.00                            | Electronics I  |                                |                    |
|  | <input type="checkbox"/> | SC/PHYS 3150 3.00                            | Electronics II   |                                |                    |
|  | <input type="checkbox"/> | SC/PHYS 3250 3.00                            | Introduction to Space Communications   |                                |                    |
| <b>Complementary Studies (3 credits)</b>   | <input type="checkbox"/> |  |  |                                |                    |
| <b>Fourth Year Courses</b>   |                          |  |  |                                |                    |
|  | <input type="checkbox"/> | LE/ENG 4000 6.00                             | Engineering Project  |                                |                    |
|  | <input type="checkbox"/> | LE/ESSE 4020 3.00                            | Time Series and Spectral Analysis  |                                |                    |
|  | <input type="checkbox"/> | LE/ENG 4350 6.00                             | Space Hardware   |                                |                    |
|  | <input type="checkbox"/> | LE/ESSE 4360 3.00                            | Payload Design   |                                |                    |
|  | <input type="checkbox"/> | LE/ESSE 4361 3.00                            | Space Mission Design   |                                |                    |
|  | <input type="checkbox"/> | LE/ESSE 4370 3.00                            | Finite Element Methods in Engineering Design   |                                |                    |
|  | <input type="checkbox"/> | LE/ENG 4550 3.00                             | Introduction to Control Systems  |                                |                    |
| <b>Two of:</b><br>LE/EECS 4421 3.00, LE/ENG 3320 3.00, LE/ENG 4330 3.00, LE/ENG 4650 3.00, LE/ESSE 3020 3.00, LE/ESSE 3670 3.00, LE/ESSE 4220 3.00, LE/ESSE 4230 3.00, SC/PHYS 3070 3.00, SC/PHYS 4120 3.00  | <input type="checkbox"/> |  |  |                                |                    |
|  | <input type="checkbox"/> |  |  |                                |                    |
| <b>Complementary Studies (6 credits)</b>   | <input type="checkbox"/> |  |  |                                |                    |
|  | <input type="checkbox"/> |  |  |                                |                    |
| <b>TOTAL CREDITS &amp; CGPA</b> (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.  |                          |  |  |                                |                    |
| <b>Notes</b>   |                          |  |  |                                |                    |
|  |                          |  |  |                                |                    |
|  |                          |  |  |                                |                    |
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