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|--|---------------------------------------|-------------------|---|---------------------------|--------------|
|   | <b>DEGREE CHECKLIST<br/>2024-2025</b> |                   | <b>BACHELOR OF ENGINEERING (BEng)<br/>CIVIL ENGINEERING</b>       |                           |              |
|  | <b>NAME</b>                           |                   |   |                           |              |
|  | <b>STUDENT #</b>                      |                   |   |                           |              |
| Students are strongly advised to refer to online Academic Calendars before enrolling into courses: <a href="http://calendars.registrar.yorku.ca/">http://calendars.registrar.yorku.ca/</a> |                                       |                   |   |                           |              |
|  | <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/CIVL 2000 3.00 | Civil Engineering Design Project                                  |                           |              |
|  | <input type="checkbox"/>              | LE/CIVL 2120 3.00 | Civil Engineering Materials                                       |                           |              |
|  | <input type="checkbox"/>              | LE/CIVL 2150 3.00 | Civil Engineering Graphics  |                           |              |
|  | <input type="checkbox"/>              | LE/CIVL 2160 3.00 | Geological Processes  |                           |              |
|  | <input type="checkbox"/>              | LE/CIVL 2210 4.00 | Fluid Mechanics   |                           |              |
|  | <input type="checkbox"/>              | LE/CIVL 2220 4.00 | Mechanics of Materials  |                           |              |
|  | <input type="checkbox"/>              | LE/CIVL 2240 3.00 | Introduction to Environmental Engineering                         |                           |              |
|  | <input type="checkbox"/>              | LE/ENG 2001 3.00  | Engineering Projects: Management, Economics & Safety              |                           |              |
|  | <input type="checkbox"/>              | LE/ENG 2003 3.00  | Effective Engineering Communication                               |                           |              |
| Two-week survey course should be completed in the Summer after 2nd year in order to meet 3rd year pre-requisites.  | <input type="checkbox"/>              | LE/ESSE 2635 3.00 | Land Surveying for Civil Engineers                                |                           |              |
|  | <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                        |                           |              |
| <b>BEng, Civil Engineering</b>   |                                       |                   |   | <b>Page 1 of 3</b>        |              |

|   |                          | COURSES           |  | CREDITS<br>EARNED  | GRADE |
|---|--------------------------|-------------------|--|--------------------|-------|
| <b>Third Year Courses</b>   |                          |                   |  |                    |       |
|   | <input type="checkbox"/> | LE/CIVL 3110 3.00 | Soil Mechanics                                 |                    |       |
|   | <input type="checkbox"/> | LE/CIVL 3120 4.00 | Hydraulics                                     |                    |       |
|   | <input type="checkbox"/> | LE/CIVL 3130 4.00 | Structural Analysis                            |                    |       |
|   | <input type="checkbox"/> | LE/CIVL 3140 3.00 | Civil Engineering Computational Methods        |                    |       |
|   | <input type="checkbox"/> | LE/CIVL 3160 3.00 | Transportation Engineering                     |                    |       |
|   | <input type="checkbox"/> | LE/CIVL 3210 3.00 | Geotechnical Engineering                       |                    |       |
|   | <input type="checkbox"/> | LE/CIVL 3220 3.00 | Hydrology                                      |                    |       |
|   | <input type="checkbox"/> | LE/CIVL 3230 4.00 | Introduction to Structural Design              |                    |       |
|   | <input type="checkbox"/> | LE/CIVL 3240 3.00 | Sanitary and Environmental Engineering         |                    |       |
|   | <input type="checkbox"/> | LE/CIVL 3260 3.00 | Transportation Planning & Evaluation           |                    |       |
|   | <input type="checkbox"/> | LE/ENG 3000 3.00  | Professional Engineering Practice              |                    |       |
|   | <input type="checkbox"/> | LE/ESSE 2210 3.00 | Engineering and the Environment                |                    |       |
| <b>Fourth Year Courses</b>  |                          |                   |  |                    |       |
|   | <input type="checkbox"/> | LE/CIVL 4110 3.00 | Civil Engineering Project Management           |                    |       |
|   | <input type="checkbox"/> | LE/CIVL 4210 3.00 | Civil Engineering for a Sustainable Future     |                    |       |
| Prerequisites: LE/ENG 2003 3.00, LE/ENG 3000 3.00, All LE/CIVL 2XXX & 3XXX-level courses.                 | <input type="checkbox"/> | LE/CIVL 4000 6.00 | Civil Engineering Capstone Design Project      |                    |       |
| <b>Complementary Studies (12 credits)</b>   | <input type="checkbox"/> |                   |  |                    |       |
|   | <input type="checkbox"/> |                   |  |                    |       |
|   | <input type="checkbox"/> |                   |  |                    |       |
|   | <input type="checkbox"/> |                   |  |                    |       |
| <b>Technical Electives</b>  |                          |                   |  |                    |       |
| <b>Four Technical Electives from Group A to E, with a maximum of three Electives from the same Group:</b> |                          |                   |  |                    |       |
| <b>Group A - Structures</b>   | <input type="checkbox"/> | LE/CIVL 4001 3.00 | Advanced Structural Analysis                   |                    |       |
|   | <input type="checkbox"/> | LE/CIVL 4002 3.00 | Reinforced Concrete Design                     |                    |       |
|   | <input type="checkbox"/> | LE/CIVL 4003 3.00 | Structural Steel Design                        |                    |       |
|   | <input type="checkbox"/> | LE/CIVL 4004 3.00 | Structural Dynamics and Earthquake Engineering |                    |       |
|   | <input type="checkbox"/> | LE/CIVL 4005 3.00 | Wood Engineering                               |                    |       |
| <b>Group B - Geotechnical</b>   | <input type="checkbox"/> | LE/CIVL 4011 3.00 | Geotechnical Modelling                         |                    |       |
|   | <input type="checkbox"/> | LE/CIVL 4012 3.00 | Mechanics of Unsaturated Soils                 |                    |       |
|   | <input type="checkbox"/> | LE/CIVL 4013 3.00 | Hydrogeology                                   |                    |       |
|   | <input type="checkbox"/> | LE/CIVL 4015 3.00 | Frozen Ground Engineering                      |                    |       |
|   | <input type="checkbox"/> | LE/CIVL 4016 3.00 | Geological Engineering and Design              |                    |       |
|   | <input type="checkbox"/> | LE/CIVL 4031 3.00 | Pavement Materials and Design                  |                    |       |
| <b>BEng, Civil Engineering</b>  |                          |                   |  | <b>Page 2 of 3</b> |       |

|  | COURSES                  |                   |  | CREDITS EARNED                 | GRADE              |
|--|--------------------------|-------------------|--|--------------------------------|--------------------|
| <b>Group C - Hydrotechnical</b>  | <input type="checkbox"/> | LE/CIVL 4021 3.00 | Hydraulic Structures                               |                                |                    |
|  | <input type="checkbox"/> | LE/CIVL 4022 3.00 | Water Resources Engineering                        |                                |                    |
|  | <input type="checkbox"/> | LE/CIVL 4023 3.00 | Advanced Techniques in Hydrotechnical Engineering  |                                |                    |
|  | <input type="checkbox"/> | LE/CIVL 4024 3.00 | Environmental Fluid Mechanics                      |                                |                    |
| <b>Group D - Transportation</b>  | <input type="checkbox"/> | LE/CIVL 4033 3.00 | Traffic Simulation Modelling                       |                                |                    |
|  | <input type="checkbox"/> | LE/CIVL 4034 3.00 | Freight Transportation                             |                                |                    |
| <b>Group E - Environmental</b>   | <input type="checkbox"/> | LE/CIVL 4041 3.00 | Landfill Design                                    |                                |                    |
|  | <input type="checkbox"/> | LE/CIVL 4042 3.00 | Environmental Impact Assessment and Sustainability |                                |                    |
|  | <input type="checkbox"/> | LE/CIVL 4043 3.00 | Advanced Sanitary and Environmental Engineering    |                                |                    |
|  | <input type="checkbox"/> | LE/CIVL 4044 3.00 | Environmental Geotechnics                          |                                |                    |
| <b>TOTAL CREDITS &amp; CGPA</b> (minimum overall GPA of 5.00 required to graduate in the BEng program)   |                          |                   |  |                                |                    |
| Participation in the Co-Op Program is highly recommended for all engineering students, but is not a degree requirement.<br>For mor infomation please visit <a href="https://lassonde.yorku.ca/co-op/">https://lassonde.yorku.ca/co-op/</a> |                          |                   |  |                                |                    |
| Notes  |                          |                   |  |                                |                    |
|  |                          |                   |  |                                |                    |
|  |                          |                   |  | <b>BEng, Civil Engineering</b> | <b>Page 3 of 3</b> |