Bachelor of Engineering:

- Mining
- Chemical (with Environmental Sustainability and Extractive Metallurgy option)
- Mechanical (with Mechatronics option)

www3.laurentian.ca/engineering
FACEBOOK: LU Bharti School of Engineering
TWITTER: LUBhartiEngr

** This version of the Bharti School of Engineering Student Handbook takes precedence over earlier versions **
Rev. August 2018
1 INTRODUCTION

1.1 Welcome
The faculty and staff of Laurentian University’s Bharti School of Engineering extend a warm welcome to you. We look forward to working with you. Throughout the engineering program, you will experience personal growth that will prepare you for professional practice. We anticipate you will find your years of study at Laurentian University an exciting and challenging period in your life, rich in rewards.

1.2 Location
The Bharti School of Engineering office is located in the Science II/Fraser building (F232) with offices and classrooms on the 2nd floor. Laboratories are on the main level of the Cliff Fielding building, as well as the 1st floor and basement of the Science II building.

Office hours are Monday to Friday from 8:00 a.m. to 4:30 p.m. You can reach the main office by phone at 705-675-1151 ext. 2240 and leave a voice message if necessary. When leaving a voice message, please ensure that you provide your full name, your year in the program and your contact number.

1.3 Purpose of Student Handbook
This handbook contains information specific to the on-campus Bachelor of Engineering students. This handbook will help you better understand the BEng program and what is expected of you while you are in the program at Laurentian University. This version of the Bharti School of Engineering Student Handbook takes precedence over earlier versions.

Please note: In order to comply with ongoing accreditation requirements, the programs are subject to change from year to year. It is the responsibility of the students to adhere to the most recent program when enrolling in courses at the beginning of each academic year.

The handbook complements the resources available to students on the university website: www.laurentian.ca.

1.4 Program Coordinators:

Administrative Assistants
Natalie Boutet
Francine Sivazlian

DIRECTOR, Bharti School of Engineering
Dr. Markus Timusk

Bilingual Programs Coordinator
Dr. Mounir Naili

Chemical Engineering Coordinator
Dr. Ramesh Subramanian

Co-op Program Coordinator
Dr. Brent Lievers

Graduate Program Coordinator
Dr. Krishna Challagulla

Mechanical Engineering Coordinator
Dr. Marc Arsenault

Mining Engineering Coordinator
Dr. Eugene Ben-Awuah
1.5 Faculty and Staff

<table>
<thead>
<tr>
<th>Name</th>
<th>Extension</th>
<th>Email</th>
<th>Office</th>
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<tbody>
<tr>
<td><strong>Director</strong></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Timusk, Dr. Markus</td>
<td>2243</td>
<td><a href="mailto:mtimusk@laurentian.ca">mtimusk@laurentian.ca</a></td>
<td>F-232C</td>
</tr>
<tr>
<td><strong>Office Staff</strong></td>
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</tr>
<tr>
<td>Boutet, Natalie</td>
<td>2286</td>
<td><a href="mailto:nboutet@laurentian.ca">nboutet@laurentian.ca</a></td>
<td>F-232</td>
</tr>
<tr>
<td>Sivazlian, Francine</td>
<td>2360</td>
<td><a href="mailto:fsivazlian@laurentian.ca">fsivazlian@laurentian.ca</a></td>
<td>F-232</td>
</tr>
<tr>
<td><strong>Professors</strong></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>Arsenault, Dr. Marc</td>
<td>2392</td>
<td><a href="mailto:marsenault@laurentian.ca">marsenault@laurentian.ca</a></td>
<td>F217D</td>
</tr>
<tr>
<td>Ben-Awuah, Dr. Eugene</td>
<td>2195</td>
<td><a href="mailto:ebenawuah@laurentian.ca">ebenawuah@laurentian.ca</a></td>
<td>F211</td>
</tr>
<tr>
<td>Cai, Dr. Ming</td>
<td>5099</td>
<td><a href="mailto:mcai@laurentian.ca">mcai@laurentian.ca</a></td>
<td>WGM B4028</td>
</tr>
<tr>
<td>Challagulla, Dr. Sri Krishna</td>
<td>2306</td>
<td><a href="mailto:kchallengulla@laurentian.ca">kchallengulla@laurentian.ca</a></td>
<td>F-218</td>
</tr>
<tr>
<td>Chebbi, Dr. Brahim</td>
<td>4006</td>
<td><a href="mailto:bchebbi@laurentian.ca">bchebbi@laurentian.ca</a></td>
<td>F-225</td>
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<tr>
<td>Gransden, Dr. Derek</td>
<td>2343</td>
<td><a href="mailto:dgransden@laurentian.ca">dgransden@laurentian.ca</a></td>
<td>F-223</td>
</tr>
<tr>
<td>Guerra, Dr. Eduard</td>
<td>2244</td>
<td><a href="mailto:eguerra@laurentian.ca">eguerra@laurentian.ca</a></td>
<td>F-225B</td>
</tr>
<tr>
<td>Henda, Dr. Redhouane</td>
<td>2250</td>
<td><a href="mailto:rhenda@laurentian.ca">rhenda@laurentian.ca</a></td>
<td>F-222</td>
</tr>
<tr>
<td>Hudyma, Dr. Marty</td>
<td>4019</td>
<td><a href="mailto:mhudyma@laurentian.ca">mhudyma@laurentian.ca</a></td>
<td>F-217C</td>
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<tr>
<td>Kazakidis, Dr. Vassilios</td>
<td>2344</td>
<td><a href="mailto:vkazakidis@laurentian.ca">vkazakidis@laurentian.ca</a></td>
<td>F225E</td>
</tr>
<tr>
<td>Laamanen, Dr. Corey</td>
<td>4365</td>
<td><a href="mailto:cy_laamanen@laurentian.ca">cy_laamanen@laurentian.ca</a></td>
<td>F232C</td>
</tr>
<tr>
<td>Lievers, Dr. Brent</td>
<td>2382</td>
<td><a href="mailto:blievers@laurentian.ca">blievers@laurentian.ca</a></td>
<td>F217B</td>
</tr>
<tr>
<td>Millar, Dr. Dean</td>
<td>5071</td>
<td><a href="mailto:dmillar@laurentian.ca">dmillar@laurentian.ca</a></td>
<td>WGM</td>
</tr>
<tr>
<td>Naili, Dr. Mounir</td>
<td>2241</td>
<td><a href="mailto:mnaili@laurentian.ca">mnaili@laurentian.ca</a></td>
<td>F-211</td>
</tr>
<tr>
<td>Scott, Dr. J. Ashley</td>
<td>2283</td>
<td><a href="mailto:jascott@laurentian.ca">jascott@laurentian.ca</a></td>
<td>F-215B</td>
</tr>
<tr>
<td>Shang, Dr. Helen</td>
<td>2176</td>
<td><a href="mailto:hshang@laurentian.ca">hshang@laurentian.ca</a></td>
<td>F-225C</td>
</tr>
<tr>
<td>Sharan, Dr. Shailendra</td>
<td>2246</td>
<td><a href="mailto:ssharan@laurentian.ca">ssharan@laurentian.ca</a></td>
<td>F-221</td>
</tr>
<tr>
<td>Subramanian, Dr. Rameshad</td>
<td>2274</td>
<td><a href="mailto:rsubramanian@laurentian.ca">rsubramanian@laurentian.ca</a></td>
<td>F-215C</td>
</tr>
<tr>
<td>Vayenas, Dr. Nick</td>
<td>2341</td>
<td><a href="mailto:nvayenas@laurentian.ca">nvayenas@laurentian.ca</a></td>
<td>F-220B</td>
</tr>
<tr>
<td>Zeinali, Dr. Meysar</td>
<td>2251</td>
<td><a href="mailto:mzeinali@laurentian.ca">mzeinali@laurentian.ca</a></td>
<td>F-220A</td>
</tr>
<tr>
<td>Zhang, Dr. Junfeng</td>
<td>2248</td>
<td><a href="mailto:jzhang@laurentian.ca">jzhang@laurentian.ca</a></td>
<td>F-224</td>
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<tr>
<td><strong>Technologists</strong></td>
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</tr>
<tr>
<td>Armit, Ethan</td>
<td>4045</td>
<td><a href="mailto:ex_armit@laurentian.ca">ex_armit@laurentian.ca</a></td>
<td>F-013</td>
</tr>
<tr>
<td>Lakanen, Greg</td>
<td>2370</td>
<td><a href="mailto:ge_lakanen@laurentian.ca">ge_lakanen@laurentian.ca</a></td>
<td>F121D</td>
</tr>
<tr>
<td>Mishra, Niranjan</td>
<td>2257</td>
<td><a href="mailto:nmishra@laurentian.ca">nmishra@laurentian.ca</a></td>
<td>F-035</td>
</tr>
<tr>
<td>Pesz, Maria</td>
<td>2255</td>
<td><a href="mailto:mpesz@laurentian.ca">mpesz@laurentian.ca</a></td>
<td>F-016</td>
</tr>
<tr>
<td>Ylitalo, Henry</td>
<td>2254</td>
<td><a href="mailto:hylitalo@laurentian.ca">hylitalo@laurentian.ca</a></td>
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</table>

**Part-Time Faculty:** The Bharti School of Engineering acknowledges the part-time faculty who play a vital role in the program.
2.0 THE BACHELOR OF ENGINEERING PROGRAM

2.1 Program Description
Laurentian University offers Engineering degrees in Chemical (with Environmental Sustainability and Extractive Metallurgy options), Mechanical (with Mechatronics option) and Mining Engineering. These 4-year programs are accredited by the Canadian Engineering Accreditation Board. We also offer the first two years of the Civil Engineering program (credit transfer options is ultimately at the discretion of the receiving institution).

Each program (except Civil) has the co-op option available to eligible students. To qualify, students must have completed their 2nd year of studies while maintaining a 70% average with no failed courses.

More information can be found in the “Curriculums” section.

2.2 Program Goals
The goals of the engineering program:
Prepare to meet the standards of practice as defined by the Professional Engineers Act by the Professional Engineers Ontario (PEO)

To educate individuals for careers of leadership and innovation in engineering and related fields;

To expand the base of engineering knowledge through original research and by developing technology to serve the needs of society;

Critical thinking and problem solving based on a fundamental knowledge of humanities, social sciences, mathematics, science, engineering science and a broad range of technical areas.

Consideration of global and societal concerns, ethics and sustainability when making engineering decisions
## 2.3 Program Curriculums

**Chemical Engineering Program 2018-2019**

Note: Final course scheduling is subject to change and may vary from year to year. List of approved Technical Electives and Complementary Studies electives for this program are on pages 7, 8. **Students are responsible to register for the lecture, tutorial and lab portions of the course where applicable.**

<table>
<thead>
<tr>
<th>Year 1</th>
<th>TERM 1</th>
<th>TERM 2</th>
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<tbody>
<tr>
<td>ENGR 1007 Engineering Graphics and Design  (+ separate lab section)</td>
<td>CHMI 1007 General Chemistry II  (+ separate lab section)</td>
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<tr>
<td>ENGR 1056 Applied Mechanics I</td>
<td>COSC 2836 Computer Software for the Sciences</td>
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<tr>
<td>CHMI 1006 General Chemistry I  (+ separate lab section)</td>
<td>MATH 1037 Calculus II</td>
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<tr>
<td>MATH 1036 Calculus I</td>
<td>MATH 1057 Linear Algebra I</td>
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<tr>
<td>PHYS 1006 Introductory Physics I  (+ separate lab section)</td>
<td>PHYS 1007 Introductory Physics II  (+ separate lab section)</td>
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<tr>
<td>+ Writing-Intensive Course or Complementary Studies Elective (3 cr)</td>
<td>+ Writing-Intensive Course or Complementary Studies Elective (3 cr)</td>
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<th>Year 2</th>
<th>TERM 1</th>
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<tr>
<td>ENGR 2026 Engineering Materials</td>
<td>ENGR 2097 Fluid Mechanics I</td>
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<td>ENGR 2076 Strength of Materials I</td>
<td>ENGR 2276 Chemical Process Calculations</td>
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<tr>
<td>CHMI 2426 Organic Chemistry I  (+ separate lab section)</td>
<td>ENGR 3426 Engineering Economics (D2L)</td>
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<tr>
<td>CHMI 2526 Intro to Physical Chemistry I  (no labs)</td>
<td>CHMI 2527 Intro to Physical Chemistry II  (no labs)</td>
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<tr>
<td>MATH 2066 Introduction to Differential Equations</td>
<td>MATH 3416 Numerical Methods I</td>
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<tr>
<td>+ Writing-Intensive Course or Complementary Studies Elective (3 cr)</td>
<td>STAT 2246 Statistics for Science</td>
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**It is recommended that students take ENGR 2106 (Introduction to Mineral Resources Engineering) as a Technical Elective in second year since it is a prerequisite for many of the Recommended Technical Electives listed in Table A.**

<table>
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<tr>
<th>Year 3</th>
<th>TERM 1</th>
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<tr>
<td>ENGR 3446 Heat Transfer</td>
<td>ENGR 3126 Occupational Health Engineering</td>
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<tr>
<td>ENGR 3436 Chemical Reaction Engineering and Reactor Design I</td>
<td>ENGR 3267 Process Dynamics and Control</td>
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<tr>
<td>+ Technical electives (12 cr)*</td>
<td>ENGR 3416 Mass Transfer</td>
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<td></td>
<td>ENGR 3476 Intro to Polymers</td>
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<td></td>
<td>OPER 4016 Project Management</td>
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<td></td>
<td>+ Technical elective (3 cr)*</td>
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<th>Year 4</th>
<th>TERM 1</th>
<th>TERM 2</th>
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<tr>
<td>ENGR 4126 Engineering Seminar</td>
<td>ENGR 4117 Engineering, Technology &amp; Society</td>
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<tr>
<td>ENGR 4435 Engineering Design Project</td>
<td>ENGR 4435 Engineering Design Project</td>
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<tr>
<td>ENGR 4436 Chemical Process and Plant Design</td>
<td>ENGR 4447 Chemical Reactor Design II</td>
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<tr>
<td>ENGR 4457 Separation Processes &amp; Unit Operations</td>
<td>+ Technical electives (9 cr)*</td>
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<tr>
<td>ENGR 4477 Process Modeling and Control</td>
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<tr>
<td>+ Technical elective (3 cr)*</td>
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*Technical and Complementary Studies Electives. Students must acquire a total of 27 credits of Technical Electives (Tables A and B), 18 of which must be from Table A and 9 of which from Table B. Six (6) credits of Complementary Studies are required. Three (3) credits of a Writing-Intensive Course is required.*
Approved Technical Electives for Chemical Engineering include:
* Indicates courses required for the Extractive Metallurgy Option
** Indicates courses required for the Environmental Sustainability Option

### Table A Recommended Technical Electives

<table>
<thead>
<tr>
<th>TERM 1</th>
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<tbody>
<tr>
<td>ENGR 3116 Mineral Processing I*</td>
<td>ENGR 1017 Computer-Aided Design (SolidWorks)</td>
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<tr>
<td>ENGR 3246 Corrosion and Protection of Metals*</td>
<td>ENGR 3147 Mineral Processing II*</td>
</tr>
<tr>
<td>ENGR 3307 Materials Handling</td>
<td>ENGR 3226 Hydrometallurgy* Not offered in 18-19</td>
</tr>
<tr>
<td>ENGR 3437 Water and Wastewater Treatment**</td>
<td>ENGR 3257 Pyrometallurgy*</td>
</tr>
<tr>
<td>ENGR 3466 Environmental Impact of Process Industries**</td>
<td>ENGR 3477 Adsorption and Membrane Processes in Pollution Control**</td>
</tr>
<tr>
<td>ENGR 3526 Fluid Mechanics II</td>
<td>ENGR 3566 Biomechanics of Living Tissues</td>
</tr>
<tr>
<td>ENGR 3536 Materials and Manufacturing</td>
<td>ENGR 4187 Solid Waste Processing and Recycling in the Minerals Industry**</td>
</tr>
<tr>
<td>ENGR 4366 Automation and Reliability Mine Equip</td>
<td>ENGR 4426 Air Pollution Control**</td>
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### Table B Recommended Technical Electives

<table>
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<tr>
<th>TERM 1</th>
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<tbody>
<tr>
<td>BIOL 1506 Biology I</td>
<td>BIOL 1507 Biology II</td>
</tr>
<tr>
<td>BIOL 2356 Principles of Ecology</td>
<td>CHMI 2041 Introductory Environmental Chemistry**</td>
</tr>
<tr>
<td>BIOL 2757 Aspects of Human Sexuality</td>
<td>CHMI 2117 Introductory Quantitative Analysis</td>
</tr>
<tr>
<td>CHMI 2316 Inorganic Chemistry I</td>
<td>CHMI 2427 Organic Chemistry II</td>
</tr>
<tr>
<td>COSC 1046 Computer Science I</td>
<td>COSC 1047 Computer Science II</td>
</tr>
<tr>
<td>ENGR 2106 Introduction to Mineral Resources*</td>
<td>ENGR 1057 Applied Mechanics II</td>
</tr>
<tr>
<td>ENGR 3157 Operations Research</td>
<td>GEOL 1007 Introductory Geology II</td>
</tr>
<tr>
<td>GEOL 1006 Introductory Geology I</td>
<td>MATH 2037 Advanced Calculus</td>
</tr>
<tr>
<td>PHYS 2006 Introduction to Electricity and Electronics</td>
<td>PHYS 2616 Physics of Hearing and Vision</td>
</tr>
<tr>
<td>+ other relevant Science or Engineering courses with Program Coordinator’s permission</td>
<td>+ other relevant Science or Engineering courses with Program Coordinator’s permission</td>
</tr>
</tbody>
</table>

* Approved Complementary Studies electives (6 Credits req’d):

Courses in humanities, social sciences, arts, management, economics or communication that complement the technical content of the engineering curriculum are generally accepted as Complementary Studies. In particular, it is important to take courses that contain subject matter that deals with central issues, thought processes and methodologies of the humanities and social sciences. Some examples are given below.

- ACCT 1001F Utilisation des données financières ou ACCT 1001E Using Financial Information
- ANTR 1006E Introduction to Anthropology I
- CLAS 1006E Greek Civilization
- CLAS 1007E Roman Civilization
- CLAS 2016E Classical Mythology
- ECON 1006F Introduction à la microéconomie ou ECON 1006E Introduction to Microeconomics
- ECON 1007F Introduction à la macroéconomie ou ECON 1007E Introduction to Macroeconomics
- ENGL 1705E Introduction to Writing and English Studies
- ENGL 2005E Literatures in English
- ENGL 2606E Backgrounds to Western Literature I
- ENGL 2616E The Bible and Literature
- ENGL 2626E Critical Approaches
- ENGL 2676E Popular Literature and Culture I
- ENGR 4336E Finance and Mine Evaluation (D2L)
- ENVI 2206E Populations and the Environment
- ENVI 2216E Culture Economics and the Environment
- ENVI 2507F Empreinte écologique et développement durable
- ENVI 3237E The Internal Structure of the City
- GEOG 1026F Introduction à la géographie physique ou GEOG 1026E Introduction to Physical Geography
- GEOG 1027F Introduction à la géographie humaine ou GEOG 1027E Introduction to Human Geography
- HIST 1106F Introduction à l’histoire du XXe siècle ou HIST 1106E Introduction to the 20th Century
- HIST 1107F Perspectives historiques sur les problèmes contemporains ou HIST 1107E Contemporary
Issues in Historical Perspective

- HIST 1206F civilisation occidentale: depuis la Renaissance jusqu’à la Révolution française ou HIST 1206E Western Civilization: Renaissance to the French Revolution
- HIST 1207F La civilisation occidentale: de la Révolution française à nos jours ou HIST 1207E Western Civilization: French Revolution to the Present
- HIST 1406F Histoire canadienne: L’époque de la préconfédération ou HIST 1406E Canadian History: Pre-Confederation
- HIST 1407F Histoire canadienne: depuis la confédération ou HIST 1407E Canadian History: Post-Confederation
- JURI 1105E Introduction to Legal Studies
- JURI 1106F Introduction à l’étude du droit ou JURI 1006E Introduction to Legal Studies I
- JURI 1107F Introduction au droit criminel ou JURI 1007E Introduction to Legal Studies II
- LBST 1006E Introduction to Labour Studies I
- LBST 1006E Introduction to Labour Studies II
- LBST 2026E The World of Work (équivalent au cours SOCI-2026E)
- LBST 2106E Occupational Health and Safety, Level I
- LBST 2246E What Do Unions Do? (équivalent au cours SOCI-2246E)
- LBST 3106E Occupational Health and Safety, Level II
- MGMT 1306F Gestion des organisations ou MGMT 1006E Management of Organizations I
- MGMT 1307F Gestion des organisations II ou MGMT 1007E Management of Organizations II
- OPER 2006F Introduction à la science de la gestion ou OPER 2006E Introduction to Management Science
- PHIL 1105F Introduction à la philosophie ou PHIL 1115E Introduction to Philosophy
- PHIL 2586F Philosophie de la sexualité ou PHIL 2126E Philosophy of Sexuality
- PHIL 2156E Philosophy, Culture and Power
- PHIL 2216F Technologie, valeurs et environnement ou PHIL 2747E Technology, Freedom and Values
- PHIL 2217F Éthique de l’environnement ou PHIL 2217E Environmental Ethics
- PHIL 2256F Philosophie de l’éducation ou PHIL 2256E Philosophy of Education
- PHIL 2505F Pensée critique et argumentation ou PHIL 2505E Critical Thinking and Argument
- PHIL 2525F Problèmes éthiques contemporains ou PHIL 2525E Contemporary Moral Issues
- PHIL 2876E Business Ethics
- POLI 1005E Introduction to Political Science
- POLI 1006F Politique et sociétés ou POLI 1006E Political Regimes
- POLI 1007F Problèmes politiques contemporains ou POLI 1007E Political Ideas and Political Actors
- POLI 2306F Relations internationales ou POLI 2306E International Relations
- POLI 2426E Individual, Community and the Political Order
- POLI 2526E Approaches to Justice
- POLI 2576E Philosophy of Law
- PSYC 1105F Initiation à la psychologie ou PSYC 1105E Introduction to Psychology
- SOCI 1015F Étude de la société ou SOCI 1015E Understanding Society
- WOMN 1005F Introduction aux études des femmes ou WOMN 1005E Introduction to Women’s Studies

*Approved Writing-Intensive Course replacing ENGR 1016 (3 Credits req’d):*
- ANTR 1007E Introduction to Sociocultural Anthropology (18F)
- ENGL 1561E Business Communication (18F)
- ENGL 1706E Introduction to Writing and English Studies I (18F)
- ENGL 1707E Intro to Writing and English Studies II (19W)
- HIST 1406E Canadian History: Pre-Confederation (18F)
- HIST 1407E Canadian History: Post-Confederation (19W)
- HIST 2176E Canadian Military History (19W)
- HIST 2546E Early Medieval Europe (19W)
- HIST 2556E Europe in Early Industrial Era (18F)
- ITAL 2526E Italian Images in North American Film and Television (18F)
- ITAL 2646E Eating Italian Culture (19W)
- LBST 1006E Introduction to Labour Studies (18F)
- LBST 1007E Introduction to Labour Studies (19W)
- LITT 2126F L’imaginaire minier dans la literature (19W)
- LITT 2697F La chanson Québécoise (18F)
- PHIL 2217F Éthique de l’environnement (18F)
- PHIL 2876E Business Ethics (19W)
- POLI 2357F Idées politiques et sociales du XIXe siècle à nos jours (18F)
- POLI 2226E Politics of the United States (18F)
## Mechanical Engineering Program 2018-2019

Note: Final course scheduling is subject to change and may vary from year to year. List of approved Technical Electives and Complementary Studies electives for this program are on page 10,11. *Students are responsible to register for the lecture, tutorial and lab portions of the course where applicable.*

### Year 1

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<thead>
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<tr>
<td>ENGR 1007 Engineering Graphics and Design (+ separate lab section)</td>
<td>ENGR 1017 Computer-Aided Design (+ separate lab section)</td>
</tr>
<tr>
<td>ENGR 1056 Applied Mechanics I (+ separate lab section)</td>
<td>ENGR 1057 Applied Mechanics II</td>
</tr>
<tr>
<td>CHMI 1006 General Chemistry I ( + separate lab section)</td>
<td>MATH 1037 Calculus II</td>
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<td>MATH 1036 Calculus I</td>
<td>MATH 1057 Linear Algebra I</td>
</tr>
<tr>
<td>PHYS 1006 Introductory Physics I ( + separate lab section)</td>
<td>PHYS 1007 Introductory Physics II ( + separate lab section)</td>
</tr>
<tr>
<td>+ Writing-Intensive Course or Complementary Studies Elective (3 cr)</td>
<td>+ Writing-Intensive Course or Complementary Studies Elective (3 cr)</td>
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### Year 2

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<tr>
<td>ENGR 2026 Engineering Materials</td>
<td>ENGR 2097 Fluid Mechanics I</td>
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<tr>
<td>ENGR 2036 Engineering Thermodynamics I</td>
<td>ENGR 2506 Dynamics</td>
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<tr>
<td>ENGR 2076 Strength of Materials I (+ separate lab section)</td>
<td>ENGR 2537 Engineering Thermodynamics II</td>
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<tr>
<td>COSC 1046 Computer Science I</td>
<td>ENGR 2587 Strength of Materials II</td>
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<td>MATH 2066 Introduction to Differential Equations</td>
<td>COSC 1047 Computer Science II</td>
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<td>+ Writing-Intensive Course or Complementary Studies Elective (3 cr)</td>
<td>STAT 2246 Statistics for Science</td>
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### Year 3 – General Option

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<tr>
<td>ENGR 3526 Fluid Mechanics II</td>
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<td>ENGR 3536 Materials and Manufacturing</td>
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<tr>
<td>ENGR 3546 System Modeling</td>
<td>ENGR 3546 System Modeling</td>
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<tr>
<td>ENGR 3556 Elec. Actuators &amp; Power Electronics (+ separate lab section)</td>
<td>ENGR 3556 Elec. Actuators &amp; Power Electronics</td>
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<tr>
<td>ENGR 3426 Engineering Economics (D2L)</td>
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<td>+ Technical Elective 1</td>
<td>COSC 2006 Data Structures</td>
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### Year 3 – Mechatronics Option

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<tr>
<td>ENGR 3507 Finite Element Methods</td>
<td>ENGR 3507 Finite Element Methods</td>
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<td>ENGR 3517 Machine Design</td>
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<tr>
<td>ENGR 3547 Control Systems</td>
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<tr>
<td>MATH 3416 Numerical Methods</td>
<td>MATH 3416 Numerical Methods</td>
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<tr>
<td>ENGR 3516 Vibration and Dynamic Systems</td>
<td>ENGR 3516 Vibration and Dynamic Systems</td>
</tr>
<tr>
<td>ENGR 3327 Mine Ventilation</td>
<td>ENGR 3577 Microprocessor Systems &amp; Interfacing</td>
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### Year 4 – General Option

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<tr>
<td>ENGR 3446 Heat Transfer</td>
<td>ENGR 3446 Heat Transfer</td>
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<tr>
<td>ENGR 4526 Sensors and Instrumentation</td>
<td>ENGR 4526 Sensors and Instrumentation</td>
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<tr>
<td>ENGR 4126 Engineering Seminar</td>
<td>ENGR 4126 Engineering Seminar</td>
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<tr>
<td>ENGR 4566 Fluid Power Systems</td>
<td>ENGR 4546 Digital Control</td>
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<tr>
<td>+ Technical Elective 2</td>
<td>ENGR 4576 Digital Logic and Microprocessors</td>
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### Year 4 – Mechatronics Option

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<tr>
<td>ENGR 4117 Engineering, Technology &amp; Society</td>
<td>ENGR 4117 Engineering, Technology &amp; Society</td>
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<tr>
<td>ENGR 4547 Robot Manipulation</td>
<td>ENGR 4547 Robot Manipulation</td>
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<td>ENGR 4595 Mechanical Design Project</td>
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<td>ENGR 3566 Biomechanics of Living Tissues</td>
<td>COSC 3807 Applied Networks</td>
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<td>+ List B Technical Elective</td>
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<td>+ Complementary Studies Elective</td>
<td>+ Complementary Studies Elective</td>
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**Technical Electives:** For the Mechanical Engineering General Option, students must take 9 credits of Technical Electives, of which 6 credits must be from List A and 3 credits must be from list B.

**LIST A: Approved Technical Electives**
- COSC 2307 Database Programming
- COSC 2406 Assembly Language Programming
- ENGR 3126 Occupational Health Engineering
- ENGR 3157 Operations Research
- ENGR 3307 Materials Handling
- ENGR 3437 Water and Wastewater Treatment
- ENGR 3466 Environmental Impacts of Process Industries
- ENGR 3477 Absorption and Membrane Processes in Pollution Control
- ENGR 4157 Power Machines Not offered in 18-19 academic year
- ENGR 4187 Solids Waste Processing and Recycling in the Minerals Industry
- ENGR 4366 Automation and Reliability of Mining Equipment
- MATH 2037 Advanced Calculus or MATH 2037F Calcul avancé
- MATH 2057 Linear Algebra II or MATH 2057 Algèbre linéaire II
- PHYS 2006 Introduction to Electricity and Electronics
- PHYS 3046 Mechanical Properties of Solids and Fluids

*Other upper year science or engineering courses may be allowed with Program Coordinator’s permission*

**LIST B: Approved Technical Electives**
- BIOL 1000E Canadian Environmental Biology
- BIOL 1506E Biology I or BIOL 1506F Biologie I
- BIOL 2356E Principles of Ecology or BIOL 2356F Principes d’écologie
- CHMI 1007E General Chemistry II or CHMI 1007F Chimie générale II
- ENSC 1406E Earth’s Environmental Systems
- ENVI 1406F Environnement I
- ENVI 1507F Environnement II
- GEOL 1006E Geology I or GEOL 1006F Introduction à la géologie I
- PHYS 2606E Biophysics of Fluids
- PHYS 2616E Physics of Hearing and Vision

*Other science or engineering courses may be allowed with Program Coordinator’s permission*

**Approved Complementary Studies electives (9 Credits req’d):**
Courses in humanities, social sciences, arts, management, economics or communication that complement the technical content of the engineering curriculum are generally accepted as Complementary Studies. In particular, it is important to take courses that contain subject matter that deals with central issues, thought processes and methodologies of the humanities and social sciences. Some examples are given below.
- ACCT 1001F Utilisation des données financières ou ACCT 1001E Using Financial Information
- ANTR 1006E Introduction to Anthropology I
- CLAS 1006E Greek Civilization
- CLAS 1007E Roman Civilization
- CLAS 2016E Classical Mythology
- ECON 1006F Introduction à la microéconomie ou ECON 1006E Introduction to Microeconomics
- ECON 1007F Introduction à la macroéconomie ou ECON 1007E Introduction to Macroeconomics
- ENGL 1705E Introduction to Writing and English Studies
- ENGL 2005E Literatures in English
- ENGL 2606E Backgrounds to Western Literature I
- ENGL 2616E The Bible and Literature
- ENGL 2626E Critical Approaches
- ENGL 2676E Popular Literature and Culture I
- ENGR 4336E Finance and Mine Evaluation (D2L)
- ENV 2206E Populations and the Environment
- ENV 2216E Culture Economics and the Environment
- ENV 2507F Empreinte écologique et développement durable
- ENV 3237E The Internal Structure of the City
- GEOG 1026F Introduction à la géographie physique ou GEOG 1027E Introduction to Human Geography
- HIST 1106F Introduction à l’histoire du XXe siècle ou HIST 1106E Introduction to the 20th Century
- HIST 1107F Perspectives historiques sur les problèmes contemporains ou HIST 1107E Contemporary Issues in
Historical Perspective

- HIST 1206F civilisation occidentale: depuis la Renaissance jusqu’à la Révolution française ou HIST 1206E Western Civilization: Renaissance to the French Revolution
- HIST 1207F La civilisation occidentale: de la Révolution française à nos jours ou HIST 1207E Western Civilization: French Revolution to the Present
- HIST 1406F Histoire canadienne: L’époque de la préconfédération ou HIST 1406E Canadian History: Pre-Confederation
- HIST 1407F Histoire canadienne : depuis la confédération ou HIST 1407E Canadian History: Post-Confederation

- JURI 1105E Introduction to Legal Studies
- JURI 1106F Introduction à l’étude du droit ou JURI 1006E Introduction to Legal Studies I
- JURI 1107F Introduction au droit criminel ou JURI 1007E Introduction to Legal Studies II
- LBST 1006E Introduction to Labour Studies I
- LBST 1006E Introduction to Labour Studies II
- LBST 2026E The World of Work (équivalent au cours SOCI-2026E)
- LBST 2106E Occupational Health and Safety, Level I
- LBST 2246E What Do Unions Do? (équivalent au cours SOCI-2246E)
- LBST 3106E Occupational Health and Safety, Level II
- MGMT 1306F Gestion des organisations ou MGMT 1006E Management of Organizations I
- MGMT 1307F Gestion des organisations II ou MGMT 1007E Management of Organizations II
- OPER 2006F Introduction à la science de la gestion ou OPER 2006E Introduction to Management Science
- OPER 4016 Project Management

- PHIL 1105E Introduction à la philosophie ou PHIL 1115E Introduction to Philosophy
- PHIL 2586F Philosophie de la sexualité ou PHIL 2126E Philosophy of Sexuality
- PHIL 2156E Philosophy, Culture and Power
- PHIL 2216F Technologie, valeurs et environnement ou PHIL 2747E Technology, Freedom and Values
- PHIL 2217F Éthique de l’environnement ou PHIL 2217E Environmental Ethics
- PHIL 2256F Philosophie de l'éducation ou PHIL 2256E Philosophy of Education
- PHIL 2505F Pensée critique et argumentation ou PHIL 2505E Critical Thinking and Argument
- PHIL 2525F Problèmes éthiques contemporains ou PHIL 2525E Contemporary Moral Issues
- PHIL 2876E Business Ethics

- POLI 1005E Introduction to Political Science
- POLI 1006F Politique et sociétés ou POLI 1006E Political Regimes
- POLI 1007F Problèmes politiques contemporains ou POLI 1007E Political Ideas and Political Actors
- POLI 2306F Relations internationales ou POLI 2306E International Relations
- POLI 2426E Individual, Community and the Political Order
- POLI 2526E Approaches to Justice
- POLI 2575E Philosophy of Law
- PSYC 1105F Initiation à la psychologie ou PSYC 1105E Introduction to Psychology
- SOCI 1015E Étude de la société ou SOCI 1015E Understanding Society
- WOMN 1005F Introduction aux études des femmes ou WOMN 1005E Introduction to Women’s Studies

*Approved Writing-Intensive Course replacing ENGR 1016 (3 Credits req’d):*
- ANTR 1007E Introduction to Sociocultural Anthropology (18F)
- ENGL 1561E Business Communication (18F)
- ENGL 1706E Introduction to Writing and English Studies I (18F)
- ENGL 1707E Intro to Writing and English Studies II (19W)
- HIST 1406E Canadian History: Pre-Confederation (18F)
- HIST 1407E Canadian History: Post-Confederation (19W)
- HIST 2176E Canadian Military History (19W)
- HIST 2546E Early Medieval Europe (19W)
- HIST 2556E Europe in Early Industrial Era (18F)
- ITAL 2526E Italian Images in North American Film and Television (18F)
- ITAL 2646E Eating Italian Culture (19W)
- LBST 1006E Introduction to Labour Studies (18F)
- LBST 1007E Introduction to Labour Studies (19W)
- LITT 2126F L’imaginaire minier dans la literature (19W)
- LITT 2697F La chanson Québécoise (18F)
- PHIL 2217F Éthique de l'environnement (18F)
- PHIL 2876E Business Ethics (19W)
- POLI 2357F Idées politiques et sociales du XIXe siècle à nos jours (18F)
- POLI 2226E Politics of the United States (18F)
# Mining Engineering Program 2018-2019

Note: Final course scheduling is subject to change and may vary from year to year. List of approved Technical Electives and Complementary Studies electives for this program are on page 13, 14. **Students are responsible to register for the lecture, tutorial and lab portions of the course where applicable.**

<table>
<thead>
<tr>
<th>Year 1</th>
<th>TERM 1</th>
<th>TERM 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENGR 1007 Engineering Graphics and Design (+ separate lab section)</td>
<td>ENGR 1057 Applied Mechanics II</td>
<td></td>
</tr>
<tr>
<td>ENGR 1056 Applied Mechanics I (+ separate lab section)</td>
<td>MATH 1037 Calculus II</td>
<td></td>
</tr>
<tr>
<td>CHMI 1006 General Chemistry I (+ separate lab section)</td>
<td>MATH 1057 Linear Algebra I</td>
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<tr>
<td>GEOL 1006 Introductory Geology I (+ separate lab section)</td>
<td>COSC 2836 Computer Software for the Sciences</td>
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<tr>
<td>MATH 1036 Calculus I</td>
<td>PHYS 1007 Introductory Physics II (+ separate lab section)</td>
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</tr>
<tr>
<td>PHYS 1006 Introductory Physics I (+ separate lab section)</td>
<td>Writing-Intensive Course or Complementary Studies Elective (3 cr) <strong>See approved list below</strong></td>
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<tr>
<th>Year 2</th>
<th>TERM 1</th>
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<tr>
<td>ENGR 2026 Engineering Materials</td>
<td>ENGR 2097 Fluid Mechanics I</td>
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<td>ENGR 2036 Engineering Thermodynamics I</td>
<td>ENGR 2346 Rock Mechanics</td>
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<td>ENGR 2076 Strength of Materials I</td>
<td>ENGR 2356 Underground Mining Methods</td>
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<tr>
<td>ENGR 2106 Intro to Mineral Resources Engr</td>
<td>ENGR 2517 Surveying/Photogrammetry</td>
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<tr>
<td>ENGR 3426 Engineering Economics (D2L course)</td>
<td>STAT 3317 Surface Mining</td>
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<tr>
<td>MATH 2066 Introduction to Differential Equations</td>
<td>STAT 2246 Statistics for Science</td>
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<th>Year 3</th>
<th>TERM 1</th>
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<tbody>
<tr>
<td>ENGR 3116 Mineral Processing I</td>
<td>ENGR 3126 Occupational Health Engineering</td>
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<td>ENGR 3307 Materials Handling</td>
<td>ENGR 3327 Mine Ventilation</td>
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<tr>
<td>ENGR 3376 Drilling and Development</td>
<td>ENGR 3337 Explosives and Blasting Technology</td>
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<tr>
<td>ENGR 3387 Ground Control</td>
<td>ENGR 4306 Open Pit Design</td>
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<tr>
<td>ENGR 3346 Ore Reserve Analysis/Geostatistics</td>
<td>MATH 3416 Numerical Methods</td>
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<tr>
<td>GEOL 2017 Geology for Engineering (+ separate lab)</td>
<td>Writing-Intensive Course or Complementary Studies Elective (3 cr) <strong>See approved list below</strong></td>
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<th>Year 4</th>
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<tr>
<td>ENGR 3157 Operations Research</td>
<td>ENGR 4117 Engineering, Technology &amp; Society</td>
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<td>ENGR 4126 Engineering Seminar</td>
<td>ENGR 4327 Mine Design II</td>
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<td>ENGR 4316 Mine Design I</td>
<td>OPER 4016 Project Management</td>
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<tr>
<td>ENGR 4366 Automation &amp; Reliability of Mining Equipment</td>
<td>*Complementary studies or Technical elective (6 cr)</td>
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**Technical Electives:** Students must take 9 credits of Technical Electives, of which 6 credits must be from List A. The remaining 3 credits may be taken from either List A or List B.

**LIST A: Approved Technical Electives**

- ENGR 1017 Computer Aided Design (+ separate lab section)
- ENGR 2506 Dynamics
- ENGR 2537 Engineering Thermodynamics II
- ENGR 2587 Strength of Materials II
- ENGR 3147 Mineral Processing II
- ENGR 3267 Process Dynamics and Control
- ENGR 3437 Water and Wastewater Treatment
ENGR 3466  Environmental Impacts of Process Industries
ENGR 3477 Absorption and Membrane Processes in Pollution Control
ENGR 3516 Vibrations and Dynamics Systems
ENGR 3526 Fluid Mechanics II
ENGR 3536 Materials and Manufacturing
ENGR 3546 System Modeling and Simulation
ENGR 3556 Electromechanical Actuators and Power Electronics
ENGR 4157 Power Machines Not offered in 18-19
ENGR 4187 Solids Waste Processing and Recycling in the Minerals Industry
CHMI 2041 Introductory Environmental Chemistry
GEOG 3036 Air Photo Interpretation
GEOL 2126 Mineralogy I
GEOL 4956 Geophysical Methods
MATH 2037 Advanced Calculus
PHYS 2006 Introduction to Electricity and Electronics
PHYS 3046 Mechanical Properties of Solids and Fluids

*Other upper year science or engineering courses may be allowed with Program Coordinator’s permission

LIST B: Approved Technical Electives
BIOL 1506 Biology I
BIOL 2356 Principles of Ecology
BIOL 3056 Mineral Exploitation and the Biosphere (pre-requisites or instructor’s permission required)
CHMI 1007 General Chemistry II
COSC 1046 Computer Science I
GEOL 1007 Geology II [Note: requires GEOL 1006]

*Other science or engineering courses may be allowed with Program Coordinator’s permission

* Approved Complementary Studies electives (9 Credits req’d):
Courses in humanities, social sciences, arts, management, economics or communication that complement the technical content of the engineering curriculum are generally accepted as Complementary Studies. In particular, it is important to take courses that contain subject matter that deals with central issues, thought processes and methodologies of the humanities and social sciences. Some examples are given below.

- ACCT 1001F Utilisation des données financières ou ACCT 1001E Using Financial Information
- ANTR 1006E Introduction to Anthropology I
- CLAS 1006E Greek Civilization
- CLAS 1007E Roman Civilization
- CLAS 2016E Classical Mythology
- ECON 1006F Introduction à la microéconomie ou ECON 1006E Introduction to Microeconomics
- ECON 1007F Introduction à la macroéconomie ou ECON 1007E Introduction to Macroeconomics
- ENGL 1705E Introduction to Writing and English Studies
- ENGL 2005E Literatures in English
- ENGL 2606E Backgrounds to Western Literature I
- ENGL 2616E The Bible and Literature
- ENGL 2626E Critical Approaches
- ENGL 2676E Popular Literature and Culture I
- ENGR 4336E Finance and Mine Evaluation (D2L)
- ENVI 2206E Empreinte écologique et développement durable
- ENVI 2216E Culture Economics and the Environment
- ENVI 2507F The Internal Structure of the City
- GEOG 1026F Introduction à la géographie physique ou GEOG 1026E Introduction to Physical Geography
- GEOG 1027F Introduction à la géographie humaine ou GEOG 1027E Introduction to Human Geography
- HIST 1106F Introduction à l’histoire du XXe siècle ou HIST 1106E Introduction to the 20th Century
- HIST 1107F Perspectives historiques sur les problèmes contemporains ou HIST 1107E Contemporary Issues in Historical Perspective
- HIST 1206F civilisation occidentale: depuis la Renaissance jusqu’à la Révolution française ou HIST
**1206E Western Civilization: Renaissance to the French Revolution**

- **HIST 1207F** La civilisation occidentale: de la Révolution française à nos jours **ou** HIST 1207E Western Civilization: French Revolution to the Present
- **HIST 1406F** Histoire canadienne: L'époque de la préconfédération **ou** HIST 1406E Canadian History: Pre-Confederation
- **HIST 1407F** Histoire canadienne: depuis la confédération **ou** HIST 1407E Canadian History: Post-Confederation

**JURI 1105E** Introduction to Legal Studies

- **JURI 1106F** Introduction à l'étude du droit **ou** JURI 1006E Introduction to Legal Studies I
- **JURI 1107F** Introduction au droit criminel **ou** JURI 1007E Introduction to Legal Studies II
- **LBST 1006E** Introduction to Labour Studies I
- **LBST 1006E** Introduction to Labour Studies II
- **LBST 2026E** The World of Work (équivalent au cours SOCI-2026E)
- **LBST 2106E** Occupational Health and Safety, Level I
- **LBST 2246E** What Do Unions Do? (équivalent au cours SOCI-2246E)
- **LBST 3106E** Occupational Health and Safety, Level II
- **MGMT 1306F** Gestion des organisations **ou** MGMT 1006E Management of Organizations I
- **MGMT 1307F** Gestion des organisations II **ou** MGMT 1007E Management of Organizations II
- **OPER 2006F** Introduction à la science de la gestion **ou** OPER 2006E Introduction to Management Science

**PHIL 1105F** Introduction à la philosophie **ou** PHIL 1115E Introduction to Philosophy

- **PHIL 2586F** Philosophie de la sexualité **ou** PHIL 2126E Philosophy of Sexuality
- **PHIL 2156F** Philosophy, Culture and Power
- **PHIL 2216F** Technologie, valeurs et environnement **ou** PHIL 2747E Technology, Freedom and Values
- **PHIL 2217F** Ethique de l'environnement **ou** PHIL 2217E Environmental Ethics
- **PHIL 2256F** Philosophie de l'éducation **ou** PHIL 2256E Philosophy of Education
- **PHIL 2505F** Pensée critique et argumentation **ou** PHIL 2505E Critical Thinking and Argument
- **PHIL 2525F** Problèmes éthiques contemporains **ou** PHIL 2525E Contemporary Moral Issues
- **PHIL 2876E** Business Ethics
- **POLI 1005E** Introduction to Political Science
- **POLI 1006F** Politique et sociétés **ou** POLI 1006E Political Regimes
- **POLI 1007F** Problèmes politiques contemporains **ou** POLI 1007E Political Ideas and Political Actors
- **POLI 2306F** Relations internationales **ou** POLI 2306E International Relations
- **POLI 2426E** Individual, Community and the Political Order
- **POLI 2526E** Approaches to Justice
- **POLI 2575E** Philosophy of Law
- **PSYC 1105F** Initiation à la psychologie **ou** PSYC 1105E Introduction to Psychology
- **SOCI 1015F** Étude de la société **ou** SOCI 1015E Understanding Society
- **WOMN 1005F** Introduction aux études des femmes **ou** WOMN 1005E Introduction to Women’s Studies

*Approved Writing-Intensive Course replacing ENGR 1016 (3 Credits req’d):*

- **ANTR 1007F** Introduction to Sociocultural Anthropology (18F)
- **ENGL 1561E** Business Communication (18F)
- **ENGL 1706E** Introduction to Writing and English Studies I (18F)
- **ENGL 1707E** Intro to Writing and English Studies II (19W)
- **HIST 1406E** Canadian History: Pre-Confederation (18F)
- **HIST 1407E** Canadian History: Post-Confederation (19W)
- **HIST 2176E** Canadian Military History (19W)
- **HIST 2546E** Early Medieval Europe (19W)
- **HIST 2556E** Europe in Early Industrial Era (18F)
- **ITAL 2526E** Italian Images in North American Film and Television (18F)
- **ITAL 2646E** Eating Italian Culture (19W)
- **LBST 1006E** Introduction to Labour Studies (18F)
- **LBST 1007E** Introduction to Labour Studies (19W)
- **LITT 2126F** L'imaginaire minier dans la litterature (19W)
- **LITT 2697F** La chanson Québécoise (18F)
- **PHIL 2217F** Éthique de l'environnement (18F)
- **PHIL 2876E** Business Ethics (19W)
- **POLI 2357F** Idées politiques et sociales du XIXe siècle à nos jours (18F)
- **POLI 2226E** Politics of the United States (18F)
Co-operative Education
Mining, Mechanical, Chemical Engineering

Pre-requisites
- Canadian citizenship or landed immigrant status / or Visa student and special work permit
- Successful completion of second year engineering program

Basis for Admission
- Academic performance
- Interview

Work-Study Sequence

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<tr>
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<th>Year 3</th>
<th>Year 4</th>
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<td>Study term 3</td>
<td>Study term 5</td>
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<td>Study term 4</td>
<td>Study term 6</td>
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</tbody>
</table>

Release of Academic Information
- Co-op students agree that academic transcripts form part of the application package made to potential employers
- Employment information and evaluation together with the work term report will form the basis for the grade in the co-op term.

Continuation of Study
- The student must maintain a good academic status throughout the co-op program
- The student must obtain a satisfactory work term assessment
- Co-op students must submit a final work term report
- The final report is due at the end of the work term

Conditions for Graduation
- Must satisfy all the requirements for the corresponding regular degree program
- Must successfully complete a minimum of four work terms

Registration Through Final Term
- Must be registered as full time students in all terms
- Registration as part-time students is permitted in the final academic term (only those students who have additional credits and can complete their degree requirements on a part-time basis)

Co-operative Transcript Designation
- Completion of the co-op option will be indicated on the student’s transcripts

Co-op Fees
- Purpose is to defray the additional operating costs to run the co-op program

Duration:
- Study term = 13 weeks
- Work term = 13-16 weeks

Vacation:
- 1 to 4 weeks between each term
3.0 BHARTI SCHOOL OF ENGINEERING ACADEMIC POLICIES

3.1 Student Learning Responsibilities
The Bachelor of Engineering Program requires eight semesters of full-time study and the satisfactory completion of **144 credits**. Students are to follow the Senate approved Program Curriculum upon the academic year of admission.

Course descriptions can be found at the following link: [https://laurentian.ca/courses](https://laurentian.ca/courses)

**Students are accountable for their own decisions and actions throughout their BEng education.** Students are responsible to check their own academic status on WebAdvisor on a yearly basis to ensure they are in good academic standing. Students are encouraged to seek opportunities to facilitate their success in the program including, but not limited to consultation with course professors, academic counseling and tutoring.

In order to comply with ongoing accreditation requirements, the programs are subject to change from year to year. It is the responsibility of the students to adhere to the most recent program when enrolling in courses at the beginning of each academic year.

3.2 Pre-requisites
Students are responsible for ensuring that they have the necessary pre-requisites prior to enrolling in any course. In cases where students have been able to enroll in courses without the required pre-requisites, they may be removed without notice or not be awarded credits for the course and fees will not be reimbursed. Pre-requisite overrides must be officially requested through your Program Coordinator and special permissions may be granted based on these (4) conditions:

- a) Student is in good academic standing
- b) Student has completed all other pre-requisites
- c) Student has already attempted the pre-requisite he is attempting to override
- d) The professor must also provide permission to take the course without the pre-requisite.

3.3 Attendance
The general regulations of the university require punctual and regular attendance at the various academic exercises. If there are extenuating circumstances related to an absence, the instructor should be notified. Absences in excess of 20% may jeopardize receipt of credit for the course.

3.4 Academic Integrity
Academic dishonesty including plagiarism, copying in tests/exams, and submitting work that is not one’s own, will result in severe consequences ranging from receiving a grade of zero to expulsion from the university. Students are advised to refer to the “The University Policy on Academic Dishonesty” document on the LU intranet.

3.5 Written Work
Written work is evaluated on content and analysis and also on grammar, clarity of writing and organization. All written work (including figures) must be properly referenced and attributed.
These guidelines aim to:

1. Inform students about the expectations for the written assignment submissions.
2. Ensure requirements for written assignments are consistent across courses in the ENGR program.
3. Support development of writing and thinking skills that are acceptable for professional engineering practice.

**Student Responsibilities:**

- Students are accountable for their own decisions and actions throughout their BEng education. Students are responsible to check their own academic status on WebAdvisor on a yearly basis to ensure they are in good academic standing.

Instructions for written assignments are to be adhered to in every instance. In the event of an unusual circumstance, students are responsible for discussing the concern with the course professor as soon as possible. Delay in communicating with the course professor is considered negligence on the part of the student.

Due dates for written assignments must be respected. Plagiarism is not allowed. Students are responsible for understanding the meaning of plagiarism and for being aware of the consequences of plagiarism (refer to Laurentian University Policy Statement on Academic Integrity, section 4.91).

Lab assignments must be submitted and evaluated as satisfactory in order to receive credit for the course. Adhere to the assignment expectations outlined by the course professor in the course syllabus. Students are advised about the method of evaluation to be used in each engineering course at the beginning of the term. This information includes the nature and value of written assignments, exams, labs and other evaluated work.

**Faculty Responsibilities:**

The course professor will provide written and verbal instruction regarding:

- the specific requirements and objectives of an assignment in all instances where the assignment will be graded
- the expected format (e.g. presentation, formal term paper, scientific report essay, etc)
- the length of the paper or presentation method for submission (e.g. paper or electronic format)
- method of evaluation (e.g. percentage or numerical value for each section or aspect of the assignment)

**3.6 Late Assignments and Reports**

Submitting assignments and reports before the deadline is important. For some courses, no late submission is allowed and for other courses daily penalties are applied. Please refer to the course outline.

**3.7 Average of Invigilated Tests/Exams**

Unless otherwise specified in the course outline, students must obtain a combined average of 50% on the invigilated exams (quizzes, midterm(s) and final) to pass a course.
3.8 Additional Costs
In addition to the regular tuition and general fees, students are also required to purchase learning resources (e.g. textbooks, etc.).

Students in the Co-op program are required to pay fees for the Co-op program in lieu of the regular tuition fees per semester. All expenses (e.g. travel, parking, accommodations, etc.) related to co-op placements are the responsibility of the student.

3.9 Degree Requirements for Students Enrolled in the Bachelor of Engineering (B.Eng) Degree Program
To graduate with a Bachelor of Engineering degree, a student must meet all stated degree requirements:
1) Complete all ENGR courses including lab requirements where appropriate
2) Complete all required science and ENGR courses with a minimum grade of 50% in each
3) Complete all ENGR courses for the BEng degree within 7 years maximum

3.10 Academic Counseling
If you require assistance with selecting courses for your academic year, you can drop in to the Centre for Academic Excellence at the Library or email: excellence@laurentian.ca

When you have questions or concerns about your status or progress, it is advised that you first seek academic counseling with the faculty member involved. You must bring a copy of your academic transcript to your appointment.

Students are to meet with the B.Eng Program Coordinator for academic counseling (please see page 5 for list of coordinators) under the following circumstances:

If you are considering dropping a course, or if you are having problems in a course and have already met with the course professor, note that it is important to meet with the Program Coordinator prior to the course withdrawal date:
- If you fail a course
- If you are not sure what courses to take
- If you have a medical or personal concern which you feel is having a negative impact on your academic performance
- If you want to take any program courses out of sequence (ie. Pre-requisite overrides)
- If you want to take a course overload

Students are to meet with the Director of Engineering (by appointment through the Engineering office) under the following circumstances:
- If you want to take a course from another university

You must bring a copy of your academic transcript to your appointment.

Note: The student is ultimately responsible to see that all program requirements are met before graduation.
3.11 Midterm / Final exam policy – Standardized calculators:
Professors reserve the right to provide standardized calculators approved by the Bharti School of Engineering for tests/exams. Students will be notified of this prior to the test/exam. The approved model is: SHARP EL-510RN

3.12 Student Communication / Correspondence:
Students are required to check their LU email address regularly so that faculty and staff can communicate with them in a timely manner.

Information such as timetable, room changes and upcoming events will be posted on the bulletin boards outside of the Bharti School of Engineering office. Such information will also be posted via your LU GroupWise email address and the Bharti School of Engineering Facebook page:
https://www.facebook.com/groups/bhartiengineering

As a university student, you are responsible for your success. To be successful you will need to be proactive during your academic career by attending classes, handing in your assignments on time, and communicating with your course professors, the program coordinator and School Director if you are having problems.
Do this by scheduling a meeting or you can leave a phone message or send an email (please see Page 3 for contact information). If your communication need is urgent and you are unable to get in contact with a professor or the program coordinator, you should speak with the Bharti School of Engineering Director or the Vice-Dean.

Telephone: All faculty and staff can be reached by dialing the University phone number 705-675-1151, and then giving the faculty or staff member’s name. On campus, the member’s extension can be entered directly, or the student press zero for operator assistance. Home telephone numbers will not be given out and students should not telephone faculty or staff at home.

Email: All students are provided with a Laurentian e-mail account. All email communication will be sent to this account. Only email sent from this account will be answered. Off-campus, you can check this account by logging into:
www.webmail.laurentian.ca.
If you have problems with this account please contact the helpdesk at Computer services ext. 2200 or it@laurentian.ca

When communicating via email to staff or faculty, it is important that you include your year of study, your student ID# and specific request or question.

Meetings: If you are asked to meet with a faculty member or staff member, it is important to arrive on time. If you are going to be late, or if you need to re-schedule the meeting, you are expected to speak with the faculty or staff you are meeting with, or leave a message with the engineering office at ext. 2240

If you need to contact a professor, staff or the Director of the school, this information can be found at the beginning of this booklet.
4.0 LAURENTIAN UNIVERSITY ACADEMIC POLICIES

4.1 Academic Standing (Laurentian University Senate, Feb. 10, 2009)
To be in good academic standing and progress in the BEng program, a student must:

1) Meet all conditions of admission
2) Not fail more than 6 credits in any one year
3) Achieve an overall GPA of 3.5 in all courses taken in the previous year (or previous 30 consecutive credits)

Grading Scheme
Laurentian University has adopted a new letter-based grading scheme for transcripts as of September 2014. The current grading scheme is given below. A students GPA is given as an average of all courses using the new 0-10 point scheme.
For courses completed after August 2014:

<table>
<thead>
<tr>
<th>Percentage</th>
<th>Grade</th>
<th>GPA</th>
</tr>
</thead>
<tbody>
<tr>
<td>90% - 100%</td>
<td>A+</td>
<td>10</td>
</tr>
<tr>
<td>85% - 89%</td>
<td>A</td>
<td>9</td>
</tr>
<tr>
<td>80% - 84%</td>
<td>A-</td>
<td>8</td>
</tr>
<tr>
<td>75% - 79%</td>
<td>B+</td>
<td>7</td>
</tr>
<tr>
<td>70% - 74%</td>
<td>B</td>
<td>6</td>
</tr>
<tr>
<td>65% - 69%</td>
<td>C+</td>
<td>5</td>
</tr>
<tr>
<td>60% - 64%</td>
<td>C</td>
<td>4</td>
</tr>
<tr>
<td>55% - 59%</td>
<td>D+</td>
<td>3</td>
</tr>
<tr>
<td>50% - 54%</td>
<td>D</td>
<td>2</td>
</tr>
<tr>
<td>40% - 49%</td>
<td>E</td>
<td>1</td>
</tr>
<tr>
<td>0% - 39%</td>
<td>F</td>
<td>0</td>
</tr>
</tbody>
</table>

Symbols
I - Incomplete course work, no credit granted
P - Supplemental exam
S - Satisfactory, assigned where a percentage grade is inappropriate
T - In Progress
W - Withdrawn
X - Failure - Academic dishonesty
Z - Auditor

4.2 Probation
A student is subject to a one year probationary period for failure to meet any of the above criteria under academic standing.

4.3 Withdrawal from the Program
A student is required to withdraw from the Bharti School of Engineering if he or she:

1) Does not satisfy all conditions after one probationary year or 30 consecutive credits
2) Has not achieved good academic standing in two consecutive years or 60 consecutive credits
3) Fails to obtain the minimum academic grade and satisfactory lab performance where appropriate in a course on a third attempt
4) Fails more than 42 credits (withdrawal from Laurentian University)
A student who is required to withdraw may petition the Senate Committee on Academic Regulations and Awards for readmission after one calendar year.
Students in good academic standing who choose to discontinue their studies at the end of the first or any other year, with successful completion of that year, may apply for readmission with advanced standing. Cases are considered on an individual basis.

4.4 Attendance
Attendance and preparation are mandatory for all program components including classes and laboratories. Communication with the professor is mandatory for consideration of extenuating circumstances for absences and for academic counseling regarding progress in the course. These circumstances will be evaluated on an individual basis. The method for monitoring attendance is at the discretion of the course professor(s). Substantiating documentation may be required for absences.
Laurentian University’s official policy on attendance is as follows:
“Punctual and regular attendance at all academic exercises is expected from all students. After a lecture has begun, students may not be admitted to a classroom without the instructor’s permission. The instructor must be notified of all extenuating circumstances that result in a student’s absence. Absences in the excess of 20% of course time may jeopardize receipt of credit for the course.”
Reference: LU Academic Policies, page 20

4.5 Student Appeals
According to academic regulations, students have the right to appeal if they are dissatisfied with a grade or a decision of the course professor. Students are encouraged to discuss the matter with the course professor and/or the Director of the Bharti School of Engineering before a formal appeal is submitted.
If you are not satisfied with the results of the informal session, you may submit a formal appeal to the Dean, Faculty of Science, Engineering and Architecture. Appeals must be submitted within 2 weeks of the posting of the course grade in order that we are able to facilitate the process in a timely manner. For more information on Terms of Reference, Composition and Procedures for Department/School Appeals Committees, please contact the Registrar’s Office.

4.6 Deferred Final Exams / Special Examinations
Requests for special examinations must be submitted to the Registrar with supporting documentation. If the request is approved, the student must contact the Office of the Registrar to make arrangements for the writing of the examination. There is a fee of $42.80 per examination. Such requests are only considered if the student is in good academic standing in the course (regardless of other reasons) and has met one or more of the following criteria:
1. The student was ill and unable to be present or to adequately prepare for the examination (substantiated by a medical certificate);
2. The student was unable to be present or to adequately prepare for the examination due to a legal obligation such as jury duty, witness, defendant, etc;
3. A personal or family tragedy occurred which prevented the student from being present or from adequately preparing for the exam

**Deferred exams must be requested no later than 3 working days after the initial day of the exams scheduled by the Office of the Registrar**

**A deferred exam will only be written after the initial date of the exam no exceptions, and within 30 days of the original exam**

Final examinations for any course cannot be deferred more than twice.
Requests for missed midterm tests must be submitted directly to the course professor (not Registrar) and the professor will assess accordingly at his/her discretion.

4.7 Classroom Etiquette:
In order to ensure the classroom environment is conducive to teaching and learning, the following rules should guide your behaviour:

Arrive on time: Late-comers are very disturbing. If you are late, enter the room quietly, sit in the first open seat and do not talk. Repeated tardiness will be addressed.

Respect the learning environment: Do not stand on desks or put your feet up on chairs, please pick up your garbage once you are done with it e.g. coffee cups, food wrappers, and dispose of them as you are leaving the class-room.

Show respect for your instructors and your classmates: Do not speak while the professor or your class-mates are speaking. If you have a question, raise your hand and wait for the professor to call on you. If you need to leave the classroom early, inform the professor at the beginning of the class and when leaving, do so quietly.

4.8 University Policies and Code of Student Conduct
All students enrolled at Laurentian University have certain freedoms and privileges, as well as responsibilities. The University makes every effort to ensure proper conditions for teaching and learning, availability of academic and general facilities, freedom of movement, freedom from harassment, and protection of property. Laurentian’s Code of Student Conduct establishes the authority and jurisdiction of the University, standards of student conduct, and disciplinary and appeal procedures. Copies of the Code are available from the Office of the Registrar:

- Code of student conduct (non-academic)
- Appeals Committee, Departments/Schools Policy
- Policy on a Respectful Workplace and Learning Environment
- Statement of Student Rights and Responsibilities

4.9 Academic Integrity
The Bharti School of Engineering adheres to the university’s Academic Integrity for Students at Laurentian University policy. For definitions of plagiarism and cheating, and details of this policy and the process that the University follows, please go to the Registrar’s website on the LU Intranet.
4.10 Policy on a Respectful Workplace and Learning Environment
Laurentian University is committed to promoting a respectful, diverse and inclusive community and for ensuring that every person in its community is protected from discrimination, harassment, sexual harassment, sexual violence and/or bullying. To this end, the Policy on a Respectful Workplace and Learning Environment was created to support a positive and welcoming working and learning environment that respects the inherent dignity and worth of each Laurentian University community member. Implementation of this policy is administered through the Equity, Diversity and Human Rights Office (EDHRO).

The mandate of the EDHRO is to lead the University community in fostering an inclusive and respectful learning and working environment for all students, staff and faculty by providing expertise, guidance, advice and counsel to members of the University community in order to ensure compliance with the Accessibility for Ontarians with Disabilities Act (AODA), the Occupational Health and Safety Act (OHSA), the Ontario Human Rights Code (Code) and Laurentian University’s Policy on a Respectful Workplace and Learning Environment and Policy on Response and Prevention of Sexual Violence and any other related policies. Students, staff and faculty seeking guidance regarding a possible human rights issue/complaint are encouraged to contact the EDHRO at 705-675-1151 extension 3427 or by email at edhr@laurentian.ca.

4.11 Policy and Guidelines on Students with Special Needs/Accessibility Services
The Human Rights code (1981) requires academic institutions to answer to the needs of academically qualified, special needs students so that they can fully benefit from their educational experiences. The Laurentian University Policy outlines definitions and guidelines to assist in the process of integrating students with special needs into the university community, and can be found on the LU intranet under “Accessibility Services”:

4.12 Transfer Credits
Laurentian University has a number of advanced standing policies, recognizing prior learning in many post-secondary institutions. These agreements are designed to provide better student mobility through formal recognition of credits/programs at each institution. Students who have completed some college or university studies may be eligible for admission to programs offered at Laurentian University. Transfer credits may be awarded based upon prior studies, but cannot be determined until you apply for admission and submit official transcripts.

For students who have received transfer credits at LU, the electives for engineering are coded as follows:
ENGR 9100 – Complementary A
ENGR 9101 – Complementary B
ENGR 9110 – Technical A
ENGR 9111 – Technical B

NOTE: Courses/credits from Athabasca University are non-transferable
5.0 STUDENT SERVICES

5.1 Scholarships, Awards, and Bursaries
Student Awards Office: 1st floor, RD. Parker Building, Telephone (705) 673-6578

Students wishing to apply for O.S.A.P. should write directly to the Student Awards Office for application forms or may apply through the O.S.A.P. website at http://osap.gov.on.ca

Laurentian University offers numerous scholarships and bursaries. Entrance scholarships are awarded on academic achievement and no application is required except where otherwise indicated. Bursaries and in-course Scholarships, however, are awarded on academic performance and/or financial need, and application forms are available by writing the Student Awards Office.

Office hours: September to April of each year are 9:00 a.m. to 4:30 p.m.; May through August are 8:30 a.m. to 4:00 p.m. Refer to the section on Financial Aid in the Laurentian University Intranet website for more information on assistance that is available.

5.2 Student Resources and Services
A complete listing of these, including Accessibility Services, can be found on the Laurentian University Intranet under “Administrative Services”.

For assistance in your success as a student at Laurentian University, please visit the “Centre for Academic Excellence” under “Academic Services”.

5.3 Important Dates
For important dates relevant to the current Academic school year, go to the LU Intranet, “Administrative Departments”, “Registrar’s Office” and click on the Documents folder.

5.4 Co-Curricular Record (CCR)

What is the Co-Curricular Record (CCR)?
Understanding that a student’s university experience reaches far beyond the classroom, the Co-Curricular Record (CCR) is an official document that recognizes a student’s out-of-classroom experiences. Out-of-classroom is defined as any activity that occurs outside of the classroom, lab, practical placement, or internship, but which is still connected to the university.

What will be recognized on the CCR?
There are a multitude of activities and positions that will be recognized on the Co-Curricular Record. Such activities include student leadership roles held in student clubs or organizations, or any position that contributes to the overall student experience outside of the classroom. All activities listed on the CCR must be connected to on-campus activities, or be directly linked with a Laurentian department, faculty, or Student’s Association.

How does the CCR work?
The CCR website will enable you to record your activities online. Once you have recorded the activity, a validator (staff, faculty member, or designate validator within each club/for each activity) will confirm your participation in the activity. You will then have the ability to print out your own CCR, and specifically tailor it to the particular job or school you are applying to. In addition, the CCR website act as a clearinghouse of
student involvement activities that will list thousands of ways that you can get involved. You’ll be able to search for activities that interest you and that can help you grow.

How will the CCR benefit you?
The CCR has many benefits, which include providing graduate and/or professional schools, as well as potential employers with a window into your involvement outside of the classroom. When coupled with your academic transcript, the CCR will provide a holistic view of your overall student experience at Laurentian that can help in setting you apart from competitors once you graduate. In addition, the reflective piece will help you organize your thoughts while providing you with answers to the questions that you might be asked in an interview.

CCR Timelines
It is not possible to add activities until the activity has begun. Activities will be marked as “Future Activities” until the start date has passed at which time the checkbox will appear allowing you to request the activity be added to your record. It is important to add activities to your Co-Curricular Record in a timely fashion.

YOU HAVE UNTIL THE END OF THE FOLLOWING TERM TO ADD ACTIVITIES.
In other words, if an activity took place in the fall term, you have until the end of the winter term (April 30) to include this activity on your record. Winter term activities must be added before the end of the Spring/Summer term (August 31) and Spring/Summer activities must be entered before the end of the Fall term (December 31). Only activities that have taken place after September 1, 2013 appear on this record.

6 – FREQUENTLY ASKED QUESTIONS

How do I register for a course?
Students are required to register for courses online via Web Advisor: http://webadvisor.laurentian.ca

What do I do if I have a problem registering online?
If you have difficulties with the online registration process, please refer to the frequently asked questions section for Web Advisor
If you are not able to get the help you require then contact Natalie Boutet (nboutet@laurentian.ca) at ext. 2286.

Can I purchase used textbooks?
Yes, often these are available from other students in the program. However, please check with the course professor before purchasing any textbooks for the course, as they may change from year to year.

How do I know if I should drop a course?
If you are struggling with a course and feel you will not be able to pass it, you are encouraged to first speak with the course professor, who then may refer you to the Program Coordinator or Director. Together you can determine your best course of action.

Note: If you are planning to withdraw from a course make sure you do so before the drop date in 5.3 Important Dates section above. Please inform your Course Professor and/or the Program Coordinator if you drop a course so that an appropriate plan of study can be created for you.
If I want to change programs what do I need to do?
Any student who wishes to change to a program outside the Bharti School of Engineering must follow the procedure outlined below:

You may transfer to another program with the permission of the Department Director and the Vice-Dean of the faculty offering the program, provided your current academic status is appropriate.

Students with “Probationary” status are not permitted to switch programs (including programs within Engineering)

Can I take courses at a different university? “LETTERS OF PERMISSION”
Yes, but first:
- Speak with your Program Coordinator to determine that you are in good academic standing.
- You may be requested to provide the course outline to the professor in charge of the LU course to verify that the course material is equivalent.
- If the course material is approved by the LU professor and Program Coordinator, obtain a Letter of Permission for from the registrar’s office ($28.25 fee) which then needs to be signed by the Director of the Bharti School of Engineering as well as the Vice-Dean of Science, Engineering, Architecture.

Can I take distance education courses at Laurentian as electives?
Yes. Registration information about continuing education courses called Envision courses can be found online on the LU website. Please ensure the elective(s) you’ve selected are approved for your engineering program.

Can I take a course overload?
A full-time student with a good academic record may, with the permission of the Coordinator or Director and the Vice-Dean, take the maximum credit course overload during the regular winter session. The student must have had no failing grades on a minimum course load of 30 credits in the previous winter session. It is advised that first year students do not take an overload.

What if I fail a course and because of this, don’t have the pre-requisites for other courses I wish to take?
The Program of Study for the B.Eng. degree must be followed and all pre-requisites and co-requisites for courses are considered to be part of the course description. As these have been approved by the Senate of Laurentian University, the faculty and registrar rely on these course descriptions in order to ensure that the proper Program of Study for students in the B.Eng Program is followed.
Should this happen, please see your Program Coordinator to establish a new study plan.

Are engineering courses offered in the spring/summer terms?
We may offer Applied Mechanics I and II over the summer. You can take OPER 4016 Project Management over the summer as well as some MATH, CHMI, PHYS or elective courses.
7.0 OTHER IMPORTANT INFORMATION TO ENSURE YOUR SUCCESS

7.1 Graduation
In order to be awarded your B.Eng degree from Laurentian University you must complete an Application to Graduate Form, whether or not you plan to attend the convocation ceremony. You are not eligible to identify yourself as having a B.Eng unless you apply to graduate upon completion of all requirements for the program.

Students graduating with a GPA 5.5+ receive a degree "with Honours". Students graduating with a GPA 7.5+ receive their degree with "Cum Laude" honours. Students graduating with a GPA of at least 9.0 receive their degree with "Magna Cum Laude" honours. The overall GPA must be calculated on a minimum of 45 credits for a three-year degree or 60 credits for a four-year degree. Only credits completed at Laurentian University will be considered in the calculation.

7.2 Iron Ring
With graduation from a Canadian engineering program, comes a unique and memorable event: The Iron Ring Ceremony. A tradition since 1925, the ring is worn on the little finger of the working hand to symbolize the pride engineers have in their profession and to remind them of their obligation to live by a high standard of professional conduct. Although the ring represents an enormous achievement, it does not make the wearer an engineer. Graduation is just the first step to obtaining the licence and becoming a professional engineer.

The Iron Ring ceremony typically takes place in March each year for the graduating class. An information session is held prior to the ceremony which graduating students are required to attend.

More information can be found at www.ironring.ca

7.3 PPE Exam
Graduates of the program are eligible to write the Professional Engineers Ontario (PEO) "Professional Practice Examination (PPE). This exam is scheduled three times a year (April, August and December).

Please refer to the PEO website for complete information about the registration process for new registrants www.peo.on.ca

7.4 Transcripts
Your official transcript is a chronological record of all the academic courses you have taken at Laurentian University and the grades you achieved. You, the student, are the only one that can request your transcripts. The Registrar’s Office handles all transcript requests.

7.5 Student Cards and ID Numbers
Student ID numbers and student cards are provided by the Student Hub upon admission.
7.6 Laurentian E-Mail, WebAdvisor, Desire2Learn (D2L)
How to Access: All students receive the following information in letter format upon admission to the University:

How to access Laurentian E-mail system with your username and password:
Your password consists of your birth-date (mmddyy##) plus the last 3 digits of your Laurentian University student number. Log into GroupWise by going to: http://webmail.laurentian.ca.
If you have problems accessing your GroupWise account, contact the helpdesk at ext. 2200 or at helpdesk@laurentian.ca.

How to register for your courses:
Follow the registration handbook instructions on pages 6 to 8, select your courses and work out your timetable before accessing WebAdvisor. Once you access WebAdvisor, follow the instructions on pages 6 to 8.

How to access WebAdvisor:
You will be given your WebAdvisor username and password by the Datatel Master in your GroupWise email account once you have successfully logged into it (as above).

Desire 2 Learn (D2L):
D2L is the Learning Management System provisioned by Laurentian University. On D2L you can access your courses and course material. Enrollment is automatic, once you are registered in your classes. To access D2L, go to https://d2l.laurentian.ca, use your Laurentian e-mail username and password.
Note: If you change your password, this will also change your D2L password.

7.7 Student Clubs/Associations
In addition to the university wide school associations listed in the Laurentian University Calendar, the Bharti School of Engineering students have established:

**LUESS: LU Engineering Student Society**
LUESS is your student body representation. They are a council of 7 members that are voted in at the end of the academic year and they administer LUESS itself. LUESS’s mandate is to provide the engineering student body with academic, professional and social engagements. They plan and organize student events, sell t-shirts and jackets, etc and represent engineering students in all other aspects. LUESS is chosen by the student body and work to make your experience as a future engineer as good as it can be.

**LUChec: LU Chemical Engineering Chapter**
LUChec organizes socials and events for Chemical Engineering students

**LUMR: LU Mine Rescue**
LUMR offers students valuable exposure to emergency preparedness and health and safety in the workplace through mine rescue training sessions and other events.

**LUVRC: LU Voyageur Racing Club**
LUVRC collaborates other students in the design, manufacturing, financing, and competing of a single-seat off-road vehicle.

**LUWIE: Laurentian University Women in Engineering**
We look to inspire young girls to pursue engineering, to support female engineering students, and to network with professionals.