Welcome

It is my pleasure to welcome you to Ryerson University and to the Faculty of Engineering and Architectural Science (FEAS), one of the largest academic units at Ryerson. Our Faculty is committed to a mission rooted in a traditional and innovative engineering and architectural science education.

The first year of university is exciting and challenging, and there may be a period of adjustment, both academically and socially. Our First-Year Engineering Office can help you manage the transition from high school and support your academic success, providing one-stop shop for academic counselling, personal counselling, learning skills needs, tutors to help you with courses, and other resources within the faculty and university at large.

As a first-year engineering student, you are not alone; over 1100 other students are starting their educational careers with you. They are a great help, as are the existing undergraduate and graduate students. Your success in engineering will be enhanced by your interactions with your fellow students and friends; however you continue to be responsible for your own individual learning and growth. Please keep in mind that while your FEAS engineering education will be planted in the lecture rooms, it will grow beyond those classroom walls. Remember to be involved, to stir your passions through the many additional extracurricular activities that enrich our community and your education.

The first year of university is perhaps one of the most important and pivotal years of your educational journey. It is a year that can shape your future permanently. Accordingly, it is important that you give it the attention and dedication it deserves. Science and engineering, as highly competitive fields of education, can be quite intolerant of any lack of attention, concentration, or negligent forms of study habits. I therefore urge you to take your first year of university very seriously, and to know that we are very keen on retaining you and doing all we can, while we can, to avoid losing you.

The pursuit of an engineering degree is hard work, yet amazingly exciting. As you develop intellectually during your educational journey you will be challenged and disputed, you will experience highs and lows, you will work harder than you think you are presently capable, and you will accomplish more than you think is achievable. You will then discover that this process of maturing intellectually is an art to be learned and an effort to be sustained, to become what you dream to become.

We look forward to supporting your academic and personal success at Ryerson University!

Best wishes for a successful first year,

Dr. Lamya Amleh, P. Eng.
Program Director/Academic Advisor
First-Year Engineering Office
Meet the Team

Our team is dedicated to providing you with the support and tools you need to successfully transition to Ryerson. We handle your academic transition and administrative matters until you get promoted to second year. Drop by our office anytime you have questions, concerns or any inquiries.

Support offered by our office

- Orientation
- First-Year Ambassador program
- Writing Skills Test
- Academic Advising
- Administrative support
- Academic Support Programs
- Monthly E-Newsletters
- Career workshops
- First Year Council
- Advising Cafes
- Transition Program
- Study Halls

For contact information, slide to page 5

Contact Information

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Connect with us

@FirstYearEng | FYENG Mobile App | firstyeareng@ryerson.ca | ryerson.ca/feas/fyeo
Thank you to these individuals who provided us with some of the photos that have been used throughout this handbook: Masoud Barihi, Ryan Emberley, Atifa Rasoul, Farhan Riaz.
Email
Your email address is your username@ryerson.ca. You are required to activate and maintain a Ryerson email account. It is essential that you check your email daily as all official Ryerson communication will be sent to this address.

RAMSS
Ryerson Administrative Management Self Service (RAMSS) allows you to manage your academic, personal and financial Ryerson information.
You can:
- view your timetable
- search for classes
- add, drop, or swap classes
- run an Academic Advisement Report
- request an official or unofficial transcript
- apply to graduate
- view your grades and Academic Standing
- view your fees and financial information
- update your address, email and phone numbers
- request a letter

Tip: If you forget your my.ryerson password and can’t figure out your challenge phrase, you can stop by the computer lab in KHW-71 or the Library Reference Desk on the 2nd floor of the Library Building.

Ryerson OneCard
This is your official Ryerson ID card that gives you access to the Ryerson Library, RAC/MAC and can be used on campus for printing, food and coffee! It is also needed to purchase a discounted TTC Monthly Transit pass.
Tip: You can purchase a discounted TTC Monthly pass for $116.75 at the Member Services Office starting on the 25th of each month.

Library
The Ryerson Library provides a diverse range of materials and services, including access to computers, print stations, group study rooms, and independent quiet study areas. During the Fall and Winter term the library is open Monday through Friday from 7 a.m. to 1 a.m. and Saturday and Sundays from 10 a.m. to 1 a.m.

Ryerson Calendar
The Undergraduate Calendar is the official statement of new and revised programs and courses approved by the Senate of Ryerson.

Class Essentials

Textbooks
You can purchase your textbooks from the Ryerson Bookstore. In order to ensure you purchase the correct textbook, it is best to wait until you have obtained the course outline.

Calculators
The permitted calculators for engineering students are the Sharp EL-546 and the Casio FX-991 MS models; both can be purchased from the Ryerson Bookstore.

Laptops
There is no specific computer that is required. You can borrow a MAC or PC laptop from the Ryerson Library for a four hour period during Library hours.

Class at Ryerson start at ten minutes after the scheduled start time. There are no labs or tutorials during the first week of each term.
First-Year Ambassadors

We have a team of 16 student leaders available to provide you with support and assistance as you transition to Ryerson. Our First-Year Ambassadors know exactly what you’re going through, and are here to share their knowledge and help you get acquainted with university life. Send them an email, join the Facebook group or meet them at an orientation event!

Connect with us

@FirstYearEng fyalead@ryerson.ca ryerson.ca/feas/fyoe/fya

Abenaya Selvakumaran
Civil Engineering

Ali Tayyab Khan
Mechanical Engineering

Anthony Cundari
Chemical Engineering

Claudia Alonzo
Biomedical Engineering

Folake Kayode
Biomedical Engineering

J.D.
Mechanical Engineering

Jeffrey Lee
Aerospace Engineering

Namrata Rana
Biomedical Engineering

Neel Bhavsar
Computer Engineering

Nida Sajid
Chemical Engineering

Nick Neumann
Industrial Engineering

Sabrina Ciardullo
Biomedical Engineering

Seba Justin
Mechanical Engineering

Sohaib Sikander
Mechanical Engineering

Tarab Shah
Aerospace Engineering

Warisha Ahmed
Mechanical Engineering
### Significant Dates

<table>
<thead>
<tr>
<th>Date</th>
<th>Event</th>
</tr>
</thead>
<tbody>
<tr>
<td>Monday, Sept. 3, 2018</td>
<td>Labour Day (University Closed)</td>
</tr>
<tr>
<td>Tuesday, Sept. 4, 2018</td>
<td>First day of Fall full and part-time undergraduate classes (including Engineering)</td>
</tr>
<tr>
<td>Friday, Sept. 7, 2018</td>
<td>Last day for full payment of Fall 2018 undergraduate tuition fees</td>
</tr>
<tr>
<td>Saturday, Sept. 8, 2018</td>
<td>First day of Fall Chang School Saturday classes</td>
</tr>
<tr>
<td>Monday, Sept. 10, 2018 - Friday, Sept. 14, 2018</td>
<td>First week of Fall Chang School Classes</td>
</tr>
<tr>
<td>Friday, Sept. 14, 2018</td>
<td>Final date to Add/Swap/Drop Fall undergraduate classes for full and part-time undergrad students</td>
</tr>
<tr>
<td>Friday, Sept. 14, 2018</td>
<td>Final date to drop an undergraduate class for full and part-time students to be eligible for a full refund of fees</td>
</tr>
<tr>
<td>Friday, Sept. 14, 2018</td>
<td>Final date to withdraw from an undergraduate program and to be eligible for a full refund</td>
</tr>
<tr>
<td>Friday, Sept. 14, 2018</td>
<td>Final date to submit a GPA Adjustment request for undergraduate program and The Chang School certificate students for a Fall 2018 course</td>
</tr>
<tr>
<td>Monday, Sept. 17, 2018</td>
<td>Winter 2019 tuition fee totals available on RAMSS</td>
</tr>
<tr>
<td>Friday, Oct. 5, 2018</td>
<td>Final date to drop an undergraduate class for a full and part-time undergraduate students to be eligible for a 50% refund of Fall fees</td>
</tr>
<tr>
<td>Friday, Oct. 5, 2018</td>
<td>Final date to withdraw from an undergraduate program and be eligible for a 50% refund of Fall fees</td>
</tr>
<tr>
<td>Saturday, Oct. 6, 2018 - Friday, Oct. 12, 2018</td>
<td>Fall Study Week for All Undergraduate Programs and The Chang School (except Bachelor of Engineering students)</td>
</tr>
<tr>
<td>Monday, Oct. 8, 2018</td>
<td>Thanksgiving (University Closed)</td>
</tr>
<tr>
<td>Friday, Nov. 16, 2018</td>
<td>Final date to drop Fall Undergraduate term class(es) in good Academic Standing (no refund of fees)</td>
</tr>
<tr>
<td>Friday, Nov. 16, 2018</td>
<td>Final date to withdraw from an undergraduate program for the Fall term in good Academic Standing (no refund of fees). Nonattendance in Fall classes after this date will result in a failing grade</td>
</tr>
<tr>
<td>Saturday, Dec. 1, 2018</td>
<td>Transfer Credit Deadline</td>
</tr>
<tr>
<td>Monday, Dec. 3, 2018</td>
<td>Final date of Fall full-and part-time undergraduate program classes</td>
</tr>
<tr>
<td>Friday, Dec. 7, 2018</td>
<td>Final date for clearing any outstanding debt, library book/fine, or other borrowed property in excess of $10 to ensure that Fall grades are not withheld</td>
</tr>
<tr>
<td>Tuesday, Dec. 4, 2018 - Saturday, Dec. 15, 2018</td>
<td>Fall undergraduate examination period (includes Saturdays)</td>
</tr>
<tr>
<td>Saturday, Dec. 8, 2018 - Saturday, Dec. 15, 2018</td>
<td>Last week of The Chang School classes</td>
</tr>
<tr>
<td>Saturday, Dec. 15, 2018</td>
<td>Official end of Fall Term</td>
</tr>
<tr>
<td>Friday, Dec. 21, 2018</td>
<td>Last working day of 2018 (4:30 p.m.)</td>
</tr>
<tr>
<td>Saturday, Dec. 22, 2018</td>
<td>Fall 2018 grades and standings available to students on RAMSS</td>
</tr>
<tr>
<td>Saturday, Dec. 22, 2018 - Sunday, Jan. 6, 2019</td>
<td>Mid-Year Winter Break</td>
</tr>
<tr>
<td>Monday, Jan. 7, 2019</td>
<td>First day of Winter classes for Bachelor of Engineering students</td>
</tr>
<tr>
<td>Friday, Jan. 11, 2019</td>
<td>Final date for full payment of undergraduate tuition fees for the Winter term</td>
</tr>
<tr>
<td>Thursday, Jan. 3, 2019 - Friday, Jan. 18, 2019</td>
<td>Open enrolment period for Winter term BEng students only. Course Add/Swap Period</td>
</tr>
<tr>
<td>Monday, Jan. 21, 2019</td>
<td>Appeal deadline Fall Grades and Academic Standing (4 p.m.)</td>
</tr>
<tr>
<td>Monday, Jan. 21, 2019</td>
<td>Final date to request missing Fall undergraduate grades</td>
</tr>
<tr>
<td>Date</td>
<td>Event</td>
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<tr>
<td>Friday, Jan. 25, 2019</td>
<td>Final date for Winter GPA Adjustment Request</td>
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<tr>
<td>Friday, Jan. 25, 2019</td>
<td>Final date to drop a Winter course or withdraw from an undergraduate program (full refund of fees)</td>
</tr>
<tr>
<td>Friday, Feb. 8, 2019</td>
<td>Final date to drop an undergraduate Winter course or withdraw from an undergraduate program for full and part-time undergraduate students to be eligible for 50% refund of fees</td>
</tr>
<tr>
<td>Saturday, Feb. 16, 2019 -</td>
<td>Study Week for all students</td>
</tr>
<tr>
<td>Friday, Feb. 22, 2019</td>
<td></td>
</tr>
<tr>
<td>Monday, Feb. 18, 2019</td>
<td>Family Day (University Closed)</td>
</tr>
<tr>
<td>Monday, March 11, 2019 -</td>
<td>Course Intentions for Fall 2019 and Winter 2020</td>
</tr>
<tr>
<td>Sunday, March 17, 2019</td>
<td></td>
</tr>
<tr>
<td>Friday, March 29, 2019</td>
<td>Final date to withdraw from an undergraduate program for the Winter 2018 term in good Academic Standing (no refund of fees)</td>
</tr>
<tr>
<td>Friday, March 29, 2019</td>
<td>Final date to drop Winter undergraduate class(es) in good Academic Standing (no refund of fees)</td>
</tr>
<tr>
<td>Monday, April 1, 2019</td>
<td>Transfer Credit Deadline</td>
</tr>
<tr>
<td>Thursday, April 11, 2019</td>
<td>Last day of undergraduate classes</td>
</tr>
<tr>
<td>Friday, April 12, 2019</td>
<td>Last Day for clearing all outstanding debt to ensure that Winter grades are not withheld</td>
</tr>
<tr>
<td>Monday, April 15, 2019 -</td>
<td>Last week of The Chang School classes</td>
</tr>
<tr>
<td>Saturday, April 20, 2019</td>
<td></td>
</tr>
<tr>
<td>Monday, April 15, 2019 -</td>
<td>Winter undergraduate examination Period</td>
</tr>
<tr>
<td>Saturday, April 27, 2019</td>
<td></td>
</tr>
<tr>
<td>Friday, April 19, 2019</td>
<td>Good Friday (University Closed)</td>
</tr>
<tr>
<td>Saturday, April 27, 2019</td>
<td>Official end of Winter term</td>
</tr>
<tr>
<td>Tuesday, May 7, 2019</td>
<td>Winter 2019 grades and standing released to students on RAMSS</td>
</tr>
<tr>
<td>Friday, May 24, 2019</td>
<td>Appeal Deadline Winter Grades and Standings (4 p.m.)</td>
</tr>
</tbody>
</table>
Courses

Requirements

Fall 2018

All first year students are required to take the same courses in their first term. These courses (with the exception of CEN199) are offered only in the Fall term and Winter term.

CEN 100: Introduction to Engineering
CEN 199*: Writing Skills
CHY 102: General Chemistry
MTH 140: Calculus 1

* CEN199 is not an actual course, it is used to track the results of the mandatory Writing Skills Test. Upon passing of the test, it will appear as PSD on your transcript.

Undeclared? You are required to fill out the Plan Change Form indicating your program of choice by the end of November.

Winter 2019

There are four common courses in the winter term and two program specific. These courses are only offered in the Winter and Spring Transition term.

Common
CPS 125: Digital Computation & Programming
ECN 801: Principles of Engineering Economics
MTH 240: Calculus II
PCS 125: Physics: Waves and Fields

Aerospace
AER 222: Engineering Design and Graphical Communication

Biomedical
MTH 240: Calculus II

Chemical
CHE 200: Chemical Engineering Fundamentals
CHY 211: General Chemistry Laboratory

Civil
CVL 207: Graphics

Computer & Electrical
ELE 202: Electric Circuit Analysis

Industrial & Mechanical
MEC 222: Engineering Graphical Communication

MTH 200: Materials Science Fundamentals

MTH 141: Linear Algebra
PCS 211: Physics: Mechanics

Lower level liberal from Table A

All first year students are required to take the same courses in their first term. These courses (with the exception of CEN100) are offered only in the Fall term and Winter term.

Course Information

Programs
To change programs within Engineering, you need to submit a Plan Change form to our office. Your CGPA must be at least 1.67 to be eligible for a plan change. You will receive an email regarding the status of your application once your grades are released at the end of the semester.

If you would like to switch out of Engineering into another Ryerson program, you will need to meet with an Academic Advisor to discuss your decision. You will need to complete the Ryerson online application for admission and supplementary forms.

Repeating Courses
The grade earned for a repeated course is substituted for the previous grade in calculating subsequent grade point averages even if the later grade is lower. Both attempts are recorded on your transcript.

No course can be repeated more than two times, this means you only have three attempts to pass a course. If at least one of the course attempts results in a passing grade, the course will count towards graduation requirements irrespective of the sequence of grades earned. If after three attempts you fail a required engineering course, your academic standing will change to Permanent Program Withdrawal. This means that you can no longer study Engineering at any Canadian university.

Course Intentions
Course Intentions is pre-registration as Ryerson does not pick courses for you, even if they are required for your program. It is your responsibility to complete course intentions to ensure you have a complete timetable for the following semester or year. When choosing your courses, ensure that you have the required prerequisites.

Course Intentions for second-year courses in Fall 2019 and Winter 2020 must be made through RAMSS between March 11, 2018 - March 17, 2018.

Tip: Engineering students must complete their core courses through FEAS. With the exception of CMN 432, ECN 801, and Liberal Studies, you are not permitted to complete any core engineering courses through the G. Raymond Chang School of Continuing Education.

Religious Observances
The Religious Observance Policy allows students to request religious observance accommodation. To seek accommodation from your professors, you must submit the Student Declaration of Observances Form to your professors within the first two weeks of classes. Professors have until the end of the fourth week of classes to confirm an arrangement which addresses your request.

Liberals
Liberal Studies are courses designed to give you a chance to study courses outside of your field of study. Engineering students take two Lower Level Liberal Studies and two Upper Level Liberal Studies. You must complete all required first- and second-year Liberal Studies courses in order to be promoted to third year. Approved Liberals can be taken during the Spring and Summer term through Chang.

Tip: Make sure your liberal courses are not restricted.
Engineering Programs

Aerospace Engineering

The program includes directly related studies in aerodynamics, stress analysis and structural design, flight mechanics, stability and control, and aircraft performance, together with courses in the fields of Mechanical and Electrical Engineering. The first year of study covers mathematics, basic sciences, computer programming and introductory courses in engineering. Second and third years include a wide range of aerospace and mechanical engineering courses together with courses in communications, advanced mathematics, electronics and electrical engineering. Students are required to choose one of three streams in the sixth semester: Aircraft, Avionics, or Spacecraft.

Biomedical Engineering

The program offers students excellent opportunities to build strong backgrounds in biomedical engineering and benefit from the collaborative interdisciplinary relationships between engineering and life sciences. During the second year students will study fundamental courses in electronic circuits, biomaterials, cell biology, physiology, engineering algorithms, digital systems, statics and mechanics of materials. In third year the students will focus in microprocessor systems, fluid mechanics, biomedical transducers, bioinformatics, biomechanics, biostatistics, signals and systems, control systems, and biomedical instrumentation. In the fourth year, the students will study a range of state-of-the-art topics, including biomechanics, biostatistics, signals and systems, control systems, and biomedical instrumentation.

Chemical Engineering

The program offers students excellent opportunities to build strong backgrounds in biomedical engineering and benefit from the collaborative interdisciplinary relationships between engineering and life sciences. During the second year students will study fundamental courses in electronic circuits, biomaterials, cell biology, physiology, engineering algorithms, digital systems, statics and mechanics of materials. In third year the students will focus in microprocessor systems, fluid mechanics, biomedical transducers, bioinformatics, biomechanics, biostatistics, signals and systems, control systems, and biomedical instrumentation. In the fourth year, the students will study a range of state-of-the-art topics, including biomechanics, biostatistics, signals and systems, control systems, and biomedical instrumentation.

Civil Engineering

The curriculum focuses mainly on three areas: environmental, structural/materials and transportation engineering. The subjects include environmental sustainable development, impact of civil engineering, water and wastewater management, soil mechanics, geomatics measurement, remote sensing and digital mapping, satellite navigation, structural analysis and design, concrete and highway materials, highway design, transportation planning, road safety, traffic and transit operation, pavement design and project management.

Computer Engineering

The first-year courses will provide the students with grounding in engineering science fundamentals such as mathematics, physics, chemistry, computer science and the theory of electric circuits. In second year, the program introduces discrete mathematics, data structures and engineering algorithms, and electrical engineering core subjects such as analog and digital electronic circuits and systems. In the third year, students will further study computer architecture, microcomputer systems, object-oriented analysis and design, digital electronics, communication systems and control theory. In the final year of the program, students will take courses in data communications, digital systems engineering, real-time operating systems, VLSI design and numerical techniques.

Electrical Engineering

The first-year courses of the Electrical Engineering program will provide the students with grounding in engineering science fundamentals such as mathematics, physics, chemistry, computer science and the theory of electric circuits. The second year of the program introduces discrete mathematics, data structures and engineering algorithms, and electrical engineering core subjects such as analog and digital electronic circuits and systems. In the third year, the emphasis will shift to advanced subjects such as communication systems, electromagnetics, microcomputer systems, electrical devices and systems, and control theory. The fourth year curriculum provides a wide range of technical elective courses. Students can further specialize in Digital Hardware Design, Communication Systems, Control Systems and Power Systems by selecting appropriate courses in the fourth year of the program.

Industrial Engineering

The first year of study introduces the student to engineering principles and the basics of related disciplines. Core industrial engineering courses begin in the second year. In the third and fourth years, students take professional courses in the area of management science and manufacturing engineering.

Mechanical Engineering

The first year of study introduces the student to engineering principles and the basics of related disciplines. Core mechanical engineering courses begin in the second year. Starting in fifth semester, students have the option of specializing in mechatronics. The Mechatronics Option concentrates on the integration of electronics with mechanical systems in applications such as robotics and system controls.

Undeclared Engineering (Fall term only)

Students in Undeclared Engineering are given the opportunity to review the different disciplines of engineering offered at Ryerson through the common first-semester course, Introduction to Engineering. This course helps students to make an informed decision when selecting the engineering plan that is right for them. Students must declare by December 1 in their first semester which of the eight engineering programs they intend to pursue. Because all of our engineering programs share a common first semester, undeclared students will be in-phase with the rest of their classmates in their chosen disciplines.
Course Descriptions

AER 222: Engineering Design and Graphical Communication
[Terms offered: Winter, Spring]
Lecture: 2 hours, Lab: 2 hours
Technical sketching in compliance with Canadian standards; orthographic views and auxiliary views, sections views, dimensioning and tolerancing, assembly and working drawings. Basic skills of computer aided design. Introduction to engineering design: role of design in engineering, problem analysis, conceptual design and analysis, systems thinking and detailed design.

BME 100: Introduction to Biomedical Engineering
[Terms offered: Winter, Spring]
Lecture: 1 hour, Lab: 1 hour
This course will deal with the terminology of the medical profession; anatomy and physiology of the human body, from overall system and functional approaches; survey of present-day medical measurements and consideration of those areas in which engineering may be applied advantageously to medicine. The course will also include seminars from guest speakers from biomedical profession. Exposure to medical equipment in hospitals, and small animal handling training will also be provided. Bioethics will also be covered in the course. This course is graded on a pass/fail basis.

CEN 100: Introduction to Engineering [Term offered: Fall]
Lecture: 2 hours, Tutorial: 1 hour
This course is aimed at familiarizing the first year students with the basic information of the academic structure and expectations. Exposure to public and worker safety and the impact of engineering activities on health as well as safety standards and safety codes will be covered. The course also stresses integration with other first year courses. The principal objectives of the course are to provide a general introduction to the field of engineering: to convey the social, professional, and ethical responsibilities of engineers and why they are important to an engineering education; to introduce the undergraduate engineering programs available at Ryerson University; and to provide a general description of the skills needed to become a practicing engineer. Case studies in engineering are used to illustrate engineering fields and scientific principles.

CHE 200: Chemical Engineering Fundamentals
[Terms offered: Winter, Spring]
Lecture: 4 hours, Tutorial: 2 hours
Prerequisite: CHY102
Fundamentals and principles of chemical engineering; analysis and synthesis of chemical and biochemical processes; material and energy balances for reacting and non-reacting systems; recycle and by-pass systems; phase equilibrium; and combustion.

CHY 211: General Chemistry Laboratory
[Terms offered: Winter, Spring]
Lab: 3 hours
Prerequisite: CHY102
This course is intended for Chemical Engineering students. Introduction to chemical laboratory that includes the following topics mass - volume relationship; solution; dilution; and concentration; acid-base titration; first hardness of water: solubility; reaction kinetics; colorimetry; determination of concentration of iron in a solution; concentration analysis of aspirin.

CHY 102: General Chemistry
[Terms offered: Fall, Winter]
Lecture: 3 hours, Lab: 1 hour
This course is intended for Engineering students. This course deals with stoichiometry, gases, liquids and solids, chemical equilibria, thermodynamics, kinetics, nuclear chemistry and electrochemistry. The treatment of these topics will emphasize problem solving and calculation.

CPS 125: Digital Computation and Programming
[Terms offered: Winter, Spring]
Lecture: 3 hours, Lab: 2 hours
The C programming language is used to develop good programming techniques. Topics covered include: C program form, language statements, pseudo-code algorithmic representation, numeric data types, flow of control with selection and repetition, standard C libraries, functions and call modes, arrays, pointers, sorting, matrix operations, character and string data types, dynamic storage, structures and linked lists, file I/O. Only regular first year students from the Faculty of Engineering, Architecture, and Science may preregister for this course.

CVL 207: Graphics
[Terms offered: Winter, Spring]
Lecture: 2 hours, Lab: 2 hours
Principles of traditional descriptive geometry of points, lines, planes and solids, done with modern tools. Selections, auxiliary views, intersections and developments, pictorial drawings. Principles of 2D and 3D computer-aided drafting (AutoCAD) used in areas of civil engineering. Structural drafting pertaining to steel, concrete and timber construction, standards and conventions. Drafting room and computer lab exercises are assigned. Constructed solutions with vector diagram projection; comparison with equivalent vector algebraic methods. Graphical statistics, concurrent force problems including pure axial force plane structures.

ECN 801: Principles of Engineering Economics
[Terms offered: Winter, Spring]
Lecture: 3 hours
Engineering economics is concerned with the problem of investment decision making or capital expenditure analysis. An “investment” problem involves making a decision to allocate financial resources to acquire productive assets that will generate cash flows in future time periods. Engineering economics seeks to develop and apply a logically consistent methodology for evaluating investment projects. Discounted cash flow methods are used in analyzing such projects. In this course we will assume certain cash flows and ignore taxation implications. After developing the mathematics of cash flow equivalence, absolute and relative measures of project worth will be developed and applied to individual and multiple projects. The emphasis will be on private project decisions, but similar methods will be applied to public sector projects.

ELE 202: Electric Circuit Analysis
[Terms offered: Winter, Spring]
Lecture: 4 hours, Lab: 1.5 hours, Tutorial: 0.5 hours
Prerequisites: MTH140 & MTH141
This course is a one semester introductory course in electric circuit analysis. The topics covered include the following: circuit variables and elements, resistor circuits, methods of circuit analysis, circuit theorems, energy storage elements, transient responses of RL and RC circuits, sinusoidal steady state analysis, and AC steady state power concepts. (1 hr. Tutorial and 3 hr. Lab every other week)

MTH 222: Engineering Communication
[Terms offered: Winter, Spring]
Lecture: 2 hours, Lab: 2 hours
Introduction to technical drawing in compliance with Canadian and international standards: orthographic and auxiliary views, sections, dimensioning and tolerancing, assembly and detailed drawings. Dimensioning, standard notation symbols, drawings with off-the-shelf parts and parts lists will be covered. Labs will introduce both free-hand sketching and CAD-based methods.

MTH 141: Calculus I
[Terms offered: Fall, Winter]
Lecture: 4 hours, Lab: 2 hours

MTH 142: Linear Algebra
[Terms offered: Fall, Winter]
Lecture: 4 hours, Lab: 1 hour

MTH 240: Calculus II
[Terms offered: Winter, Spring]
Lecture: 4 hours, Lab: 2 hours
Prerequisites: MTH140 & MTH141

MTL 200 Materials Science Fundamentals
[Terms offered: Winter, Spring]
Lecture: 3 hours, Lab: 1 hour
Prerequisites: CHY102

PCS 125 Physics: Waves and Fields
[Terms offered: Winter, Spring]
Lecture: 3 hours, Lab: 1 hour, Tutorial: 1 hour
Simple harmonic motion; motion of mechanical waves, wave speed sound, Doppler effect, interference, standing waves, beats and resonance; gravitational fields and potential energy; electric fields and potential energy; electric potential; magnetic fields.

PCS 211 Physics: Mechanics
[Terms offered: Fall, Winter]
Lecture: 3 hours, Lab: 1 hour, Tutorial: 1 hour
Specializations

Minors
You can minor in an area outside of your degree program by taking six one-semester courses. Completion of a minor is noted on your transcript but not on your award document. The course load in Engineering is heavy, therefore, as an alternative we offer two specializations. You can specialize in Optional Specialization in Management Sciences (OSMS) or Engineering Innovation and Entrepreneurship (OSEIE).

Tip: The courses for these specializations are offered only in the Spring terms.

Optional Specialization in Management Sciences (OSMS)
Boost your resume and enhance your job prospects by adding this six-course specialization onto your degree program.

Comparable to a business management minor, the Optional Specialization in Management Sciences (OSMS) provides a solid foundation in management sciences. Courses are tailored to better prepare you for your career or for graduate studies in management-related specializations. The OSMS is open to undergraduate engineering students in the Faculty of Engineering and Architectural Science and to science students in the Faculty of Science.

Optional Specialization in Engineering Innovation and Entrepreneurship (OSEIE)
Gain a competitive edge and acquire innovation and entrepreneurship skills by creating your own startup.

The Optional Specialization in Engineering Innovation and Entrepreneurship (OSEIE) provides a solid foundation in innovation and entrepreneurship theory, as well as the immersive experience of advancing and shaping your own ideas into a business. Courses are tailored to prepare you to launch and grow a start-up enterprise, excel in an engineering career, or for graduate studies in enterprise-related specializations. The OSEIE is open to all undergraduate engineering students in the Faculty of Engineering and Architectural Science.

If you have a great idea, you can win up to $38,000 to kickstart it!

The Norman Esch Engineering Innovation and Entrepreneurship Awards provide financial assistance ($5,000 - $25,000) to current engineering and architectural science students with the purpose of enabling new, innovative ideas for products, inventions and technologies that are relevant to the Canadian economy now and in the future.

Since 2013, the awards have funded over $1.5 Million to FEAS students, and resulted in 13 successful start-ups, which are now employing over 66 individuals.

For information on the Ryerson GPA scale, turn to page 25

Grades
You will receive your grades and Academic Standing at the end of each term. Approximately 10 days after the end of the Examination Period, all final grades and Academic Standings will be available on RAMSS. In the ‘Academic Record’ section, you can view your grades at ‘My Grades’ and your Academic Standing at ‘My Academic Standing’.

Letter Grade | Conversion Range Percentage Scale to Letter Grades | Ryerson GPA
--- | --- | ---
A+ | 90 - 100 | 4.33
A | 85 - 89 | 4.00
A- | 80 - 84 | 3.67
B+ | 77 - 79 | 3.33
B | 73 - 76 | 3.00
B- | 70 - 72 | 2.67
C+ | 67 - 69 | 2.33
C | 63 - 66 | 2.00
C- | 60 - 62 | 1.67
D+ | 57 - 59 | 1.33
D | 53 - 56 | 1.00
D- | 50 - 52 | 0.67
F | 0 - 49 | 0

Confidentiality
Ryerson recognizes your right to privacy. Your academic record and personal information are considered confidential and will not be given to anyone, other than authorized personnel, without your written permission. The same confidentiality rule is observed for faculty/ instructors. You will be provided with telephone numbers/e-mail addresses so that you can contact your instructors; however, our office will not give out any information that is not already listed on course outlines.

Fall 2018 grades and standing released on Saturday, Dec. 22, 2018.
Winter 2019 grades and standing released on Tuesday, May 7, 2019.

For information on the Ryerson GPA scale, turn to page 25
Non-Graded Designations

Aegrotat (AEG)
A credit granted by a Dean, in consultation with the instructor, only under exceptional circumstances (normally, an illness) when there has been acceptable performance in a course and some coursework remains to be completed.

Failure, Non-Attendance (FNA)
Awarded by an instructor when the student has been absent from most course meetings and has submitted no work for grading. This grade is assigned when a student abandons a course without completing a formal withdrawal prior to the established deadline dates. This grade is counted as a failure in the calculation of grade point average.

Tip: Your last day to drop a course without it appearing on your transcript is on Friday, Nov. 16, 2018 and Friday, March 29, 2019.

Incomplete (INC)
Incomplete coursework or a missed final examination due to documented medical or compassionate grounds. An INC can be awarded only when some work remains to be completed and when the completion of the outstanding work or an alternate final examination may result in a passing grade. An INC will be assigned to students who have not completed a required Academic Integrity Quiz. An INC will lapse to an F after three months.

Passed (PSD)
Acceptable performance in a course graded only as pass or fail (as pre-defined in the course outline). BME100 will appear as PSD once the requirements have been met.

Transfer Credit (CRT)
Transfer credit achieved through an acceptable grade in an equivalent course (as determined by the Ryerson course teaching Department) completed at Ryerson or at another post-secondary institution. Such credit may be granted as a part of the admissions process. For students already enrolled in their program, this type of credit is normally granted only on the basis of a prior letter of permission from the course teaching Department.

Cumulative Grade Point Average (CGPA)
Your CGPA is calculated at the end of each academic term for which additional course grades have been recorded on your transcript, and is calculated on all of your formal Ryerson course grades in the program in which you are registered. CGPA is calculated as an indicator of overall academic performance and is used as a criterion for:

- graduation requirements,
- academic awards and distinctions, and
- determining academic standing during study in a program.

GPA Facts:
- The grade earned for a repeated course is substituted for the previous grade in calculating subsequent grade point averages **even if the later grade is lower** and both attempts are recorded on the transcript. No course can be repeated more than twice. If at least one of the course attempts results in a passing grade, the course will count towards graduation requirements irrespective of the sequence of grades earned.
- An initial grade point average is not calculated until the student has received three or more course grades.

Tip:
Your performance in a particular term is measured by Term Grade Point Average, which is a weighted average of the grades secured in all the courses taken in a term. Your TGPA is calculated at the end of each academic term. It is calculated as described below, using all the courses completed during the term:

\[
TGPA = \frac{\text{Total Grade Points Achieved in Term}}{\text{Total Course Weights in Term}}
\]
How to calculate CGPA

Take the earned grade points for each course (except for first attempts at repeated courses) and multiply each by its GPA weight (e.g. a “C” in a course with a GPA weight of 1.00 is 2.00, a “C” in a course with a weight of 2.00 is 4.00). Add the products.

1. Add together the GPA weight for each of the courses taken, except for first attempts of repeated courses.
2. Divide result from (1) by the result from (2). The result is the CGPA.

\[
\text{CGPA} = \frac{\text{Sum of: GPA weights \times Earned Grade Point}}{\text{Sum of the GPA Weights}}
\]

A GPA adjustment may occur under one of the following conditions:

1. **Course Replacement:** Permits you to use a currently-enrolled course to replace, for GPA purposes only, a previously graded Liberal Studies course. Both courses must belong to the same group or table. Ryerson will not automatically know that the second course is meant to act as an adjustment unless you submit the GPA Adjustment Request Form. The GPA Adjustment Form must be submitted in person at the Service-Hub (PDOC-150) Document Counter. There is no fee for requesting a GPA adjustment.

2. **Course Exclusion:** Permits you to request that a certain course be excluded from your CGPA calculation. For example, if a course is a general-interest course that is not applicable to your program of study; OR if the course is an extra course that was taken after having completed your program requirements for that table or group. Use your advisement report available in RAMSS to confirm that the course is not applicable or is not being used towards your program requirements. It is advisable you consult with Dr. Amleh and Dr. Hussein to discuss how this will affect your GPA and academic standing.

A GPA Adjustment Request form allows you to request a course replacement or course exclusion in order to improve your CGPA. An adjustment is subject to Senate Policy #46. Only liberal courses can be requested for a GPA adjustment.

GPA Adjustment Requests

Only the CGPA calculated after the term to which you are applying the adjustment will be considered for adjustment. You must request a GPA adjustment by the deadline during the term in which you are taking the course. See the current Undergraduate Calendar for the deadline to submit your GPA Adjustment Request Form. Academic standings and CGPAs from previous terms will not be considered or adjusted.

Tip: Within two weeks of your submission of the GPA Adjustment Request Form to Student Records you will be notified via your Ryerson email account whether your request is approved or denied for processing.

Program Grade Point Average (PGPA)

Your PGPA is calculated at the end of each academic term as an indicator of your overall academic performance and is used as a criterion for graduation.

The PGPA is similar to CGPA except only courses that fulfill graduation requirements for your chosen program are included in this calculation.

Courses not included in the calculation are shown under Non-applicable Courses on the Advisement Report. Examples of these are:

- Non-program courses
- Extra courses
- Failed courses

Your academic standing is established from your formal course grades at the end of each academic term on the basis of overall academic performance.

Clear

CGPA of at least 1.67, except where if you have:

- violated an approved Department/ School standing variation or,
- while on probation, you violated the terms of your Probationary Contract.

With a clear academic standing, you can continue with no restrictions except for the duty to satisfy requisite requirements.

Probation

If your CGPA is between 1.00 to 1.66, your academic standing will change to Probation. You will be required to attend a probationary seminar to obtain your probationary contract outlining a specific plan of studies and academic supports prepared and authorized by Dr. Lamya Amleh. You must sign this contract and drop it off to our office within five days otherwise your course registrations and course intention requests will be cancelled for the term in question.

You are not allowed to make any adjustments to the contract without the authorization from an Academic Advisor.

Making any unauthorized changes may result in a violation of your contract. You are eligible to continue your studies in a subsequent semester as long as you achieve a TGPA of 1.67 or higher, meet the terms of your Probationary Contract and do not violate approved standing variations. Failure to meet the terms of the Probationary Contract as set out by the First-Year Engineering Office will result in your standing to change to RTW.

For more information on academic standing terms, turn to page 30.
Required to Withdraw (RTW)

If you have been Required to Withdraw (RTW) from your Ryerson undergraduate program, you may not formally return to your program (or transfer to another Ryerson undergraduate program) until 12 months have elapsed.

1. CGPA of less than 1.00 (except those enrolled in their first semester)*
2. A TGPA below 1.67 while on probation
3. Violation of a Probationary Contract (including unauthorized changes to the contract or failure to sign a Probationary Contract).

*No student in their first semester at Ryerson will be RTW in December. Students with a GPA of less than 1.00 will continue in their program for the subsequent Winter semester on Probation.

What happens when you become RTW?

1. You are required to attend a RTW seminar to discuss your options with an Academic Advisor.
2. In the semester immediately following the assignment of RTW standing (for this purpose Spring/Summer is included), you can’t register in any Ryerson credit courses and no courses taken at another institution will be counted towards graduation requirements for a Ryerson degree program.
3. In the second semester following assignment of RTW standing, students can opt for:
   A. Fresh Start Program
   Fresh Start is designed to help students make better and more informed decisions about their studies, and get back on track.
   To be eligible for Fresh Start you are required to have a minimum TGPA 1.53 or minimum CGPA 1.53. These requirements vary per program and year of study. After sitting out one semester, approved students will be able to take two courses for credit in the first semester and four courses for credit in their second semester. In addition, you are required to undertake during their period away from the university.
   You must submit your Fresh Start application to our office by the specified dates. Students approved by a program to participate in Fresh Start will be designated as having an Extended Academic Probation (EAP) standing.
   B. Reinstatement
   Students who do not successfully complete their second semester contract return to RTW standing, and may apply to be reinstated to their program for the semester following the third semester. Prior to reinstatement these students may not register in any Ryerson credit courses and no courses taken at another institution will be counted towards graduation requirements for a Ryerson degree program.

   Procedures for students who are assigned an RTW standing and wish to be considered for transfer to another program:
   1. Students must consult with the University Admissions Office and the program to which they wish to transfer. At the program’s discretion, a student may follow a SSP sequence as outlined above. Such students will be placed on EAP standing. If approved for such a transfer, there is an understanding that the transfer program commits to admitting the student pending successful completion of the SSP. Students may apply for transfer for the semester following the third semester as defined above. Applications for transfer will be considered as outlined below.
   2. Students who did not successfully complete their second or third semester EAP contract, or who did not participate in the EAP, may apply for reinstatement for the semester following the third semester.
   3. Applications for reinstatement will be considered by Faculty and/or program committees based on criteria, assessments and/or procedures developed by the Faculty or program in consultation with the Office of the Registrar. Past academic performance and space availability will be taken into consideration.

Permanently Program Withdrawal (PPW)

If you become PPW, you can’t apply for reinstatement back to Engineering. You will also not be allowed to study engineering at any Canadian university. You can however apply for a different program for the Fall semester of the following calendar year.

Disciplinary Suspension

If you have violated a Student Code of Conduct:

• You are not allowed to enrol in any course at the University during your period of Disciplinary Suspension.
• After you have served your period of Disciplinary Suspension you must contact your Department/School to make arrangements for reinstatement.
Appeals

**Academic Appeals**
All students have the right to appeal their final grades and/or academic standing. You also have the right to see all work completed for a course, including the final exam, and have the right to continue with your course work while an appeal is in process.

**Types of Appeals**
There are two types of appeals which may be filed - a ‘grade appeal’ and an ‘academic standing’ appeal. The ‘grade appeal’ must be filed with the department that taught the course you are appealing; the academic ‘standing appeal’ must be filed with your own department (i.e. with First-Year Eng. Office). Both types of appeals will be reviewed by the departmental Appeals Committee. Since the appeal of a grade may have an effect upon your standing, you must attach a copy of the grade appeal to the academic standing appeal.

Full details of the Appeals Policy can be found here.

**Grounds of Appeal**
There are five grounds for appeals: Prejudice; Medical; Compassionate; Course Management; and Procedural Error. The responsibility for demonstrating the grounds for the appeal lies with the student. You should ensure that the relevant documentation (e.g. medical certificates, travel documents, death certificates, letters from counselors, etc.) is supplied to support their case. Read the full Policy 134.

**Levels of Appeal**
There are three levels of academic appeal: Department, Faculty and Senate appeals. You are required to submit the pertinent information at each appeal level, and within the mandated time frame. The decision of the Senate Appeals Committee is final and binding.

**Appeal Deadline**
- Fall Grades and Academic Standing: Monday, Jan. 21, 2019 (4 p.m.)
- Winter Grades and Academic Standing: Friday, May 24, 2019 (4 p.m.)

Exams

You are responsible for making sure you are in the right place at the right time to write your exam. If you have a conflict in your exam schedule, you must report it to your professor(s) within one week of the announcement of the exam schedule. You can get help on how to submit an appeal by contacting the RSU Student Issues & Advocacy Coordinator at advocacy@rsuonline.ca or 416-979-5255 ext. 2325.

If you miss an exam due to an illness, you must email your professor immediately. You must also submit an Online Academic Consideration request and turn in the hard copy of the original Ryerson Student Health Certificate to the First-Year Engineering Office within three business days of the missed obligation. Upon verification of the medical certificate, we will inform your professors. It is then your responsibility to make arrangements with your professor(s). We will not accept any medical notes that are not completed using the Ryerson Medical Certificate.

If you require accommodation due to a disability to write your exams, Academic Accommodation Support can assist you. You must submit your final examination accommodation requests before the start of the final examination period. For detailed information, including how to book your exam, visit the Test or Exam with Accommodation website.

Exam schedules will be released by the Office of the Registrar in November and March.
- Fall examination period runs from Tuesday, Dec. 4, 2018 – Saturday, Dec. 15, 2018 (Saturdays included)
- Fall grades will be available on RAMSS on Saturday, Dec. 22, 2018.
- Winter examination period runs from Monday, April 15, 2019 – Saturday, April 27, 2019 (Saturdays included)
- Winter grades will be available on RAMSS on Tuesday, May 7, 2019

**Tip:** You are required to have your Ryerson OneCard with you during all exams.

**Tip:** Your grades will not be released if you have an outstanding item from the library or fees outstanding.
A few examples of Academic Misconduct:

- Citing resources without proper and/or incomplete referencing
- Working collaboratively with others without explicit consent of the instructor
- Using materials or aids during exams that were not explicitly allowed by the instructor
- Improperly obtaining access to examination questions or materials
- Submitting stolen or purchased assignments
- Submitting altered, falsified, or forged medical or other documentation for academic consideration, or making false claims for this consideration
- Offering or giving assignments, essays, test questions to others knowing that they will be submitted/used for academic assessment
- Using your own work a second time for an assignment or essay without the permission of the instructor

If you are being investigated for academic misconduct, your grade for the course in question will appear as ‘DEF’. This will be replaced by an official course grade upon resolution of the matter. If you are found to have committed academic misconduct, you may be placed on Disciplinary Suspension, you will be removed from your program a specified period (normally one term to two years), after which the student will be automatically reinstated. You will also have a Disciplinary Notation (DN) placed on your academic record.

The Code in its entirety is intended to identify behaviour which the University considers to be inappropriate, to outline the procedures the University will use to respond to such behaviour, and to indicate the possible consequences of such behaviour. If you are found to have violated Policy 61, you will be placed on Non-Academic Disciplinary Suspension (NDS) for a period up to two (2) years. You will not be allowed to take any courses at Ryerson or through Chang. You can also be placed on Non-Academic Disciplinary Withdrawal (NDW), you will be withdrawn from the University for a period of two years. A NDW shall be permanently noted on your academic record and official transcript.

A student may appeal an Academic or Non-Academic decision through the Office of the Ombudsperson if they believe they have been treated unfairly or need to talk about their concerns and options if they have been accused of misconduct. The Office of the Ombudsperson is confidential, impartial and independent. You can reach them at ombud@ryerson.ca or OAK Rooms 214/215/216.
The Transition Program offers you an opportunity to spread out your first year over three terms, you can take a reduced course load in the Fall and Winter and take up to three courses in the Spring term. You will need to meet with an Academic Advisor to discuss how to manage your courses. The Transition Program also provides you with an opportunity to pursue courses you missed or failed in the previous term.

The transition program runs in two phases, Phase 1 in the Winter and Phase 2 is in the Spring. Due to space limitations, students who are missing courses or who are required to register in the Transition Program as part of their probationary contracts will have priority consideration. Students who complete Transition Program courses will have their academic standings re-evaluated upon completion of the program at the end of the Spring term.

Phase 1 (Winter Term, January - April)

The following Fall required courses are offered again in the Winter term.
CHY 102: General Chemistry
MTH 140: Calculus I
MTH 141: Linear Algebra
PCS 211: Physics: Mechanics
*The courses listed in Phase I will NOT be offered in the Spring term.
** CEN100 is only offered in the fall term.

Phase 2 (Spring Term, May - July)

All Winter required courses are offered again in the Spring semester. The Spring term is condensed, it runs from the second week of May until the end of June, with exams finishing the first week of July.

CHY 211: General Chemistry Laboratory
CVL 207: Graphics
MEC 222: Engineering Graphical Communication

Math Support


Math Support offers three types of programming: Drop-in Tutoring, Online Tutoring, and Online Midterm and Exam Review. All these programs are available to engineering students enrolled in MTH140, MTH141 and MTH240. For computer science students, only drop-in and online tutoring are available. In addition the First-Year Engineering Office works closely with Math Support and Math Support Coordinator at the University to offer study halls for math related courses.

To book an appointment, view the drop-in schedule and view online resources, visit us online at ryerson.ca/sls.

Study Skills and Transition Support

Study Skills and Transition Support provides support to help students develop study skills and habits. Students can book an appointment with a Peer Academic Coach, take part in workshops, attend a supported learning group (SLG), and more throughout the year.

Engineering students can participate in two course-specific programming: Supported Learning Groups (SLG) and Engineering Tutoring. SLGs are available for students in MTH140 and MTH240. Engineering Tutoring is available for students in PCS125, PCS211 and CHY102. Both programs are facilitated by upper-year undergraduate students who have previously taken the course.

To book an appointment, view the supported learning group schedule, and view online resources, visit us online: ryerson.ca/sls.

First-year students can also enrol in Academic Edge, a 5-week study skills building program.

For more information go to ryerson.ca/sls.

Tip: The Transition Program is offered through FEAS and not through the Chang School of Continuing Education therefore you MUST register with our office.
Academic Accommodation Support

As Ryerson University’s student disability services office, we work confidentially and directly with incoming and returning students who live with both temporary and permanent disabilities that impact their academic functioning. We work with students with disabilities to create and implement an individualized academic accommodation plan so that you can fully participate in your studies. We will also work with you if you suspect you have a disability or are in the process of obtaining documentation of your disability.

Register for academic accommodation support as soon as possible, preferably prior to the start of the semester to ensure your accommodation plan is active when classes start. Please visit our website or reception desk for more information about the registration process, our documentation requirements, and additional services.

Visit us online at: ryerson.ca/sls/academic-accommodation-support

Writing Support

Students looking to improve their writing skills can book individual 25 or 50 minute sessions with a trained writing consultant, take part in workshops, or attend a group session with professional writing support staff.

To book an appointment, join a group session, and view online resources, visit us online at: ryerson.ca/sls

English Language Support

English Language Support provides programs for students who use English as an additional language. Students can book 50-minute individual appointments, offered either in person or via Skype, to work on their writing, speaking & listening, and presentation skills. Several group sessions are also offered that help participants learn how to use language appropriately in different contexts, and build confidence and fluency in their English language skills.

Visit us online at: ryerson.ca/sls

Test Center

The primary responsibility of the Test Centre is to administer tests/exams for students registered with Academic Accommodation Support. The Test Centre also provides limited support to departments by offering make-up tests/exams on the following days/times:

Mondays: 9 a.m. - 12 p.m. and 1 p.m. - 4 p.m. (Monday is only offered during months that follow midterms or the final exam period)
Wednesdays: 2 p.m. - 5 p.m. and 6 p.m. - 9 p.m.
Fridays: 12 p.m. - 4 p.m.

Due to the high volume of accommodated tests/exams, we do not offer make-up exams during midterms or the final exam period. The make-up Test Centre operates on a first-come, first-serve basis and students are to confirm permission with their Professor prior to booking a make-up.

Promotion

Engineering students must complete all first-year courses excluding Liberal Studies in order to be promoted to second year. Outstanding and or failed courses can be completed in the Transition Program. If you do not complete all first-year courses by the end of the Transition Program, you will remain with our office as a First-Year in Two Years student. This means the Faculty will reserve a space for you in the first-year engineering courses you have yet to complete for the following academic year. This allows you to spread your first-year curriculum over four semesters instead of two, allowing more time to focus on individual subjects.

In the event that you would like special permission to be allowed to take second year courses while having first year courses outstanding, you will need to meet with an Academic Advisor to discuss your options.

If you meet all the requirements, you will get an email from our office in the spring informing you that you have been promoted to second year. Once you have been promoted to second year, you are required to contact your Program Director for any support or assistance that you require.

Dean’s List

To be eligible for consideration for the Dean’s List in the Faculty of Engineering and Architectural Science, undergraduate students must:

1. Carry an average unit load of 4.0 billing units or higher for the two terms of the academic year under consideration (Fall and Winter).*
2. Obtain a minimum GPA of 3.5 for the academic year under consideration. The minimum GPA applies for both the Fall and Winter terms exclusively, in addition to the student’s overall GPA for the year.
3. Obtain passing grades in all courses and a clear academic standing for both terms.
4. Not have received any Disciplinary Notations (DNs) while at Ryerson.

*For chemical engineering students, the Winter term of the fifth semester and the Fall term of the sixth semester will be weighed against the Dean’s List criteria when reviewing eligibility, to compensate for the mandatory co-op program requirements.
Student Engagement

Ryerson Engineering Student Society (RESS)

RESS represents all full-time undergraduate Engineering students. RESS is a student-run organization that aims to provide quality co-curricular programming throughout the year. RESS hosts various events that focus on orientation week all the way through to the Iron Ring ceremony and graduation. RESS provides support to the 40+ student organizations, design teams, chapter organizations, course unions and interest groups.

Tri-Mentoring

The Tri-Mentoring Program assists you with your successful transition into university life. As a first-year student, you will be matched with an upper-year mentor who can provide social and cultural support during the academic year. Through individual appointments, the Tri-Mentoring Program can help you create strong scholarship and bursary applications as well as map out your involvement on campus outside of your faculty. The Tri-Mentoring Program can support you to explore various aspects of your identity to help you find your sense of belonging in the Ryerson community. Visit the Tri-Mentoring Office in POD 54. The Tri-Mentoring program also has up to $6000 worth of scholarships available to eligible first-year students.

Ryerson Students’ Union (RSU)

The RSU represents 100,000 undergraduate and graduate students at Ryerson University. It is your Students Union! The RSU is student run and works with students to enhance and improve all aspects of student life on and off campus. The RSU enhances student life through campus wide events like Week of Welcome and Culture Jam and provides Cost Saving Services like the Health & Dental Plan, TTC Metropass. The RSU fights for Student Rights through Academic Advocacy, the Equity Service Centres, Campaigns and FREE Legal Service. Visit RSU at the Student Campus Centre (SCC311), online at rsuonline.ca.

Equity, Diversity and Inclusion (EDI)

Our Equity, Diversity and Inclusion (EDI) office provides you with the access to the experiences, tools and resources that will provide you to reflect on different life experiences and understand the role you can play in representing Ryerson’s EDI values in and outside of the classroom. EDI office offers workshops, networking and mentorship opportunities, access to local and international conferences, and facetime with industry professionals and employers. To learn more about supports and services offered, visit us at ENG 547.

International Services for Students (ISS)

International Student Support (ISS) strives to support international student development. ISS aims to provide a sense of belonging and community for students who are new to Canada. ISS mission is to empower students to realize their infinite potential. ISS provides transitional and transactional support in order for students to thrive at Ryerson.

Promotes student engagement and success through:

- **Immigration Support**: Immigration advice from licensed international student advisors and status letters.
- **University Health Insurance Plan**: Health coverage for international students and social programming to promote well-being.
- **Global Links**: An intercultural dialogue program that promotes acceptance and appreciation of different cultures.
- **Financial Support**: Administer Emergency Bursary, Salad King Awards and Scotiabank Awards.

International Services for Students (ISS)

- 1. Aerospace Course Union (ACU)
- 2. RyeChemU
- 3. Civil Engineering (RSCC)
- 4. Ryerson Electrical and Computer Engineering Student Society (RECESS)
- 5. Institute of Industrial and Systems Engineers
- 6. Mechanical Engineering Course Union (MECU)
- 7. Biomedical Engineering Course Union (BECU)

Design Teams

- 1. Canadian National Concrete Canoe Team
- 2. CANSAT
- 3. Great Northern Concrete Toboggan (GNCTR)
- 4. Ryerson Aero Design (RAD)
- 5. Ryerson Baja Racing
- 6. Ryerson CHEM E Car
- 7. Ryerson Formula Racing
- 8. Ryerson Helium
- 9. Ryerson’s International Hyperloop Team
- 10. Ryerson Rams Robotics (R3)
- 11. Ryerson Rocketry Club
- 12. Ryerson Solar Racing
- 13. Ryerson Steel Bridge Team

Course Unions

- 1. Engineering Course Union (ECU)
- 2. Aeronautics and Space Institute (ASI)
- 3. Canadian Aeronautics and Space Institute (CASI)
- 4. Canadian Society of Civil Engineers (CSCE)
- 5. Canadian Society of Mechanical Engineers (CSME)
- 6. Engineers Without Borders
- 7. Institute of Electrical and Electronics Engineers (IEEE)

Chapters

- 1. American Institute of Chemical Engineers Ryerson Chapter
- 2. American Society of Mechanical Engineers (ASME)
- 3. ASHRAE: Ryerson University
- 4. Biomedical Engineering Society (BMES)
- 5. Canadian Aeronautics and Space Institute (CASI)
- 6. Canadian Society of Civil Engineers (CSCE)
- 7. Canadian Society of Mechanical Engineers (CSME)
- 8. Engineers Without Borders
- 9. Institute of Electrical and Electronics Engineers (IEEE)
- 10. Institute of Industrial Engineers (IEI)
- 11. National Society of Black Engineers (NSBE)
- 12. TETRA
- 13. Ryerson AICHE
- 14. Ryerson Space Society

Interest Groups

- 1. Cranial Nerves
- 2. EngOUT
- 3. Ryerson University Aerospace Team (RUAT)
- 4. Toronto Students for Aerospace Advancement (TSA)
- 5. Hobby Electronics Club
- 6. RyCodes
- 7. Science Inquiry Project
- 8. MusicMaking Club
Health and Wellness

Counselling
To book an appointment with a Counsellor for a personal matter, you can request an appointment with a counsellor through the Centre for Student Development and Counselling in Jorgenson Hall, room JOR-07C, or by phone at 416-979-5291. This a free and completely confidential service available to all students.

Health Promotion
The Health Promotion Unit provides current and relevant health information, working with students and staff to develop a healthy community and ensuring high quality health promotion information and support. Services include individual counselling on wellness issues, workshops and presentations on a variety of health topics, campus-wide health awareness events and peer-led wellness initiatives.

Insurance
Massage Therapy, prescriptions and more are covered under the RSU Members’ Health and Dental Plan. All full-time students who have never opted out before for Fall 2018 will be charged $334.00 for insurance benefits for the 2018-19 academic year. You can opt-out and get $334 back if you have alternative coverage. Opt-out online by Friday, Oct. 5, 2018.

Mattamy Athletic Centre/Recreation and Athletics Centre
The RAC and MAC are both facilities available for all Ryerson students – it is included in your tuition! The RAC is located in the Quad and has weights, cardio room, indoor running track, dance studios, squash courts, a pool. The MAC is located in the former Maple Leaf Gardens building which houses a basketball court, ice rink, cardio room, dance studios.

Therapy Dogs
Canine jumps, spins, licks and wags can go a long way toward relieving the stress associated with being a student. Therapy dogs are available every Wednesday during mid-terms and finals periods.

Financial Aid
Student Financial Assistance helps you plan and meet educational expenses while attending university. They offer information and access to financial resources such as scholarships, bursaries, awards, grants from internal (university and donor) government (federal and provincial) and external organizations that support student success and university affordability. In-person inquires may be made at the RO ServiceHub, Monday to Thursday from 9 a.m. - 5 p.m. and Friday from 10 a.m. - 4:30 p.m.

Scholarships
Student awards are administered centrally through the Office of Student Financial Assistance. You can contact them at awards@ryerson.ca or stop by the Service Hub, located on the first floor of the Podium.

Tuition
Your tuition ranges between $10,881 - $12,241 and $27,509 - $29,219 for international students. This includes charges for tuition, athletics (RAC and MAC), RSU, RSU health and dental plans, and other related fees. Tuition varies based on your year and the number of courses you are enrolled in for each term. Full detailed breakdown of fees is available here:

- Tuition fees for the Fall 2018 academic term are due Friday, Sept. 07, 2018
- Tuition fees for the Winter 2018 academic term are due Friday, Jan. 11, 2019.

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Tip:
Don’t forget to bring your Health Card and OneCard to every visit!

Tip:
International students register for University Health Insurance Plan (UHIP) online by Friday, Oct. 5, 2018.

Tip:
University Health Insurance Plan (UHIP)
Co-operative Internship Program (CIP)

All programs besides Chemical Engineering, offer you an option to take part in the Co-operative Internship Program after your third year. The CIP program allows you to participate in an internship option ranging from 12 to 16 months.

The CIP is administered by individual program departments with different approval procedures.

• Aerospace Engineering: Francine Belnavis fbelnavis@ryerson.ca
• Biomedical, Electrical, and Computer Engineering: Yvonne Cordwell, cordwell@ryerson.ca
• Chemical Engineering: Daniela Ibarra dibarra@ryerson.ca
• Civil Engineering: Dianne Mendonca, mendonca@ryerson.ca
• Industrial and Mechanical Engineering: Shirley Dacanay sdacanay@ryerson.ca

Co-op

Chemical Engineering is a co-op program. Your co-op semesters will be integrated into your degree over five years. Students admitted into Chemical Engineering do not need to apply for co-op, but they are responsible for finding placements. For further contact information, contact: Daniela Ibarra, dibarra@ryerson.ca, ext 6590

Career Center & Co-op Centre

The Ryerson Career & Co-op Centre is your zone for career development, advice and opportunities. Located in POD 60, the Career & Co-op Centre offers workshops and tutorials to help all students in career planning, job search, networking, interviews and applications towards building meaningful careers. Gain resume advice from a Resume and Online Profile Advisors (ROPA) or for tailored career support book a 1:1 appointment with Fenella Amarasinghe, Career Education Specialist for the Faculty of Engineering and Architectural Science (FEAS) or with Adrian Layne, Career Education Coordinator for FEAS. Throughout the year, our office works closely with Fenella and Adrian to provide workshops and seminar to meet your career needs. There is also a team of specialist who work with employers and connect students to opportunities. To book an appointment and to take advantage of all career services available to you visit ryerson.ca/career

Tip: This is a very competitive program with CGPA requirements.

Careers

Resources

• Academic Accommodation Support – SLC-4th floor
• Aerospace Engineering – ENG-170
• Architectural Science – ARC-203
• Athletics – RAC-103
• Biology – VIC-739
• Biomedical Engineering – ENG-478
• Campus Store – BKS
• Career Centre – POD-60
• Centre for Student Development and Counselling – JCR-07C
• Centre for Urban Energy – 147 Dalhouse St.
• Chemical Engineering Co-operative – KHS-241A
• Chemistry – VIC-739
• Civil Engineering – MON-221
• Computer Science – ENG-478
• Computer Science – ENG-287
• Computing and Communications Services – KHW-71
• Curriculum Management – POD-355
• Dean of Engineering and Architectural Science – ENG-359
• Dean of Science – VIC-724
• Digital Media Zone – DSG-6th floor
• English Language Support – SLC-4th floor
• Enrolment Services and Student Fees (Service Hub) – POD-150
• Financial Mathematics – ENG-228
• First Year and Common Science Office – VIC-743
• First-Year Engineering Office – ENG-340A
• Graduate Studies – YDI-11th floor
• Health Promotion – POD-256C
• Housing & Residence Life – PET-100
• Industrial Engineering – EPH-300
• International Student Support – POD-50A
• Internally Educated Engineers Qualification Bridging Program – ENG-568
• Library Entrance (second floor) – LIB-268
• Math Support – SLC-4th floor
• Mathematics & its Applications – ENG-221
• Mechanical Engineering – EPH-300
• Human Rights Services POD-254A
• International Student Support – POD-50A
• Medical Physics – KHE-332A
• Omnidipersion – OAK-214/215/216
• President’s Office – JCR-15th floor
• Provost and Vice President Academic – JCR-15th floor
• Recreation and Athletics Centre (RAC) – RAC
• Registrar’s Office (Service Hub) – POD-150
• Ryerson Medical Centre – KHW-181
• Ryerson OneCard Office – JCR-02
• Ryerson Student Life – POD-60
• Ryerson Students’ Union (RSU) – SCC-311
• Security and Emergency Services (111 Bond Street) – BON
• Student Financial Assistance (Service Hub) – POD-150
• Student Learning Support – SLC-4th floor
• Test Centre – VIC-B15
• G. Raymond Chang School of Continuing Education Administrative Offices – CED 6th floor
• The Writing Centre – SLC-4th floor
• Tri-Mentoring Program – POD-54