UNIVERSITY OF TORONTO | Engineering

GUIDE TO FIRST YEAR

www.undergrad.engineering.utoronto.ca

WELCOME FROM THE REGISTRAR

In your first year at U of T Engineering, you will be presented with many exciting intellectual challenges and opportunities for self-discovery. Entering your first year of university also comes with newfound independence for students, which goes hand-in-hand with newfound responsibilities.

U of T Engineering has many resources in place to help you transition smoothly and effectively navigate your new courses and program.

At some point during your academic career at U of T Engineering, you will visit the Office of the Registrar in the Galbraith Building for one of the many services we offer. Here are just a few of the things we do:

- Provide advice on rules and regulations
- Counsel first-year students
- Maintain academic records
- Provide counselling on student loans and other financial aid
- Process petitions and write letters of registration
- Select scholarship recipients
- Provide information on opportunities like student exchanges

Our staff are here to assist you with your academic needs, from the point you accept your offer of admission until graduation. Our goal is to support you within U of T Engineering's dynamic and evolving learning environment.

Another valuable resource that will assist you from now until the completion of your first year is the **Guide to First Year.** Within the pages of this resource, you will find three sections to help you through the next several months:

- **Preparing for U of T Engineering** walks you through ways you can get ready for September
- **Your First Year** outlines what to expect when you start your classes
- **Appendix** provides an overview of frequently asked questions and important contact information

We strive to keep our students at the forefront of engineering education and learning from experts in the field. To prepare you for the ever-changing landscape of the engineering profession, we offer a range of minors and certificates in areas like **Engineering Business, Robotics & Mechatronics, Global Engineering, Sustainable Energy, Bioengineering, Mineral Resources and Nuclear Engineering.** These opportunities allow you to customize your degree studies while gaining interdisciplinary expertise. These optional programs also help to expose you to different facets of the engineering profession and the myriad challenges that engineers face. To read more about our minors and certificates, please see page 25 of this guide.

U of T Engineering is proud to be consistently ranked* as the top engineering school in Canada and among the very best in the world. By studying at U of T Engineering, you will have the opportunity to participate in an inspiring and rigorous academic environment and to contribute to our Faculty's reputation for excellence and innovation.

I wish you all the best in your first year.

Sincerely,

Barbara McCann, Faculty Registrar

—

*2012 Academic Ranking of World Universities (ARWU) in Engineering/Technology and Computer Sciences

OFFICE OF THE REGISTRAR

35 St. George Street
Galbraith Building, Room 157
Toronto, Ontario, Canada M5S 1A4
Tel: 416-978-5896 | Fax: 416-978-1866
registrar@ecf.utoronto.ca

ENGINEERING UNDERGRADUATE ADMISSIONS OFFICE

35 St. George Street
Galbraith Building, Room 153
Toronto, Ontario, Canada M5S 1A4
Tel: 416-978-0120
ask@ecf.utoronto.ca

GETTING TO KNOW YOUR FIRST-YEAR SUPPORT TEAM

Our team of first-year specialists are here to help you successfully transition from high school to U of T Engineering. We aim to provide you with the tools you need to make informed decisions. The choices you make in first year will lay the foundation for the rest of your academic career.

Depending on your program of study, there are two places where you'll find first-year specialists:

SUPPORT FOR STUDENTS IN THE CORE PROGRAMS & GENERAL FIRST YEAR (TRACKONE)

FIRST YEAR OFFICE
(located in the Office of the Registrar)
35 St. George Street
Galbraith Building, Room 170
Toronto, Ontario, Canada M5S 1A4
416-978-4625
firstyear@ecf.utoronto.ca

SUPPORT FOR ENGINEERING SCIENCE STUDENTS

ENGINEERING SCIENCE OFFICE
40 St. George Street
Bahen Centre for Information Technology, Room 2110
Toronto, Ontario, Canada M5S 2E4
416-946-7351
General: engsci@ecf.utoronto.ca
Admissions Officer & Counsellor: nsci1_2@ecf.utoronto.ca

YOUR FIRST-YEAR SUPPORT TEAM. PICTURED FROM LEFT TO RIGHT:

Hana Lee, Engineering Science Admissions Officer & Counsellor; **Darcy McKenzie,** First Year Counsellor; **Barbara McCann,** Faculty Registrar; **Curtis Norman,** First Year Student Success Specialist; **Colleen Kelly,** Assistant Registrar, First Year (Acting); **Dr. Micah Stickel,** Chair, First Year; **Vanessa Andres,** First Year Assistant; **Leslie Grife,** Assistant Registrar, First Year (on leave until January 2014).

KEY DATES

EARLY JUNE	Get your TCard, your permanent U of T student card
	Apply for financial assistance, if applicable
MID-JUNE	Visit www.firstyear.engineering.utoronto.ca for more on the First Year Foundations programs
LATE JUNE	Verify your personal information on ROSI: www.rosi.utoronto.ca
MID-JULY	Submit any outstanding documents needed to complete your admission file (does not apply to current Ontario high school applicants)
EARLY AUGUST	Log into ROSI to download your first-year schedule
MID-AUGUST	If you choose to attend F!rosh Week, purchase your F!rosh Kit online
AUGUST 29	Attend the Dean's Welcome Reception and Parents' Night
EARLY SEPTEMBER	Move into residence, if applicable

PREPARING FOR U OF T ENGINEERING

STEPS AT A GLANCE:

1. ACCEPT YOUR OFFER
2. APPLY FOR RESIDENCE
3. GET YOUR TCARD
4. GET TO KNOW ROSI
5. SET UP YOUR EMAIL AND COMPUTER ACCOUNTS
6. BUY SUPPLIES AND BOOKS
7. PAY TUITION
8. APPLY FOR SCHOLARSHIPS AND FINANCIAL AID
9. REGISTER FOR FIRST YEAR FOUNDATIONS PROGRAMS
10. GET TO KNOW U OF T ENGINEERING AND TORONTO

1

ACCEPT YOUR OFFER

By accepting your offer of admission to U of T Engineering, you will be automatically pre-enrolled in all of your first-year courses.

Unlike other first-year U of T students, U of T Engineering students do not have to choose their courses on ROSI (Repository of Student Information). However, after your first year, you will select and enrol in your courses online through ROSI. You can expect to be able to see your timetable online in late July.

For more information on your timetable and courses, see page 19.

2

APPLY FOR RESIDENCE

If you are eligible for the residence guarantee, and you completed your MyRes application by March 31, you can expect to receive a residence offer by mid-June, although most will receive their residence offer sooner.

You can follow the status of your residence application at myres.utoronto.ca. If you meet the residence guarantee criteria and have not received an offer by mid-June, please contact the manager of Housing Services at 416-978-8047 or res.communications@utoronto.ca. You will receive only one formal offer of residence. It is important that you respond to any residence offer by the deadline stated in your residence offer.

Every effort is made to offer you one of your top three ranked residences. However, this is not always possible and there is a chance your offer may come from a lower ranked residence.

If you have not yet applied for residence and wish to be considered, please contact Housing Services.

3

GET YOUR TCARD

The TCard is your permanent U of T student card. Not only does it serve as photo identification for academic purposes, it is also a smartcard that gives you access to student activities, services, facilities and libraries at U of T.

You can also carry cash on the chip of your TCard, allowing you to purchase items like photocopies and food at select locations on campus. You will need your TCard almost every day at U of T. Any time you need to contact a U of T office or write exams, be prepared to show your card. Your TCard also gives you access to certain rooms like computer labs, departmental lounges and buildings after hours.

WHERE AND WHEN DO I GET MY TCARD?

The TCard Office is located on the 2nd floor of Robarts Library (130 St. George Street, room 2054A). Make sure to bring your letter of offer and photo identification. Wear your best smile — this card will be with you for the next four years!

You can get your TCard starting **May 31, 2013**. Getting your TCard before the end of August is a great way to avoid long lineups at the TCard Office. If you are arriving in Toronto in September, you can get your TCard at that time. Visit www.utoronto.ca/tcard for details.

4

GET TO KNOW ROSI

ROSI (Repository of Student Information), found at www.rosi.utoronto.ca, is U of T's online, automated student record system. ROSI allows you to:

— view your course timetable

— order transcripts

— check your fees' account balance

— update your contact info

— access your academic status

— print your tax forms (T2202A)

— vote during student elections

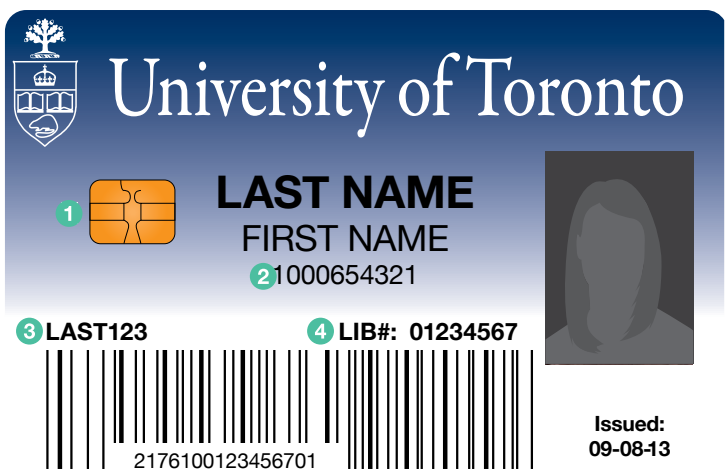
— view your final marks

DO I NEED TO DO ANYTHING ON ROSI IN MY FIRST YEAR?

Yes! You will need to use ROSI in late June to verify your personal information (email and mailing addresses). You will also use ROSI to obtain your course schedule at the beginning of August.

WHAT IS THE DIFFERENCE BETWEEN MY MAILING ADDRESS AND PERMANENT ADDRESS?

Your mailing address is where you live during your academic career (e.g., on-campus residence or off-campus apartment). Your permanent address is where your parent(s) or guardian(s) live, or is your long-term home base.



1. Microchip, 2. Student Number, 3. UTORid, 4. Library ID

5

SET UP YOUR EMAIL AND COMPUTER ACCOUNTS

CREATE YOUR U OF T EMAIL ADDRESS: UTMAIL+

U of T uses email as an official means of communication with students. For this reason, it is important that the email address listed on ROSI is a University-issued email account.

It is your responsibility to keep your email account current and to check it daily. You will receive important email notifications from professors and staff about changes to your schedule or classrooms, upcoming events, when marks are available and exam schedules.

After you have obtained your TCard, you will be able to create your own U of T email address (called UTMail+). For more information, please visit www.email.utoronto.ca.

ACTIVATE YOUR ECF COMPUTER ACCOUNT

The Engineering Computing Facility (ECF) provides you with access to computer facilities within U of T Engineering. When you have paid your minimum required fees (or deferred your fees), you will automatically get an ECF account. Your ECF account is created and activated automatically with a username that matches your UTORid. Your password will be the last four digits of your student number, the two-digit month of your birth, then the two-digit day of your birth. For example if your student number is 1000654321 and your birthday is May 14, your initial ECF password would be 43210514.

Your ECF account also comes with access to printers, file storage and web space for your courses and personal websites. Be sure to follow lab rules in order to avoid having your account suspended for misuse.

Engineering Computer Labs

UNIX Labs	Windows Labs	Departmental Windows Labs	
SF1106	WB255	CivE / GB422	MinE / MB130
SF1012	GB144	IBBME / MB326	MIE / MC 325
SF1013	GB150	ChemE / WB216	MSE / WB158
	SF 1106	MIE / HA410	MIE / MC402
		MIE / RS303	EngSci / BA2124

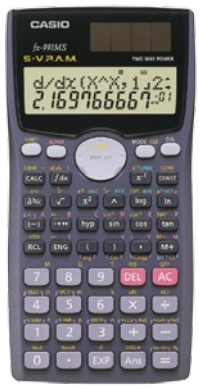
BA / Bahen Centre
GB / Galbraith Building
HA / Haultain Building
MB / Lassonde Mining Building
MC / Mechanical Engineering Building
RS / Rosebrugh Building
SF / Sandford Fleming Building
WB / Wallberg Building

6

BUY SUPPLIES AND BOOKS

GET THE RIGHT CALCULATOR

You will be allowed to use a calculator in some of your tests and exams — but it must be one of the models below (other prefixes and suffixes are permitted). Each model should be available at the U of T Bookstore for approximately $25 plus applicable tax.



Casio FX-99IMS

Sharp EL-520X

WHERE CAN I BUY MY TEXTBOOKS?

Everyone wants to make sure they get their textbooks in time. But don't worry — you are not expected to have your textbooks on the first day of classes. Your professors will give you all the information you need regarding required textbooks and materials during the first lecture of each course.

You may want to check at Engineering Stores, used-book stores or buy your textbooks second hand from upper-year students. Some departmental clubs also have used book sales.

If you need to purchase your textbooks early, the U of T Bookstore publishes a list of required textbooks for the University. The easiest way to find your textbooks is to visit www.uoftbookstore.com and select 'Find Your Textbooks.' You will be asked to login with your UTORid, after which you will be shown your entire textbook list for any courses you are registered in. However, to ensure you purchase the correct textbooks, we recommend that you wait until your classes begin.

Engineering Stores
Sandford Fleming Building Basement
10 King's College Circle
Shop online: www.stores.skule.ca

U of T Bookstore
Koffler Building
214 College Street
Shop online: www.uoftbookstore.com

7

PAY TUITION

The following tuition amounts are estimates for 2013–2014. Actual tuition charges will be determined in July.

Full-time (domestic)	**$12,363** (plus approx. $1,400 in incidental fees)
Part-time (domestic)	**$1,200** per course (plus approx. $400 in incidental fees)
Full-time (international)	**$35,982** (plus approx. $1,400 in incidental fees)

WHEN DO I HAVE TO PAY MY TUITION?

You will receive an email regarding your tuition and payment in mid-August. You can pay either the total amount or the minimum required payment indicated on the invoice. You need to pay or defer by **August 23, 2013**.

IF I ONLY PAY THE MINIMUM, WHEN IS THE REST DUE?

Your tuition must be paid in full by **April 30, 2014**. A service charge will be applied to your unpaid balance starting November 15, 2013 at a rate of 1.5% per month (compounded monthly, 19.56% annually).

WHAT IF I AM GETTING A SCHOLARSHIP? HOW WILL IT BE PAID?

If you are receiving a scholarship from the University, U of T Engineering or your department, it will be paid directly toward your tuition upon full-time registration in the fall. If the amount of your scholarship is greater than your minimum payment to register (65% of your total tuition), you are eligible for a fee deferral (more information here: uoft.me/engdefer). To register without payment on the basis of an undergraduate scholarship before the minimum payment deadline, mail or bring a copy of your award letter, a printout of your ROSI invoice and a completed fee deferral form (uoft.me/feedeferralform) to one of the following locations:

— Office of the Registrar, Rm 157, 35 St. George Street

— Enrolment Services, 172 St. George Street

— Student Accounts, 3rd floor of 215 Huron Street (or fax to 416-978-2610)

Note: Scholarships are posted to your account prior to November 15, provided you have registered.

You can find more information about fee deferrals online: uoft.me/deferfees1314. If the amount of your scholarship is less than your minimum payment to register, simply deduct the amount of your scholarship when making your tuition payment.

HOW DO I MAKE A PAYMENT?

Payments must be made through your financial institution online, by phone or in-person at your bank. It takes about five business days for your payment to be received by U of T's Student Accounts Office. We recommend online banking.

ONLINE/TELEPHONE BANKING: If you already bank online or by phone, add "University of Toronto" to your list of bills. Your account number is on the top, right-hand corner of your fees invoice as shown in your ROSI account. It consists of the first five characters of your surname (in capital letters) and ten numbers which is your student number with leading zeros (make sure you distinguish between the letter 'O' and the number 'zero'). Indicate the amount of your payment, complete the transaction, then print out the confirmation and keep it with your invoice as proof of payment.

IN-PERSON BANKING: Take your invoice to your bank branch and ask the customer service representative to make the payment from your account. They will keep the remittance portion of your invoice and return the rest with a "paid" stamp, indicating the amount paid.

PAYMENTS FROM OUTSIDE CANADA: There are two ways you can make your payment from outside of Canada: 1) Western Union Bank-to-Bank Transfer (formerly known as Travelex Bank-toBank Transfer); or, 2) Send a bank draft (in Canadian funds). For details on how to make payments from outside of Canada, please visit: uoft.me/payfees1314.

Please note that all payments must be accompanied by the student's name, student number and (if possible) his or her program of study.

I NEED MY STUDENT LOAN TO PAY MY TUITION. WHAT SHOULD I DO?

If you are receiving a government student loan, you are eligible to receive a fee deferral. Students who complete their OSAP (Ontario Student Assistance Program) application before mid-June will be contacted by the Registrar's Office by email in early August with instructions on how to obtain a fee deferral.

If you are receiving a student loan from another province, or if you do not receive an email from the Registrar's Office, instructions for obtaining a fee deferral can be found at uoft.me/deferfees13. Please note, when you defer your fees, your tuition must be paid in full by April 30, 2014. A service charge will be applied to your unpaid account balance starting November 15, 2013 at a rate of 1.5% per month (compounded monthly, 19.56% annually).

8

APPLY FOR SCHOLARSHIPS AND FINANCIAL AID

As an Engineering student, you have access to financial aid both within the Faculty and University. There are four basic areas of financial aid: scholarships, student loans, UTAPS and undergraduate grants.

1. SCHOLARSHIPS

We consider every admitted student automatically for Faculty and departmental scholarships. If you qualified for a scholarship, details were included in your offer of admission or sent to you in May. Due to the high calibre of our incoming first-year class, many students with outstanding academic achievements do not fall within the Faculty's scholarship range.

Scholarships are awarded for academic excellence. The vast majority of scholarships are for one year of study. However, you may be considered for scholarships in your upper-years based on first-, second- and third-year achievements. These scholarships have been established through the generosity of U of T Engineering alumni and friends.

If you have questions about scholarships, you can contact **Pierina Filippone**, Assistant Registrar, Scholarships & Financial Aid at 416-978-4159 or email awards@ecf.utoronto.ca.

2. STUDENT LOANS

There are two kinds of government student loans: **Federal** (Canada Student Loans) and **Provincial** (e.g., OSAP for Ontario residents).

All Canadian provinces have student loan programs. Canadian citizens, permanent residents and protected persons are eligible to apply to provincial student loan programs.

HOW DO I APPLY?

You can apply online through your province's loan website (visit uoft.me/loanapply for links to each province's student loan website). Please contact your province's student loan office for eligibility requirements and inquiries.

WHEN IS THE DEADLINE FOR APPLYING?

You should apply as early as possible to budget for the school year. Application deadlines vary depending on your province. Keep in mind that if you apply after the beginning of the academic year, you might receive a smaller loan. We recommend that Ontario residents apply for OSAP funding by mid-June.

3. UTAPS (U OF T ADVANCE PLANNING FOR STUDENTS)

U of T is committed to ensuring that no admitted student should be unable to enrol in or complete their studies due to lack of financial means. To fulfil this commitment, the University provides assistance in the form of non-repayable grants for undergraduate students through the UTAPS financial aid program.

WHO CAN APPLY FOR UTAPS FUNDING AND HOW DOES IT WORK?

To be eligible to receive UTAPS, you must first have an assessment through OSAP or your province's student loan program. If, after receiving the maximum amount of government assistance your assessed financial need is not met, U of T will provide a UTAPS grant to cover your unmet financial need.

In other words, UTAPS will "top up" the amount you have already received through government assistance to enable you to cover any unmet assessed financial need. You do not have to pay back the UTAPS grant you receive. For more info, visit the UTAPS website at uoft.me/utaps.

HOW DO I APPLY?

If you are a resident of Ontario who is receiving an OSAP loan, you do not have to submit a UTAPS application to receive funding. Your eligibility for a UTAPS grant will be automatically considered on the basis of your OSAP entitlement. This will occur after your first installment of OSAP has been released to you in the fall.

Residents of other provinces must submit a paper application to Enrolment Services. This application can be submitted once you have received your notice of assessment from your provincial student loan office. UTAPS decisions for out-of-province students will be made in late fall.

4. UNDERGRADUATE GRANTS

If you have exhausted all your financial resources and avenues for assistance (including OSAP, UTAPS, bank loans and family) and continue to find yourself in financial need, you can apply for Undergraduate Grants. Application forms will be available starting in late September in the Office of the Registrar.

9

REGISTER FOR FIRST YEAR FOUNDATIONS PROGRAMS

First Year Foundations programs will help you meet fellow classmates, future professors and teaching assistants while learning more about the social and academic aspects of university. Some programs are free of charge and others require a fee (indicated with a $ symbol).

Visit www.firstyear.engineering.utoronto.ca this summer for more information on these programs.

ENGINEERING DESIGN 101$

Engineering Design 101 is a one-week design-communication program intended to help you build a strong academic foundation before school begins. The curriculum helps build confidence and skill in the engineering design and communication requirements of first-year design courses.

The program includes an in-class reverse engineering project and a design challenge to practise skills such as:

- working in a team
- taking apart a device to analyze the engineering decisions that went into it
- learning to document the process in a professional manner
- reflecting upon design to determine social and environmental dimensions of engineering decisions
- making an oral presentation for a proposed design

COMPUTER PROGRAMMING$

Computer Programming is a week-long course designed to give you a sense of what to expect of your first-year courses while giving you a head start in programming basics. Since computer programming experience is not required for entry into first-year Engineering studies, students sometimes find this aspect of their coursework challenging. During this preparatory course, the instructor will create and deliver content designed for those with little or no previous computer programming experience. Topics include: sequence selection (branching), repetition (loops) and functions (sub-programs). The course also teaches algorithm creation and writing C language program code to implement algorithms.

SUCCESS 101: ACADEMIC SKILLS MINI COURSE

Discover some of the most important tools you will use throughout your academic career such as time-management and note-taking skills. Through Success 101, you'll also hear advice from professors, teaching assistants and upper-year students about academic expectations.

In addition to learning successful study strategies, you'll meet fellow first-year students and develop friendships before your first class in September.

TOPICS COVERED IN SUCCESS 101:

- classroom procedures
- effective note-taking skills
- tips for students who commute
- getting ready for residence life
- problem solving for academic success
- time-management skills
- communicating effectively during course group work

ENGINEERING STUDY SKILLS WORKSHOPS

If you don't have time to attend Success 101, these two evening workshops are for you. We will cover important topics that will help you study and manage your time effectively. You'll also gain valuable tips and strategies to help you have a successful academic transition when you come to U of T Engineering.

SEMINAR TOPICS INCLUDE:

- time-management skills
- effective reading and note-taking strategies

ORIENTATION PROGRAMS FOR INTERNATIONAL STUDENTS

In August, we will offer opportunities and programs to help international students get to know one another while exploring the City of Toronto and the St. George campus. This is a great way to meet your future classmates and U of T Engineering staff. See page 17 for more information.

10

GET TO KNOW U OF T ENGINEERING AND TORONTO

To make you feel comfortable and familiar with your new environment, we have several programs and events to help you explore U of T Engineering, the St. George campus and the City of Toronto. Information about our orientation programs, events and dates will be posted in early July at www.undergrad.engineering.utoronto.ca

ACADEMIC ORIENTATION SESSIONS

AUGUST

The First Year Office offers summer academic orientation sessions designed to give you a brief overview of what to expect in first year.

We will discuss all the things you probably have questions about: how your schedule works, where to get a locker, where to find services/information, and so much more. You will also learn success strategies unique to engineering students and understand what resources exist to help you prepare for September.

These sessions will take place in August and are free to attend.

Please visit www.undergrad.engineering.utoronto.ca in June for information on how to register for an orientation session.

DEAN'S WELCOME RECEPTION & PARENTS' NIGHT

AUGUST 29

The Dean's Welcome Reception and Parents' Night is designed to help your parents appreciate that you are entering a safe, caring and intellectually exciting environment. Your parents will feel more comfortable knowing what lies ahead, and they will learn what it takes to ensure your successful academic career.

STUDENT ORIENTATION WEEK

Also known as F!rosh Week, Student Orientation Week is your opportunity to participate in a wide variety of social and academic events organized by the Engineering Society, the student government for engineering students.

With the purchase of a F!rosh kit, you will receive access to all events, great food and some cool swag. All first-year students who wish to participate will have the opportunity to sign up and purchase a F!rosh kit online starting in August. You'll also receive a yearbook and a ticket to Skule Nite, a hilarious live show produced by engineering students. Stay tuned for more information about this amazing week, and please note that attendance is optional.

CITY OF TORONTO

The City of Toronto is the cultural, entertainment and financial hub of Canada. You may already know that Toronto is home to the world's longest street (Yonge Street is 1,896 km in length), but did you know that Toronto is as far south as the French Riviera or that more people live in Toronto than in Canada's four Atlantic provinces combined?

Home to more than 100 cultures, Toronto is truly a world within a city. With a population of 5.5 million, Toronto is the fifth largest city in North America and one of the safest. A 2012 study by PWC (PricewaterhouseCoopers) ranked Toronto as the third best city of opportunity in the world, with top marks for cultural vibrancy, quality of life, clean air, as well as sports and leisure.

Get out and explore Toronto on foot or by transit. For transit schedules and maps, please visit www.ttc.ca.

KEY DATES

AUGUST 23	Last day to pay or defer your fees
SEPTEMBER 2	Orientation begins
SEPTEMBER 5	Classes begin
DECEMBER 4	Last day of fall classes
DECEMBER 6–20	Examination period
DECEMBER 23	U of T closed for holidays
JANUARY 6	Classes resume
FEBRUARY 17–21	Reading Week (no classes)
APRIL 10	End of classes
APRIL 14–29	Final examination period

YOUR **FIRST YEAR**

STEPS AT A GLANCE:

1. CHECK YOUR TIMETABLE
2. TAKE PART IN FRIDAY SEMINARS
3. PARTICIPATE IN THE DEAN'S TOWN HALL MEETINGS
4. CONNECT WITH RESOURCES
5. ATTEND CLASS
6. KEEP UP WITH YOUR COURSEWORK
7. PREPARE FOR EXAMS
8. PLAN FOR YOUR UPPER YEARS

1

CHECK YOUR TIMETABLE

Your timetable will be available online through ROSI in early August. You are responsible for knowing your class schedule and attending all scheduled lectures, practicals (labs) and tutorials. Your classes will usually be scheduled between 9 a.m. and 8 p.m., and you will have about 30 hours of class per week. You should invest some time in understanding your timetable.

I HAVE BACK-TO-BACK CLASSES IN DIFFERENT BUILDINGS. CAN I GET FROM ONE TO THE OTHER ON TIME?

Yes! Your professor will wait until 10 minutes past the hour to begin lecturing to give you enough time to travel between classes. We call this buffer "U of T time."

MY TIMETABLE LISTS THREE ROOMS FOR MY PRACTICAL — AM I SUPPOSED TO GO TO ALL OF THEM?

No. Your instructor will assign you to one of those rooms during the first week of classes.

2

TAKE PART IN FRIDAY SEMINARS

U of T Engineering hosts innovative and optional lunchtime seminars on Fridays at noon to give students a chance to learn from the experiences of guest presenters, including researchers, student club representatives, alumni and student service representatives.

These Friday seminars are a great way to learn about leadership development and opportunities after graduation, in addition to how to study more effectively as an undergraduate.

Some of last year's topics included:

- Studying abroad
- Combining an engineering degree with an MBA
- Gaining work experience over the summer

3

PARTICIPATE IN THE DEAN'S TOWN HALL MEETINGS

U of T Engineering also hosts Dean's Town Hall meetings a few times a year. This is an excellent opportunity to hear from U of T Engineering's Dean, Cristina Amon, as well as academic leaders and student leaders about upcoming developments that impact students. It's also a great opportunity to pose questions and share perspectives.

4

CONNECT WITH RESOURCES

ENGINEERING COMMUNICATION CENTRE

The Engineering Communication Centre operates a program that will help improve your written and oral communication by offering additional credit and non-credit courses as well as one-on-one appointments. The centre has a rich set of online resources for all students to use. These resources can be used in conjunction with writing instruction provided in courses and through the centre. The Engineering Communication Centre is located in room B670 of the Sandford Fleming Building basement.

For more information, email writing@ecf.utoronto.ca or visit uoft.me/engcommsprogram.

TUTOR EXCHANGE

Sometimes getting additional one-on-one assistance from a tutor can help you truly understand course material. Your teaching assistants are a good resource to find a tutor.

For more information, please visit tutors.skule.ca.

ACCESSIBILITY SERVICES FOR STUDENTS WITH DISABILITIES

If you have special needs, it is very important that you discuss your needs as early as possible with Accessibility Services in order to have appropriate accommodations put in place.

For more information, please visit www.accessibility.utoronto.ca

MATH AID OFFICE

If you find you are struggling with calculus or algebra, U of T Engineering has a drop-in math help centre, located in room 149 of the Galbraith Building. The Math Aid Office is specifically geared toward helping first-year students.

MENTORSHIP OPPORTUNITIES IN ENGINEERING

U of T Engineering offers a variety of mentorship and coaching opportunities for undergraduates, including:

— Skule Mentorship Program

— TrackOne Community

Kindly check with your department for coaching and mentorship opportunities as well.

TRANSITION RESOURCES FOR INTERNATIONAL STUDENTS

We have developed a number of resources for incoming international students and/or students who are new to Canada.

— Receive updates through our International Student Transition Facebook page. This is a great way to find out what to expect when you arrive in Canada and get advice from upper year students.

— Participate in our First Year Foundations summer courses, including Success 101 and our Academic Orientation Sessions. Here, you'll learn about time management, study skills, classroom etiquette and much more. If you are unable to attend in person, you may participate in select courses online throughout the summer. See page 12 for more information.

— International Student Orientation and Meet & Greet. Attend our orientation events (late August and early September) geared specifically toward international students, new permanent residents and Canadian citizens who have been living abroad.

All international students must visit the First Year Office in GB 170 to meet their counsellor for a one-on-one appointment as early as possible upon arriving in Canada. Please contact the First Year Office firstyear@ecf.utoronto.ca to discuss scheduling an appointment or for online advising options.

EMBEDDED COUNSELLORS

Engineering students can take advantage of the services of experts from around the university who provide specialized counselling in the following areas during the academic year:

— International Student Transition Counselling

— Health and Wellness Counselling

— Learning Skills Strategy Sessions

Interested students can connect with these counsellors through the First Year Office.

5

ATTEND CLASS

Classes begin on **September 5**. For information about the starting days for tutorials and practicals, please visit www.undergrad.engineering.utoronto.ca. If you are not sure where buildings are located, you can view a detailed campus map at map.utoronto.ca.

WHAT SHOULD I EXPECT IN MY COURSES?

You can expect your studies to take about 50 to 60 hours per week. This includes attending classes, doing problem sets and preparing for quizzes. Each of your courses may also involve writing a variety of reports and completing assignments. You will have midterm exams that will let you know just how well you understand the material.

HOW CAN I FIND OUT MORE ABOUT MY COURSES?

On the following pages, you'll find brief descriptions of first-year courses. Please refer to the fall 2013 and winter 2014 tables to see which first-year courses you will be taking in your program.

Each course runs for four months and has a final exam or assignment at the end. Your classes will take place in buildings within the Engineering Complex, all within a few minutes of each other.

Each of your courses can include up to three components:

- **Lectures** are typically three hours per week (usually divided into two or three meetings per week, with the exception of seminar courses) which are taught by distinguished faculty members.
- **Tutorials** allow you to ask questions in a more informal and interactive atmosphere. Tutorials are at least one hour in length, and are led by a teaching assistant (TA) who is pursuing graduate studies within U of T Engineering. Tutorials are usually limited to about 30 students.
- **Practicals** (often referred to as "labs") allow for group work or work in partners, depending on the nature of the course. Some courses include a two- or three-hour practical every other week.

For more detailed information on your courses, upper-year courses and academic policies, please refer to the Academic Calendar online at www.undergrad.engineering.utoronto.ca.

FALL 2013 COURSES

CHEMICAL ENGINEERING	CIVIL OR LASSONDE MINERAL ENGINEERING	COMPUTER OR ELECTRICAL ENGINEERING	MECHANICAL OR INDUSTRIAL ENGINEERING	MATERIALS ENGINEERING	GENERAL FIRST YEAR (TRACKONE)	ENGINEERING SCIENCE
APS111 Engineering Strategies & Practice I	APS111 Engineering Strategies & Practice I	APS111 Engineering Strategies & Practice I	APS111 Engineering Strategies & Practice I	APS111 Engineering Strategies & Practice I	APS111 Engineering Strategies & Practice I	ESC101 Praxis I
CIV100 Mechanics	CIV100 Mechanics	CIV100 Mechanics	CIV100 Mechanics	CIV100 Mechanics	CIV100 Mechanics	CIV102 Structures & Materials
MAT186 Calculus I	MAT186 Calculus I	MAT196 Calculus A	MAT186 Calculus I	MAT186 Calculus I	MAT196 Calculus A	MAT194 Calculus I
MAT188 Linear Algebra	MAT188 Linear Algebra	MAT188 Linear Algebra	MAT188 Linear Algebra	MAT188 Linear Algebra	MAT188 Linear Algebra	CSC 180 Computer Programming
CHE112 Physical Chemistry	CHE112 Physical Chemistry	APS105 Computer Fundamentals	MSE101 Intro to Materials Science	MSE101 Intro to Materials Science	APS105 Computer Fundamentals	ESC103 Engineering Mathematics & Computation
APS150 Ethics in Engineering	APS150 Ethics in Engineering	APS150 Ethics in Engineering	APS150 Ethics in Engineering	APS150 Ethics in Engineering	APS150 Ethics in Engineering	PHY180 Classical Mechanics
		ECE101 Intro to Electrical & Computer Engineering				

WINTER 2014 COURSES

CHEMICAL ENGINEERING	CIVIL OR LASSONDE MINERAL ENGINEERING	COMPUTER OR ELECTRICAL ENGINEERING	MECHANICAL OR INDUSTRIAL ENGINEERING	MATERIALS ENGINEERING	GENERAL FIRST YEAR (TRACKONE)	ENGINEERING SCIENCE
APS112 Engineering Strategies & Practice II	APS112 Engineering Strategies & Practice II	APS112 Engineering Strategies & Practice II	APS112 Engineering Strategies & Practice II	APS112 Engineering Strategies & Practice II	APS112 Engineering Strategies & Practice II	ESC102 Praxis II
APS106 Fundamentals of Computer Programming	APS106 Fundamentals of Computer Programming	APS104 Intro to Materials & Chemistry	APS106 Fundamentals of Computer Programming	APS106 Fundamentals of Computer Programming	APS104 Intro to Materials & Chemistry	MSE 160 Molecules & Materials
MAT187 Calculus II	MAT187 Calculus II	MAT197 Calculus B	MAT187 Calculus II	MAT187 Calculus II	MAT197 Calculus B	MAT195 Calculus II
MSE101 I Intro to Materials Science	MSE101 Intro to Materials Science	MIE100 Dynamics	MIE100 Dynamics	CHE112 Physical Chemistry	MIE100 Dynamics	MAT185 Linear Algebra
CHE113 Concepts in Chemical Engineering	CME185 Earth Systems Engineering	ECE110 Electrical Fundamentals	ECE110 Electrical Fundamentals	ECE110 Electrical Fundamentals	ECE110 Electrical Fundamentals	ECE159 Fundamentals of Electric Circuits
			MIE191 Intro to Mechanical & Industrial Engineering		APS191 Intro to Engineering	CSC190 Computer Algorithms & Data Structures

APS104 INTRODUCTION TO MATERIALS & CHEMISTRY

This is an introductory course in materials science and physical chemistry. Topics include: fundamentals of atomic structure, the nature of bonding, crystal structure and defects, the laws of chemical thermodynamics (including a discussion of enthalpy and entropy), reaction equilibrium and phase equilibria.
These basic principles provide the foundation for an exploration of structure-property relationships in metals, ceramics, and polymers, with an emphasis on mechanical properties.

APS105 COMPUTER FUNDAMENTALS

An introduction to computer systems and problem solving using computers. Topics include: the representation of information, programming techniques, programming style, basic loop structures, functions, arrays, strings, pointer-based data structures and searching and sorting algorithms. The laboratories reinforce the lecture topics and develops essential programming skills.

APS106 FUNDAMENTALS OF COMPUTER PROGRAMMING

An introduction to computer systems and software. Topics include the representation of information, algorithms, programming languages, operating systems and software engineering. Emphasis is on the design of algorithms and their implementation in software. Students will develop a competency in the C programming language and will be introduced to the C++ programming language. Laboratory exercises will explore the concepts of both structure-based and object-oriented programming using examples drawn from mathematics and engineering applications.

APS111 ENGINEERING STRATEGIES & PRACTICE I

This course introduces and provides a framework for the design process, problem solving and project management. Students are introduced to communication as an integral component of engineering practice. The course is a vehicle for understanding problem solving and developing communications skills. This first course in the two Engineering Strategies & Practice course sequence introduces students to the process of engineering design, reverse engineering as a design methodology, and to design for human factors, society and the environment. Students will write a technical report and an essay and give presentations within a discussion group.

APS112 ENGINEERING STRATEGIES & PRACTICE II

This course introduces and provides a framework for the design process, problem solving and project management. Students are introduced to communication as an integral component of engineering practice. The course is a vehicle for understanding problem solving and developing communications skills. Building on the first course, this second course in the two Engineering Strategies & Practice course sequence introduces students to project management and to design problem definition. Students work in teams on a term-length design project. Students will write a series of technical reports and give a team-based design project presentation.

APS150 ETHICS IN ENGINEERING

An introduction to professional ethics and the Academic Code of Conduct. Topics include: the theory of ethics, professional code of ethics, ethics in profession, proper use of intellectual property in the professional and academic settings, plagiarism, the Academic Code of Conduct and application of ethics in practice.

APS191 INTRODUCTION TO ENGINEERING

This is a seminar series that will preview the core fields in engineering. Each seminar will highlight one of the major areas of engineering. The format will vary and may include application examples, challenges, case studies and career opportunities. The purpose of the seminar series is to provide first-year students with some understanding of the various options within the Faculty to enable them to make educated choices for second year. This course will be offered on a credit/no credit basis.

CHE112 PHYSICAL CHEMISTRY

A course in physical chemistry. Topics discussed include systems and their states, stoichiometry, the properties of gases, the laws of chemical thermodynamics (calculations involving internal energy, enthalpy, free energy and entropy), phase equilibrium, chemical equilibrium, ionic equilibrium, acids and bases, solutions, colligative properties, electrochemistry and corrosion.

CHE113 CONCEPTS IN CHEMICAL ENGINEERING

Chemical engineers are employed in extremely diverse fields ranging from medicine to plastics manufacture to the financial industry. This course introduces students to the core chemical engineering competencies of process principles, transport processes, informatics and chemical engineering science. The competencies are presented in the context of the Department of Chemical Engineering & Applied Chemistry's clustered research areas of biomolecular and biomedical engineering, bioprocess engineering, engineering informatics, environmental science and engineering, advanced inorganic molecular systems, pulp and paper, surface and interface engineering, polymers and polymer processing and sustainable energy. Laboratories will reinforce the core chemical engineering concepts.

CIV100 MECHANICS

The principles of statics are applied to composition and resolution of forces, moments and couples. The equilibrium states of structures are examined. Throughout, the free body diagram concept is emphasized. Vector algebra is used where it is most useful, and stress blocks are introduced. Shear force diagrams, bending moment diagrams and stress-strain relationships for materials are discussed. Stress and deformation in axially loaded members and flexural members (beams) are also covered.

CIV102 STRUCTURES & MATERIALS: AN INTRODUCTION TO ENGINEERING DESIGN

An introduction to the art and science of designing structures. Topics include: 1) material bodies that sustain or resist force, work, energy, stress and strain; 2) the properties of engineering materials (strength, stiffness, ductility); 3) simple structural elements; 4) engineering beam theory; 5) stability of columns; 6) the practical problems which constrain the design of structures such as bridges, towers, pressure vessels, dams, ships, aircraft, bicycles, birds and trees; and 7) design methods aimed at producing safe, functional, efficient and elegant structures.

CME185 EARTH SYSTEMS ENGINEERING

This course introduces students to the basic earth sciences with an emphasis on understanding the impact of humans on the natural earth systems. Beginning with a study of the lithosphere, principles of physical geology will be examined including the evolution and internal structure of the earth, dynamic processes that affect the earth, formation of minerals and rocks and soil, ore bodies and fossil-energy sources. Next, the biosphere will be studied, including the basic concepts of ecology, including systems ecology and biogeochemical cycles. The influence of humans and the built environment on these natural systems will also be examined with a view to identifying more sustainable engineering practices. Finally, students will cover the oceans and the atmosphere and the physical, chemical and thermodynamic processes involved in climate change.

CSC180 INTRODUCTION TO COMPUTER PROGRAMMING

This is the first of two courses that introduces students to programming and computational thinking, and prepares them for additional study across a breadth of programming fields. Students will learn to use the Python programming language to design and implement computational solutions to problems drawn from their 1F courses, with specific focus on algorithms, data structures, problem decomposition, and the use of programming paradigms appropriate to the problems being solved. Specifically, this course aims to have students work with and understand profiling and runtime analysis, searching and sorting algorithms and the use of recursion.

CSC190 COMPUTER ALGORITHMS & DATA STRUCTURES

This is the second of two courses that introduces students to programming and computational thinking, and prepares them for additional study across a breadth of programming fields. Students will learn to use the C programming language to design and implement computational solutions to problems drawn from their 1S courses, and will explore new programming paradigms, algorithm design techniques, and data structures appropriate to these challenges. Specifically, this course aims to have students work with and understand linked lists, stacks, queues, trees, heaps, hashing, pointers (including function pointers) and arrays, data types and bit operations, and dynamic memory management.

ECE101 INTRODUCTION TO ELECTRICAL & COMPUTER ENGINEERING

This is a seminar series that will introduce first-year students to the wealth of subjects within the field of electrical and computer engineering. Instructors will be drawn from the various research groups within the department. This course will be offered on a credit/no-credit basis.

ECE110 ELECTRICAL FUNDAMENTALS

An overview of the physics of electricity and magnetism: Coulomb's law, Gauss' law, Ampere's law, Faraday's law. Physics of capacitors, resistors and inductors. An introduction to circuit analysis: resistive circuits, nodal and mesh analysis, 1st order RC and RL transient response and sinusoidal steady-state analysis.

ECE159 FUNDAMENTALS OF ELECTRIC CIRCUITS

Topics include: DC linear circuit elements; DC linear circuit analysis; Kirchhoff's Laws and superposition; Thevenin and Norton equivalents; nodal analysis; operational amplifier; transient response of linear circuits; sinusoidal steady state analysis; phasors; power in AC circuits; frequency response; and resonance phenomena.

ESC101 PRAXIS I

Engineering Science Praxis I supports the term's course content through design and communication. Students will participate in a weekly design studio, conducting individual and group activities in design and both oral and written communication.

ESC102 PRAXIS II

A studio-based, service learning course in which students work in small teams to identify and then design solutions for a contemporary issue situated within the Greater Toronto Area. The Design component of the course introduces formal design techniques such as framing, requirements gathering and codification, processes and heuristics, planning and multi-criteria decision making. The Communication component introduces communicative genres such as Requests for Proposals (RFPs), brochures, posters and oral presentations. Material from concurrent courses is integrated through targeted activities and expectations in the Design and Communication components.

ESC103 ENGINEERING MATHEMATICS & COMPUTATION

This course is designed to introduce students to mathematics in an engineering context, while exposing students to computational techniques. Topics include: vectors, lines and planes; 3-D visualization; matrices and transformations; matrix inverses, eigenvalues and determinants; solving linear systems; curve fitting and least squares; numerical integration and numerical solutions to differential equations. Course content is complemented with the use of MATLAB computational software.

MAT185 LINEAR ALGEBRA

Topics include: linear systems, matrix algebra, Rn as a vector space, a normed space and an inner-product space, linear transformations on Rn, eigenvalues, applications to circuits, mechanics and an introduction to computer methods.

MAT186 CALCULUS I

Topics include: limits, differentiation, maximum and minimum problems, definite and indefinite integrals, application of integration in geometry, mechanics and other engineering problems.

MAT187 CALCULUS II

Topics include: techniques of integration, an introduction to differential equations, vector differentiation, partial differentiation, series and application to mechanics and other engineering problems.

MAT188 LINEAR ALGEBRA

This course covers systems of linear equations, matrices, determinants, vectors, lines and planes in three dimensions, Rn, vector spaces, eigenvalues and eigenvectors as well as an introduction to products and applications.

MAT194 CALCULUS I

Topics include: theory and applications of differential and integral calculus, limits, basic theorems and elementary functions.

MAT195 CALCULUS II

An introduction to differential equations, techniques of integration, improper integrals, sequences, series, Taylor's theorem, as well as an introduction to functions of several variables and partial derivatives.

MAT196 CALCULUS A

Topics include: limits and continuity, differentiation, maximum and minimum problems, definite and indefinite integrals, application of integration to geometry, mechanics and other engineering problems as well as an introduction to first order differential equations.

MAT197 CALCULUS B

Topics include: techniques of integration, introduction to second order differential equations, sequences and series, vector-valued functions, functions of several variables, partial differentiation and applications to mechanics and other engineering problems.

MIE100 DYNAMICS

This course on Newtonian mechanics considers the interactions which influence 2-D, curvilinear motion. These interactions are described in terms of the concepts of force, work, momentum and energy. Initially the focus is on the kinematics and kinetics of particles. Then, the kinematics and kinetics of systems of particles and solid bodies are examined. Finally, simple harmonic motion is discussed. The occurrence of dynamic motion in natural systems, such as planetary motion, is emphasized. Applications to engineered systems are also introduced.

MIE191 INTRODUCTION TO MECHANICAL & INDUSTRIAL ENGINEERING

This is a seminar series that will preview the core fields in Mechanical and Industrial Engineering. Each seminar will be given by a professional in one of the major areas in MIE. The format will vary and may include application examples, challenges, case studies and career opportunities. The purpose of the seminar series is to provide first-year students with some understanding of the various options within the Department to enable them to make educated choices for second year. This course will be offered on a credit/no credit basis.

MSE101 INTRODUCTION TO MATERIALS SCIENCE

This is an introductory course in materials science examining the fundamentals of atomic structure, the nature of bonding in materials, crystal structure and defects, and phase equilibria. These basic principles provide the foundation for an exploration of structure-property relationships in metals, ceramics and polymers, with emphasis on mechanical properties. The properties of materials then form the basis for an introduction to materials selection in design.

MSE160 MOLECULES & MATERIALS

This course will cover both the fundamentals and applications of molecular chemistry as it relates to the properties of materials. Fundamental topics will include: 1) the design of chemical structures and their relationship to optical and electronic properties; 2) the chemistry and physics of covalent and non-covalent bonding; 3) the relationship of atomic bonding to molecular geometry and local symmetry; 4) crystal structures of extended solids; and 5) extension of these principles to electronic structure, elasticity, and vector and tensor descriptions of materials properties. Applications to diverse areas of engineering will be discussed.

PHY180 CLASSICAL MECHANICS (PHYSICS I)

Mechanics forms the basic background for the understanding of physics. This course on Classical, or Newtonian mechanics, considers the interactions which influence motion. These interactions are described in terms of the concepts of force, momentum and energy. Initially the focus is on the mechanics of a single particle, considering its motion in a particular frame of reference, and transformations between reference frames. Then the dynamics of systems of particles is examined.

WANT TO KNOW MORE ABOUT YOUR UPPER-YEAR ENGINEERING COURSES?

The Academic Calendar provides all the background you'll need to move successfully from year to year of your engineering program. You can view the Academic Calendar online:

www.undergrad.engineering.utoronto.ca

6

KEEP UP WITH YOUR COURSEWORK

The U of T Engineering curriculum is challenging and demanding. Even if you were at the top of your class in high school, you might find that you need to work harder to get good grades at university. It is common for student averages in first year to drop 10 to 20% from high school. In many cases, grades drop because students need to develop a new set of learning skills when they come to university.

There are many services across campus and within U of T Engineering to help you develop the skills you need to succeed. Remember that academic advising and counselling are available from the First Year Office (see page 3). We can tell you about your options and provide helpful solutions. You can also request an appointment through **Vanessa Andres**, First Year Assistant (see page 3 for contact information), ask questions or visit www.undergrad.engineering.utoronto.ca for information.

WHAT CAN I DO IF I FIND IT TOO HARD TO KEEP UP WITH ALL MY COURSES?

There are many resources available to help you develop new learning strategies and effective study habits. Your First Year counsellor can help you understand if you need further assistance, and in what areas. They can also tell you if a reduced course load is an option.

As a way to help you transition to the challenges of university-level study, the First Year Office monitors midterm grades. If we suspect a student might be struggling, we invite them in for a one-on-one session to discuss study skills, resources and other strategies.

The First Year Office can also refer students to a number of embedded counsellors including a Learning Skills Strategist, Health and Wellness Counsellor and International Student Advisor.

WHAT HAPPENS IF I MISS A QUIZ OR LAB OR MIDTERM?

Sometimes unfortunate things happen—illness, accidents and family emergencies. In cases like these, you should complete a Petition for Course Work form, available for download on our website: uoft.me/petitions.

When submitting a petition, you should complete and submit the form to the appropriate professor within a week of the academic event you missed (or upon your return to class), along with supporting documentation (only U of T Verification of Student Illness or Injury forms will be accepted for personal illness). You should also consult with the professor to discuss the appropriate accommodation for the missed graded work. If you are not sure whether a petition is an option in your situation or what documentation to provide, consult with the First Year Counsellor.

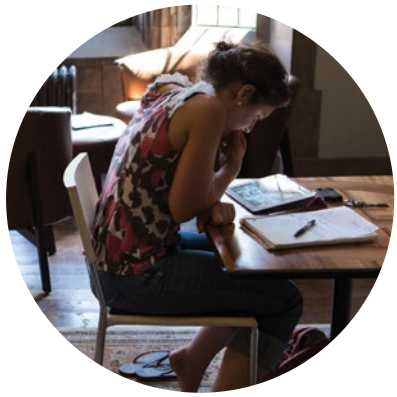
We typically do not offer make-up exams or quizzes.

Please note that if you have a disability, it is best to speak with the First Year Counsellor before classes begin. You may be eligible for certain accommodations.

7

PREPARE FOR EXAMS

At the end of each session, you will write exams in most of your courses. You are expected to be in Toronto for the entire examination period, so if you need to make advanced travel plans, do not plan on leaving before December 23 for the winter break, and check carefully before making plans for the summer break.



You will write your exams in formal examination conditions. Remember to bring your TCard and an approved calculator (if applicable). In some courses, you will be permitted to bring an aid sheet to the exam; your professor will distribute them in class.

WHAT IF SOMETHING HAPPENS DURING THE EXAMINATION PERIOD THAT AFFECTS MY EXAM PERFORMANCE?

If you think that your final mark has been negatively affected because you were sick, got into an accident or had a serious family emergency, you can complete an Exam Petition. Petition forms are available online (uoft.me/petitions) and must be submitted within one week of your last exam. Proper documentation is required. Only U of T Verification of Student Illness or Injury forms will be accepted for personal illness. Talk to the First Year Counsellor for further details.

WHAT HAPPENS IF I DON'T DO SO WELL IN THE FALL SESSION?

Even some of the best and brightest students can have a poor first term — especially while you are adjusting to your new environment. If, despite your best efforts, you fail a course or two (less than 50% or have a sessional average below 60%), there is a way to catch up so you can finish your first year successfully. It's called the T-Program.
See page 27 for more information.

I GET REALLY NERVOUS AROUND EXAM TIME. WHAT SHOULD I DO?

You are not alone! The Academic Success Centre (214 College Street) offers workshops on Exam Anxiety throughout the year. If you already know this is an issue for you, sign up early and when you are not too busy studying.

TIPS FROM THE FIRST YEAR OFFICE

— Review lecture notes right after class. This way, if you have problems with some of the material, you can seek help immediately.

— Practise solving lots of problems — even the ones that may not have been assigned.

— Form a study group. This is a great way to share your understanding.

— Use a day planner to set study goals. Stick to your study goals and reward yourself when you've accomplished them.

— Take breaks during study sessions. Try to avoid 'all-nighters.' The more tired you get, the more difficult it is to think clearly.

8

PLAN FOR YOUR UPPER YEARS

Minors

In addition to the areas of specialization offered through the Core Programs, U of T Engineering also offers the opportunity to study one of five minors:

BIOENGINEERING MINOR

Engineering and biology intersect in a variety of significant ways. Students interested in a career in industries such as pharmaceuticals, healthcare delivery, agriculture and more, have an opportunity to explore — and prepare for — these fields with a Bioengineering minor. Those choosing this minor will engage in a range of research areas, such as bioprocess engineering, environmental microbiology, biomaterials, tissue engineering, bioelectricity, systems biology, biomedical imaging, biomechanical engineering, nanotechnology related to medicine and the environment, as well as engineering design for human interfaces.

ENGINEERING BUSINESS MINOR

Students eager to make a valuable connection with the business field can pursue a unique-in-Canada Engineering Business minor, a collaborative effort between U of T Engineering and the Rotman School of Management. It is designed specifically for students interested in learning more about the business dimension of engineering, from finance and economics to management and leadership. Courses cover wealth production and creation, accounting, research and development, management, economics and entrepreneurship, all within a global context.

ENVIRONMENTAL ENGINEERING MINOR

Engineers are known for imagining and creating solutions to adverse global issues. And none is greater today than that of the state of our environment. With an Environmental Engineering minor, students have an opportunity to specialize in this very important and increasingly relevant field of study. This minor touches on topics such as ecology and ecological impacts, waste management, water and wastewater treatment, environmental microbiology, water resources engineering, hydrology, preventive engineering, life cycle analysis, design for the environment and the social and environmental impacts of technology.

ROBOTICS & MECHATRONICS MINOR

A collaboration between The Edward S. Rogers Sr. Department of Electrical & Computer Engineering, the Department of Mechanical & Industrial Engineering, the University of Toronto Institute for Aerospace Studies and the Institute for Biomaterials & Biomedical Engineering, the Robotics & Mechatronics minor gives students the opportunity to explore fundamental enabling technologies that render robotic and mechatronic systems and nanotechnology, advanced techniques for signal processing and systems control, and new system-level principles underlying embedded systems.

SUSTAINABLE ENERGY MINOR

Future engineers will be called upon to preserve our planet. The need for greener, more sustainable energy resources is critical — as is the need for more engineering expertise in sustainability. Students passionate about sustaining our planet will get to learn about energy, its sustainable use, energy demand management and public policy relating to sustainability. Our definition of sustainable energy is broad, reaching all areas of energy use, production, distribution, transmission, storage and development.

Certificates

U of T Engineering offers certificates in six areas to help you tailor your degree. To learn more about these opportunities, please visit: www.minors.engineering.utoronto.ca.

ENGINEERING CERTIFICATES:

- Engineering Business
- Entrepreneurship
- Global Engineering
- Mineral Resources
- Nuclear Engineering
- Preventative Engineering & Social Development

Majors in Engineering Science

For Engineering Science students, there are eight majors available. For more information, please visit: www.engsci.utoronto.ca

ENGINEERING SCIENCE MAJORS:

- Aerospace Engineering
- Biomedical Systems Engineering
- Electrical & Computer Engineering
- Energy Systems Engineering
- Engineering Mathematics, Statistics & Finance
- Engineering Physics
- Infrastructure Engineering
- Nanoengineering

Moving From General First Year (TrackOne) Into Second Year

TrackOne students can move into the following eight Core Programs:

— Chemical Engineering
— Civil Engineering
— Computer Engineering
— Electrical Engineering
— Industrial Engineering
— Lassonde Mineral Engineering
— Materials Engineering
— Mechanical Engineering

HOW CAN I DETERMINE WHICH PROGRAM I WANT TO TRANSFER INTO AFTER TRACKONE?

General First Year (TrackOne) courses will give you exposure to many areas of engineering while preparing you with the foundations needed to continue in any of the Core Programs. We offer special TrackOne seminars in the winter term to help you preview the core fields in engineering. Each seminar highlights one of the major areas of engineering with examples of research and an overview of career opportunities.

Your other courses will also give you the opportunity to learn more about different disciplines within engineering. For example, in your Engineering Strategies & Practice courses, you will work with students from other programs at U of T Engineering to understand how all the disciplines come together. You can also meet with the First Year Office to discuss your options and help you narrow down your decision (see page 3 for contact information).

HOW WILL I TRANSFER FROM TRACKONE TO ONE OF THE EIGHT CORE PROGRAMS AT THE END OF FIRST YEAR?

At the end of May, you will need to decide which of the Core Programs you want to transfer into for the next three years. You will move smoothly into second year without having to take any additional courses, regardless of which Core Program you choose. To transfer into a Core Program from TrackOne, you will need to be in good academic standing (60% in both sessions). If you are not in good academic standing, you may transfer into a Core Program that has space.

Entrepreneurial Opportunities

In addition to the Entrepreneurship certificate, U of T Engineering recently launched **The Entrepreneurship Hatchery**, a hothouse for the best ideas of entrepreneurial undergraduate engineers. This initiative allows you to meet other business-minded engineering students and run your ideas through a panel of mentors and seasoned entrepreneurs. If your idea is promising, your mentors will help you take your idea to the next stage, and possibly beyond. Learn more at: hatchery.engineering.utoronto.ca.

Internship & Exchange Opportunities

PROFESSIONAL EXPERIENCE YEAR INTERNSHIP PROGRAM

Many universities offer traditional co-op programs, which help students gain repeated exposure to the work world through a number of short placements. We do it differently at U of T — it's called the Professional Experience Year (PEY). PEY is an optional 12-to-16 month internship opportunity, where students have responsibilities for large-scale projects, often helping to manage large budgets and teams. More than 50% of Engineering students choose to participate in PEY — mostly after second or third year.

With placements across Ontario, Canada, United States, Asia and Europe, you will also have the opportunity to gain global work experience. For more information, please visit www.pey.utoronto.ca.

ENGINEERING SUMMER INTERNSHIP PROGRAM (ESIP)

This is another great way to gain paid, engineering-related work experience. eSIP allows you to work for four months during the summer of second or third year. Last year, more than 150 students worked on a wide range of projects involving everything from software and hardware development to city transportation design. eSIP is a great way to gain professional experience in a short timeframe. For more information, please visit www.engineeringcareers.utoronto.ca.

INTERNATIONAL EXCHANGE

Graduate with a truly global engineering degree and gain an understanding of different cultures, values and lifestyles by participating in summer research opportunities abroad or participating in a student exchange program for one term or a full year. U of T Engineering students can select from more than 160 institutions in 40 countries. For more information, please visit: uoft.me/engexchange.

PRACTICAL EXPERIENCE REQUIREMENT

All U of T Engineering programs are fully accredited. But what does that mean for you?

Graduating from an accredited engineering program means that you can choose to get your Professional Engineering (PEng) designation. In order to qualify as a PEng, Professional Engineers of Ontario stipulates that candidates must demonstrate sound knowledge in engineering and significant practical engineering experience.

As one of the requirements of graduation, all U of T Engineering students must complete 600 hours of practical experience (this equates to roughly one summer of full-time employment). Many students fulfil their 600 hours by participating in PEY, but there are many ways to complete this requirement, including volunteer work.

APPENDIX

TRANSFERRING WITHIN ENGINEERING

Options for Engineering Science Students

DO I HAVE THE OPTION OF TRANSFERRING OUT OF ENGINEERING SCIENCE FOR THE FALL SESSION?

As a newly admitted first-year Engineering Science student, you have the option to transfer to any Core Program of your choice until **September 20**.

WHAT IF I WANT TO TRANSFER AFTER THE FALL SESSION?

If your fall session average is 60% or greater, you may transfer into a Core Program of your choice. If your session average is between 55% and 60%, you may conditionally transfer to a Core Program of your choice. If your average is between 45% and 55%, you will have to transfer out of Engineering Science into a program with space. To transfer, you need to submit an online Request to Transfer Application that is available on the Engineering Portal: www.uoft.me/apscportal.

WHAT ABOUT TRANSFERRING AT THE END OF FIRST YEAR?

Transfers after first year are also possible, and may be necessary if your average is less than 65%. If your winter session average is above 55%, you can transfer to any Core Program of your choice. If your average is between 50% and 55%, you will be required to transfer into a program with space. To transfer, you need to submit an online Request to Transfer Application that is available on the Engineering Portal: www.uoft.me/apscportal.

Options for Students in the Core Programs

DO I HAVE TO STAY IN THE PROGRAM I WAS ADMITTED TO?

If after completing your first year in one of the Core Programs you want to transfer to another program within U of T Engineering, submit an online Request to Transfer Application (available on the Engineering Portal: www.uoft.me/apscportal) by **May 16, 2014**. You will be asked to rank the program(s) you want to be considered for. We make decisions on transfer requests after winter session grades are available.

IS MY TRANSFER GUARANTEED?

We make decisions based on students' averages and space availability. If you have at least 80% in both your fall and winter sessions in first year, you are guaranteed your transfer to any other U of T Engineering program except Engineering Science. Engineering Science has extremely high academic requirements, so those requests are handled individually. With less than an 80% average in both your fall and winter sessions, you will be eligible to transfer to a program with available space. Please note that it is often difficult to transfer into certain programs because of enrolment limits. Transfers between Mechanical and Industrial Engineering are allowed if admitted directly to either of these programs in the fall.

THE T-PROGRAM

The Transition Program, or T-Program, allows students who fall behind in the fall session of first year to immediately address their problem areas. The program has been a great success in helping many students quickly catch up to their classmates.

If you are in the T-Program, you will be able to repeat up to three fall session courses in the winter session. If eligible, you can redistribute your workload by deferring some first-year courses to the summer session (May and June). You then return to regular classes in second year without losing any time in the four-year schedule for your Engineering degree.

HOW DO I KNOW IF I'M ELIGIBLE FOR THE T-PROGRAM?

If you have failed one or more of your courses (less than 50%) and your session average is less than 60%, you will meet with a First Year Counsellor in January to discuss your options, and whether you are eligible for the program.

WHAT IF I FAIL A COURSE BUT MY AVERAGE IS ABOVE 59.5%?

You need to repeat any courses you fail immediately in the winter session and defer the same number of courses to the summer. The First Year Counsellor will help you in setting up your new timetable.

WHAT IF MY AVERAGE IS LESS THAN 49.5%?

You will have failed the session and you will be required to withdraw from U of T Engineering.

WHAT IF I AM DOING VERY POORLY IN ONE OF MY COURSES DURING THE FALL?

You may have the option of dropping a course and deferring one course to the summer. Talk to the First Year Counsellor to find out if this is available and advisable.

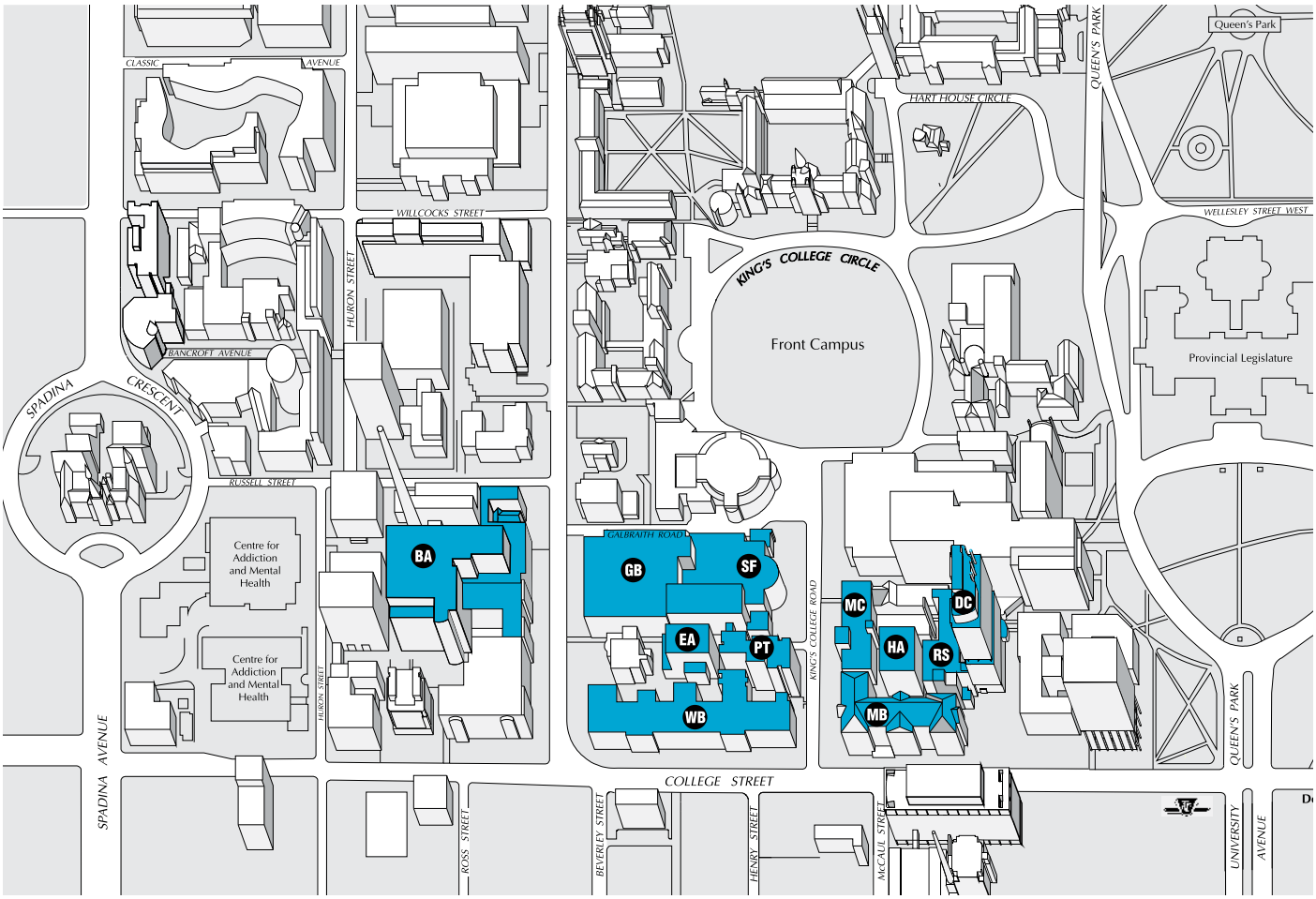
In any of these cases, you need to visit the First Year Office as soon as possible to determine your next course of action.

U OF T **SERVICES AND SUPPORT AT A GLANCE**

Academic Success Centre	214 College Street 416-978-7970 mail.asc@utoronto.ca www.asc.utoronto.ca	Offers consultation to improve or enhance learning skills, lectures and workshops on time-management strategies and study practices, reference materials for overcoming learning obstacles and provides spaces for group study.
Accessibility Services for Students	Robarts Library Main Floor 130 St. George Street 416-978-8060 accessibility.services@utoronto.ca www.accessibility.utoronto.ca	Facilitates the inclusion of students with disabilities into all aspects of university life, with a focus on skills development, areas of self-advocacy and academic skills. Services include alternate test-taking arrangements, note-taking accommodation, sign language interpreters, adaptive equipment and more.
Athletic Centre	55 Harbord Street 416-978-3437 www.physical.utoronto.ca	Houses multiple gymnasia, three swimming pools, squash, tennis and basketball courts, dance studio, gymnastics gym, eight-lane 200-metre indoor track, strength and conditioning centre, cardio machines, spinning room, fencing facilities, sport medicine clinic and golf cage.
Career Centre	Koffler Student Services Centre Main Floor 214 College Street 416-978-8000 careercentre@mail.careers.utoronto.ca www.careers.utoronto.ca	Provides in-house workshops and seminars, mock interviews, resume clinics, counselling and special events.
Centre for International Experience	Cumberland House 33 St. George Street 416-978-2564 cie.information@utoronto.ca www.cie.utoronto.ca	Offers special services for international students, including pre-arrival information, reception service, orientation events, English language program, newsletter, personal counselling and advice on non-academic concerns.
Counselling & Psychological Services (CAPS)	Koffler Student Services Centre Main Floor 214 College Street 416-978-8070 www.caps.utoronto.ca	Counselling for personal concerns such as anxiety, depression, relationship problems, prolonged stress and emotional trauma.
Family Care Office	Koffler Student Services Centre Main Floor 214 College Street 416-978-0951 family.care@utoronto.ca www.familycare.utoronto.ca	Provides information, guidance and referral services to students requiring child care, elder care and assistance with other family matters.
First Nations House	563 Spadina Avenue 3rd Floor 416-978-8227 fnh.info@utoronto.ca www.fnh.utoronto.ca	Provides a number of culturally supportive student services and programs to Aboriginal students and the general University community, including academic and financial aid counselling, resource centre, Elder-in-Residence and much more.

Hart House	7 Hart House Circle 416-978-2452 www.harthouse.utoronto.ca	Provides students with the chance to develop their interests in music, art, literature, debates, athletics and recreational activities ranging from photography to scuba diving.
Health Services	Koffler Student Services Centre 2nd Floor 214 College Street 416-978-8030 www.healthservice.utoronto.ca	Confidential, student-centered health care, including medical care, travel education, immunization, counselling and referrals. Comprehensive sexual health care and counselling is also available.
Housing Services	Koffler Student Services Centre 2nd Floor 214 College Street 416-978-8045 housing.services@utoronto.ca www.housing.utoronto.ca	Serves as a year-round source of up-to-date residence information to assist students in locating and arranging suitable housing.
Sexual & Gender Diversity Office	21 Sussex Ave. Suite 417 416-946-5624 www.sgdo.utoronto.ca	Dedicated to making U of T a community that celebrates the sexual and gender diversity of its students, staff and faculty and offers a wide range of supports and programs.
Student Accounts Office	215 Huron Street, 3rd Floor 416-978-2142 info.studentaccount@utoronto.ca www.fees.utoronto.ca	Responsible for academic fees collection for the University of Toronto. Tuition invoices are sent from this office, and fees enquires may be directed here.
Student Life Programs & Services	Koffler Student Services 214 College Street 416-946-7135 student.life@utoronto.ca www.studentlife.utoronto.ca	Committed to ensuring that students are educated in the broadest sense of the word. Student life programs are geared to the development of civic involvement, respect and leadership skills.
U of T Campus Community Police	**Emergency: 911** **Campus Police Urgent: 416-978-2222** communitypolice@utoronto.ca www.campuspolice.utoronto.ca	Provides preventive patrol and response (among many other services) 365 days a year, 7 days a week, 24 hours a day.
U of T Students' Union	12 Hart House Circle 416-978-4911 www.utsu.ca	Administers health and dental plans, sells discounted TTC (public transit) passes, holds income tax clinics and more.
WalkSmart Service	416-978-SAFE (7233) www.campuspolice.utoronto.ca/safety/walksmart.htm	Provides a safe and reliable on-campus escort to students, staff, faculty and visitors after dark. The service enables people to travel between one campus location to another, with a sense of security.

U OF T **ENGINEERING BUILDINGS**



BA	Bahen Centre for Information Technology	**HA**	Haultain Building
GB	Galbraith Building	**DC**	Donnelly Centre for Cellular and Biomolecular Research (CCBR)
WB	Wallberg Building	**RS**	Rosebrugh Building
EA	Engineering Annex / Electro-Metallurgy Lab Building (South Side)	**MB**	Lassonde Mining Building
PT	D.L. Pratt Building	**MC**	Mechanical Engineering Building
SF	Sandford Fleming Building		

UNIVERSITY OF TORONTO | Engineering

Office of the Registrar

Galbraith Building
Room 157 – 35 St. George Street
Toronto, Ontario, Canada M5S 1A4

Web: **www.undergrad.engineering.utoronto.ca**
Email: **registrar@ecf.utoronto.ca**
Phone: **416-978-5896**
Twitter: **@uofteng_registr**
Vimeo: **www.vimeo.com/uoftengineering**

FSC logo
— Placed by printer —