RERRY'S CHEMICAL ENGINEERS' HANDBOOK

SECOND EDITION



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1 Introduction – Letter from the Editors

Hey, you!

Congratulations! You're in one of the most difficult programs to get into at McGill. While that may be the reason you applied, realize that the next four (or five, quite often) years of your life are going to be much harder than getting into McGill ChemEng itself.

We're here to hopefully make it a little bit easier for you, with this unofficial guide to McGill ChemEng made by students.

First, we would like to preface this guidebook with a public service announcement. Chemical Engineering at McGill is quite the lifestyle choice. This program has been notorious for 2.8 average GPAs and boasts among the highest number of degree credit requirements at McGill. If you wanted an easy pass or if you thought your laziness in high school will help you get through a degree, ensure that you study hard to get a high GPA in your first year so that you can transfer out of the program. Be here for the right reasons.

One of the favorite quotes floating around our building is "ChemEng doesn't get easier you get better". You will come out of the program having been exposed to the foundational technical skills you need for industry, but if it is what you want, chemical engineering can be so much more. It will give you a challenge, force you into being more efficient and productive, help you learn proper study habits, and teach you the importance of making connections.

From meeting a family of 340-some people who truly, viscerally understand your struggles in your major, to getting involved in the numerous clubs available to you, the McGill experience can be a fantastic one. As a university student, you now get privileges, like being able to leave a class without asking the professor, being able to eat ice cream for breakfast without getting yelled at, and even better, being able to take opportunities that you couldn't get elsewhere. McGill can be whatever you make it, so make it good.

Welcome to McGill ChemEng. We hope you enjoy your stay.

Yours sincerely,

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2 Academics

Introduction - What do you study in ChemEng?

One of the most common misconceptions about Chemical Engineering is that it is mostly chemistry. While chemistry is an important element, Chemical Engineering largely focuses on the processes and energy transfer associated with creating new products. Our ChemEng department at McGill describes it as follows:

"Chemical engineers are NOT chemists, they are "process and systems engineers" also involved with chemistry -- to a degree. It takes a chemical engineer to produce by the ton what perhaps a chemist developed in a test tube: plastics, chemicals, rubber, gasoline, pharmaceuticals, paper, fertilizers, etc."

The curriculum is designed to expose students to a variety of topics and give us the problem solving and design skills we will need in the workforce! As such, you should expect a lot of math, physics, and chemistry, as well as some elements of biology. Towards the end of your degree, your courses will begin to focus on design and problem solving where you apply your knowledge to come up with creative and efficient solutions.

This is by no means an easy degree, but keep in mind that a degree in Chemical Engineering will open up many doors in your future and allow you to work in practically any field that interests you. It may also help you appreciate the unnoticed work that chemical engineers do to make daily life easier for people!

Course Selection

The first step in starting the school year is selecting your courses. If you are a new student, course selection will open in the summer. If you are a current student, course selection opens at the end of winter semester. When you register for courses, it is important to know that you *register for the fall and winter semesters at the same time*.

Every year McGill comes out with a new undergraduate handbook that details the requirements for that entering year (i.e. what classes you need to take). Handbooks for each year <u>can be found here</u>.

Your most useful document is your curriculum, which can be found somewhere in the middle of the handbook. Your curriculum will give you an idea of what classes you need to take and when. It is possible to not follow it exactly, and this will be discussed later. A snapshot is shown below:

Chem	ical Engineering Curriculu	m - Fall 201	16	
enem		1 41 20		Non-CEGEP Entry
1st Term (F	all)	18 credits	Prerequisites/Co-requisites	
CHEM 110	General Chemistry 1	4	P - College level mathematics and	physics or permission of instructor
FACC 100	Introduction to the Engineering Profession	1	•	
MATH 133	Linear Algebra and Geometry	3	P - A course in functions	
MATH 140	Calculus 1	3	P - High school calculus	
PHYS 131	Mechanics and Waves	4	C - Calculus course [MATH 140]	
CS	Complementary Studies Group B (HSSML) - 1*	3	-	
2nd Term (V	Winter)	18 credits	Prerequisites/Co-requisites	
CHEM 120	General Chemistry 2	4	P - College level mathematics and	physics or permission of instructor
MATH 141	Calculus 2	4	P - MATH 140	
PHYS 142	Electromagnetism and Optics	4	P - PHYS 131 / C - MATH 141	
CS	Complementary Studies Group A (Impact)*	3	-	
CS	Complementary Studies Group B (HSSML) - 2*	3	-	
3rd Term (F	all)	17 credits	Prerequisites/Co-requisites	
CHEE 200	Chemical Engineering Principles 1	3	-	
CHEE 231	Data Analysis and Design of Experiments	3	C - CHEE 291	
CHEE 291	Instrumentation and Measurement 1	4	-	
CHEM 212	Introductory Organic Chemistry 1	4	P - CHEM 110 / C - CHEM 120	
MATH 262	Intermediate Calculus	3	P - MATH 133, MATH 141	
4th Term (V	Vinter)	18 credits	Prerequisites/Co-requisites	
CHEE 204	Chemical Engineering Principles 2	3	P - CHEE 200	
CHEE 220	Chemical Engineering Thermodynamics	3	P - CHEE 200 / C - MATH 262	
CHEM 234	Topics in Organic Chemistry	3	P - CHEM 212	
COMP 208	Computers in Engineering	3	P - differential and integral calculus C: linear algebra [MATH 133]	[MATH 140 and MATH 141] /
MATH 263	Ordinary Differential Equations for Engineers	3	C - MATH 262	
CHEE XXX	Technical Complementary	3		

Figure 1. Curriculum snapshot! This is an example of a curriculum that a student who entered in Fall 2016 and did not come from a CEGEP school would follow.

BE CAREFUL WHEN LOOKING FOR YOUR CURRICULUM. The requirements for students coming from CEGEP are different.

Let's break down some of the specifics, using CHEE 220 as an example.

4th Term (Winter)		18 credits	Prerequisites/Co-requisites	
CHEE 204	Chemical Engineering Principles 2	3	P. CHEE 200	
CHEE 220	Chemical Engineering Thermodynamics	3	P - CHEE 200 / C - MATH 262	
GHEW 234	ropics in Organic Chemistry	3	F - UNEWIZIZ	
COMP 208	Computers in Engineering	3	P - differential and integral calculus [MATH 140 and MATH 141] /	
			C: linear algebra [MATH 133]	
MATH 263	Ordinary Differential Equations for Engineers	3	C - MATH 262	
CHEE xxx	Technical Complementary	3	•	

CHEE 220 (aka thermo) is a 3 credit course offered in the winter. *The vast majority of CHEE courses are only offered in EITHER fall or winter and NOT BOTH.*

This means that if you decide to retake a course, take up an internship, go on exchange, or take time off of Uni, you may be set back by an entire year.

"P – CHEE 200" means that CHEE 200 is a prerequisite and you *cannot* register for thermo unless you have already taken CHEE 200. "C – MATH 262" means that MATH 262 is a co-requisite. This means that you can either take MATH 262 sometime before thermo or at the same time. Keep in mind that you may have to be smart about how you register for courses; Minerva might not let you register for CHEE 220 unless you are registered for MATH 262 first.

One other thing you might have noticed is that the curriculum will typically expect you to take 18 credit semesters. *18 credits are the maximum amount of credits you can take per semester at McGill*. Because of the extremely heavy course load, most students opt to take an extra semester, extra year, or otherwise shift classes around. <u>Only about 10% of students are able to follow the curriculum as is, so there is no shame in needing to take extra time to focus on your academics, extra-curriculars, relationships, and mental health.</u>

<u>Tips on Schedule Shuffling</u>

Most courses are only offered in either Fall or Winter, making a complete change of schedule impossible. However, some courses are easy to move around since they are always offered. There are shown below:

Courses Generally Offered in Both Semesters

-	MATH 133	-	FAC	<mark>C 300</mark>	
-	MATH 140	-	FAC	C 400	
-	MATH 141	-	MAT	<mark>H 262</mark>	
-	CHEM 212		MAT	<mark>H 263</mark>	
-	CHEM 234	-	MAT	<mark>H 264</mark>	
-	COMP 208		CHE	E 494/495	(Technical
-	FACC 100		Com	plementary	r)
-	FACC 250				

WARNING: Although these courses may be offered both semesters, they may actually conflict with some CHEE courses due to the time slot they are in.

ALWAYS CHECK VSB (Virtual Schedule Builder) BEFORE REGISTERING. This will also become important when you are choosing complementary courses.

Courses on the list above that are highlighted are also often available as spring or summer courses. Spring & summer semesters are a great option to free up your schedule later on. These semesters are only one to one-and-a-half months long and usually involve just one class at a time.

Complementary Courses

The most amount of freedom you are given in your degree is with your complementary courses. There are *three different types:* Group A Complementary Studies, Group B Complementary Studies, and Technical Complementary Courses.

Pro Tip: Some complementary courses can be taken as Pass/Fail courses. This means that they still count towards your degree, but do not factor into your GPA and only count as a pass or a fail. This can be useful in order to reduce some of the pressures associated with courses you that are interested in, but that may intimidate you. You must register for these courses as Pass/Fail on Minerva, and it is best to check with an advisor before you do this to make sure the course will still count!

Group A Complementary (3 Credits)

Since this group is only 3 credits, this means that there is only one class you have to take. There is a list of courses that are approved for your Group A (aka Impact of Technology on Society) Complementary, which is also found in the undergraduate handbook.

Easiest courses: GEOG 200, GEOG 203, GEOG 205, RELG 270

Students Usually Avoid: PHIL 343, SOCI 312

Group B Complementary (3 or 6 Credits)

These are meant to be more general humanities courses and as such you have a lot more options as to what you can take. The class(es) needed to fulfill this requirement can basically be taken at any point in your degree. Again, consult the undergraduate handbook to be sure that the course you are planning to take counts towards this requirement!

Recommended: MATH 338, CLAS 203, MGCR 222, BUSA 465, ECON 208, RELG 207

Note: For the entering class of 2020 and later, you only need to take 1 Group B Complementary class. For everyone else, 2 classes are required if you're coming from CEGEP and 1 if not.

Technical Complementary Courses (9 Credits)

Tech Comps are a bit different than regular complementary courses because not only are they within the faculty of engineering but they also require more pre-reqs, making them difficult to take in your first or second year. Additionally, most courses are offered in the winter and not the fall so scheduling can quickly become a nightmare!

Much like the Group A Complementary, there is a list of approved tech comps in the undergraduate handbook. Tech Comps are broken up into three categories: List A, List B, and List C (not to be confused with the non-tech comp Group A and Group B courses, I know this quickly gets confusing). You can choose courses from a combination of categories, but no matter what **you must take at least one course from List A**.

Recommended: CHEE 301, CHEE 543, CHEE 541, CHEE 591

Reviews of Technical Complimentaries

Below is a compilation of student feedback on some tech comps:

CHEE 301 (Resource Recovery from Waste)

Prof: Sylvain Coulombe
Overall Quality: 4.75/5
Difficulty: 2/5
Workload: 2.5/5
Comments: Highly recommended by everybody who's taken it. Not only is it easy in terms of evaluation (mostly group presentations and reports), but the topics are highly relevant, and it is taught by a very passionate professor who made going to class fun. Quizzes can be a little tricky at times, but they aren't worth much.
Has a final?: No

MIME 320 (Extraction of Energy Resources)

Prof: Ferri Hassani **Overall Quality:** 3/5 **Difficulty:** 2.3/5 **Workload:** 3.3/5

Comments: The lectures are 2-3 hours on various methods of resource extraction; can be a bit heavy at times. The course mainly focuses on coal and oil and not much clean energy, so if that doesn't interest you this course may not be right for you. The workload isn't too heavy, but it's dense in information and you'll need to work a bit. The assignments are essentially using the find tool for the PowerPoint slides. The report and presentation are worth 30%, so you'll need a strong group as it's very time consuming. **Has a final?:** Yes

MIME 350 (Extractive Metallurgical Engineering) (one entry)

Prof: Alexandros Charitos **Overall Quality:** 5/5 **Difficulty:** 4/5 **Workload:** 4/5 **Comments:** A big portion

Comments: A big portion of it is thermodynamic and materials science knowledge, and the rest is systematic calculations as in CHEE 200/204 and Separations. It's a very useful course if you're interested in the mining industry, and you learn about alumina calcination, iron blast furnace, copper smelting, and a little bit about aluminum electrolysis with a fantastic professor. **Has a final?:** Unknown

CHEE 591 (Environmental Bioremediation)

Prof: Laleh Yerushalmi **Overall Quality:** 3.5/5 **Difficulty:** 3/5 **Workload:** 3.5/5 **Comments:** Course content isn't too difficult and is generally interesting, however it involves lots of memorization. Answers to exam questions sometimes don't come from the notes so it's highly recommended to go to class. Very helpful (but not necessary) to take it with or after CHEE 474, but a lot of students take it earlier since it has no prereqs. **Has a final?:** Yes

MECH 534 (Air Pollution Engineering)

Prof: David Frost Overall Quality: 3/5 Difficulty: 2/5 Workload: 2/5

Comments: Fairly easy to get an A as the quizzes/assignments aren't too difficult and 25% of your grade is from participation. Class can be a bit unengaging, but the professor is super chill and the course content is interesting. Instead of a final exam you have a presentation on a topic of your choice given during a poster session.

Has a final?: No

SEAD 540 (Industrial Ecology and Systems)

Prof: Stephanie Leclerc **Overall Quality:** 4/5 **Difficulty:** 3/5 **Workload:** 4/5

Comments: More of a humanities class than an engineering one, so expect LOTS of readings (up to 30 pages a week). It's also a small class, so be ready to participate in class discussions. If you're passionate about sustainability you'll enjoy the class, otherwise you should probably avoid this one. Has only been offered once at the time of writing this (summer 2020) so things might change.

Has a final?: No

CIVE 323 (Hydrology and Water Resources)

Prof: Mary Kang Overall Quality: 4/5 Difficulty: 3/5 Workload: 4/5

Comments: Not an easy A, get to learn a lot on topics other than chem eng. Content itself is not hard. Heavy workload. Half the course is plug-and-chug, other half is math/theory/proofs heavy. Lots of assignment/midterm/final questions are re-used. Speculated to have oral exams when classes are online.

Has a final?: Yes, crib-sheet allowed

CHEE 563 (Biofluids and Cardiovascular Mechanics)

Prof: Richard Leask **Overall Quality:** 3.5/5 **Difficulty:** 5/5 **Workload:** 2.5/5

Comments: Challenging material. Interesting intro to cardiovascular systems and mechanics. Good choice for interest in the biomedical field. Easy grading. However, tricky material. **Has a final?:** Don't know

BIEN 550 (Biomolecular Devices)

Prof: Adam Hendricks

Overall Quality: 5/5

Difficulty: 2/5 Workload: 2/5

Comments: Very nice prof, easy marker. Interesting classes. Participation marks. 1 group presentation, 2 problem sets, 1 final project. Easy A. Content is nothing like chem eng, more like high school biology classes.

Has a final?: No

CHEE 587 (Chemical Processing: Electronics Industry)

Prof: Dimitrios Berk **Overall Quality:** 3.33/5 **Difficulty:** 3/5 **Workload:** 3.33 /5 **Comments:** The following data comes from when the class was online. Amount of class work is small but still second half of the course was more work than first. Readings help learning and understanding the material. Very microelectronics based. **Has a final ?** Final replaced by group project in Summer 2020

CHEE 494 (Research Project and Seminar 1)

Prof: Any CHEE prof
Overall Quality: 5/5
Difficulty: 2.33/5
Workload: 3.33/5
Comments: Kind of intro to 'grad school', do research in a group, learn how to write a paper and experiments in the lab. Every prof and every research project is different.
Has a final ? No, it's a final report at the end

CHEE **582** (Polymer Science & Engineering)

Prof: Milan Maric **Overall Quality:** 5/5 **Difficulty:** 3/5 **Workload:** 3/5 **Comments:** Prof very generous with deadlines and grades **Has a final ?** Yes (online semester)

CHEE 541 (Electrochemical Engineering)

Prof: Sasha Omanovic
Overall Quality: 4/5
Difficulty: 3/5
Workload: 2.75/5
Comments: Extension of CHEE310, very much based on it. Presentation and report at the end of semester not difficult. Notes are posted. Very interesting group research project topics.
Has a final ? No, but a report and presentation

With Tech Comps especially, be sure to check online if the course is being offered that semester, as some of the courses on the list in the handbook have not been offered in years!!! <u>Also check out Reddit</u>. A lot of upper years have posted about what classes have been easy/hard for them and what certain classes are like, and you'd be surprised how much info you can find there!

<u>Minors</u>

Another way you can ~spice up your degree~ is by adding a minor. A minor allows you to not only build your CV but to also explore an interest or provide classes to help fill in an extra semester/year.

Choose a minor wisely – it may not always be a benefit if you do not plan on pursuing that career path. For example, a minor in Computer Science can be highly valuable in many prospective careers. A minor in nanotechnology (only an example), on the other hand, is very niche and may not be worth spending the extra semester of work unless you are certain about your interests.

Classic ChemEng minors include Biotechnology, Nanotechnology, Environment and Biomedical Engineering. A few people also opt to take Computer Science or Management minors. More information for each minor and its specific requirements can be found on the <u>McGill website</u>.

In order to declare a minor, you need to register for it on Minerva. Some students also choose to temporarily register in a minor so that they can gain access to a course they want to take, and then drop the minor upon completion of the course.

Typically, minors will require between 18 and 24 credits to complete. However, 6-12 credits of these credits can be overlapped with existing degree requirements (i.e. tech coms) and thus you can complete a minor and only have to take a few extra classes. It is always best to get in contact with the advisor assigned to your specific minor of interest to clear up all the requirements!

Virtual Schedule Builder (VSB)

The most useful tool you will come across in creating your schedule is the McGill Virtual Schedule Builder (VSB). <u>You can find it here</u>.

VSB works as follows:

- 1. Select a term (Either winter or fall)
- 2. Enter classes
- 3. See what works

A snapshot of a VSB U1 Fall schedule is shown below:

 Print schedule Create Share Link Add to Favourites 	Generate	ed Resu f 24 📕	llts	Sort	preference Include V Full	schedules o classes (•	v containing:)
CHEE 200 Chem Engineering Princ	iples 1	8 00	Mon	Tue	Wed	Thu	Fri
Lec 001 CRN:28881	Downtown 3.0 Credits	9 00	CHEE 200 Lec	CHEM 212 Lec	CHEE 200 Lec	CHEM 212 Lec	CHEE 200
Seats: 59	Berk, Dimitrios	10 00	CHEE 231 Lec	CHEE 291 Lec	CHEE 231 Lec	CHEE 291 Lec	Tut
CRN:28882 Seats: 59	Downtown STBIO N2/2	12 ^{pm}	MATH 262 Tut				
CHEE 231 Data Anal & Design of E	Sep 3 - Dec 5	1 00					
Lec 001 CRN:28883 Seats: 47	Downtown 3.0 Credits WONG 1020 Leask, Bichard L	2 °°	CHEE 291				CHEE 231
Tut 002 CRN:28884 Seats: 47	Downtown RPHYS 112	4 00	Lab	MAȚH 262		MATH 262	Tuc
CHEE 291 Instrumentation&Measu	Sep 3 - Dec 5 rement 1	5 °°		Lec		Lec	
Lec 001 CRN:28885 Seats: 60	Downtown 4.0 Credits SADB 2/36 Dorval Courchesne, Noémie-Manuelle		Sep Chem Engir	Oct	t les 1	Nov	Dec
Lab 002 CRN:28886 Seats: 14	Downtown ENGMC 10		Data Anal 8 Instrument Intro Organ	Design of Exp ation&Measure IC Chemistry 1	ement 1		
CHEM 212	500.2 - Doo 5		Intermedia	te Calculus			

Figure 2. Schedule generated by VSB. Look at those colors!

In VSB you can see what time your classes occur, whether or not they are full, and what building they are scheduled to be in. VSB also automatically gives you the *CRN numbers* for each course, which you can input into the "Quick Add/Drop" section of Minerva.

Pro Tip: get the McGill chrome add-in feature to copy-paste ALL your CRNs with 1 click!

VSB will show you all your available options and you can play around with times until your preferred schedule is generated. Keep in mind that CHEE courses will only occur at one time and that if they happen at 8:30 am there will be no other option [⊕].

Another schedule builder that is available for use is SIMVO. This was developed by McGill students and is meant to aid you in long term planning. However, it is often very buggy and may not have all the correct information, but it can be helpful in visualizing your long term options in fulfilling all your degree requirements! <u>SIMVO can be found here.</u> (Note: As of 2019 SIMVO has been down and will be inaccessible for an indeterminable period of time, but may return in the future!)

Course Authorization

After all this, what happens if I still can't register for a course?

Certain errors on Minerva can be resolved by requesting a Course Authorization form. These include but are not limited to program restrictions and credit overrides. To resolve this, go to the MESC office (located in FDA Room 22) and ask for a Course Authorization form. From there they will guide you in the appropriate direction and tell you how to fill out the form and who might need to sign it. This is usually a speedy process.

Resources to ACE Your Courses

You've successfully registered – yay! Now what? It's important to know what resources are available to you in order to maximize your own learning.

Resource 1: Coursepacks

Every semester, your friends at ChESS sell coursepacks for certain courses. Coursepacks are a bound collection of old midterms, finals, tutorials and practice problems for a particular class. Oftentimes these come with worked solutions and provide you with extra practice that your Prof might not have given you. They typically sell for \$15, and can be bought from anyone who is a member of council in the common room (WONG 1130). Contact your U Rep (see Council Section of this book) if you have specific questions about where/when to get a Coursepack.

Resource 2: Your Friends and Classmates

Forming a study group is a cheesy but overlooked resource! Different peoples' perspectives can be incredibly useful in trying to understand a difficult concept. Also, you can either ask for help or solidify your own knowledge by helping others. Do not be afraid to reach out to your classmates, as most will be struggling as much as you are! Reach out to your class representative as well to see if there are any organized study groups, and join the Facebook group for your year to stay informed about tips and tricks others may have learned.

Resource 3: Office Hours

Both your TAs and profs will hold office hours throughout the year. These will be listed on your syllabus, along with the room number for these offices. Office hours are your chance to ask questions or for clarifications that might be too in depth to ask after class. TA office hours are generally less busy and can be useful in that you can get explanations that are in a different style than how your professor would explain it. Your profs, however, will be your most valuable resource for any questions about your courses. Make sure to attend class!

Resource 4: Tutorials

A lot of people skip tutorials. We won't lie to you here – depending on the TA teaching the tutorial, they can either be lifesaving or absolutely useless. Be sure to attend at least the first three tutorials of a class to get a feel for them, as they will be useful in providing practice problems, worked examples, and potentially tips for assignments or exams that were not mentioned in class.

Resource 5: EPTS

EPTS (Engineering Peer Tutoring Service) is a FREE tutoring service where upper year students hold drop-in office hours for help with various U0 and U1 courses (even CHEE

courses!). EPTS will also occasionally run review sessions for certain courses. You can find them in FDA 6B.

Resource 6: FRezCa

FRezCa (First Year Residence Cafeteria Tutorials) is a free service where drop in hours are held for first year science and math courses so that students can ask for general help or for help on assignment questions. Originally held in RVC, FRezCa was recently relocated to Schulich Library, but since the library is closing (as of 2019), it is best to <u>check their website</u> for what courses they will be offering help with and where!

Resource 7: ChESS Review Sessions

ChESS (aka your student council) will often organize free review sessions for certain classes before a midterm or a final. These are a great resource, especially during exams. Keep an eye out on ChESS Facebook page, your year's Facebook page, and for information given during in class announcements to find out when they happen!

Resource 8: ChESS Academy Now

In addition to running review sessions <u>ChESS has a YouTube channel</u> with worked through problems.

You can find help for problems in CHEE 200, CHEE 220, CHEE 315, and potentially more classes in the future!

Resource 9: The Internet

If all else fails, Google it! Some general tips/helpful websites can be found below:

Math:

- Yahoo! Answers will often have WebWork problems
- Paul's Online Math Notes

ChemEng:

- <u>ChESS Website</u> (more useful links than listed here, we've compiled a list!)
- <u>LearnChemE</u>
- <u>DIPPR</u>

Finals Season

Finals season is one of the roughest times during your semester, but once you are done there is no better feeling in the world! A few general tips about finals season:

- You must **always** bring your Student ID to a final!!! They always check.
- There are no classes when there are final exams. Use this time wisely!
- YOU are the only one responsible for knowing WHERE and WHEN your finals are. Not knowing this information might mean that you miss a final and fail a course.
- Some libraries have extended hours during finals and might even be open for 24 hours! Check the McGill website to find out the ~special finals season opening hours~ of each library.
- Finals are typically 3 hours in length, but can be shorter if your prof is nice. You are not allowed to leave the finals room before one hour has passed or during the last 15 minutes of your exam.
- If you are struggling with any health issues, it is possible to defer an exam and take it later in the year. <u>More information on exam deferral can be found here</u>.

Final Exam Locations

Fun fact: your exams don't actually happen in your normal classrooms or even in the room you took your midterm in. Exams usually take place in the Main Gym, Fieldhouse, or Bleachers. All of these locations are in the general McGill Gym building, shown in the map below. Give yourself some time to get there beforehand, as there is usually a large line to get in. Once you arrive, just follow the signs to get to wherever you need to go!



Figure 3. The location of the McGill Gym (left) and the entrance (right). Just follow the signs and crowds of students!

Scholarships

Scholarships are a really good way to get some extra \$\$\$ to help you pay for your education.

The two most common scholarships McGill offers are the basic entrance scholarship and the renewable James McGill scholarship (also an entrance scholarship). All entering students have the entrance scholarship application automatically filled out for them, since it is just based on grades. This scholarship will typically be for a modest amount (\$1000-\$3000) and will only be applied for your first semester.

The James McGill scholarship has a separate application that you need to fill in on Minerva and can be renewed. Keep in mind that in order to renew this scholarship you have to keep a CGPA each year of 3.7 and above and you must take a certain amount of credits each semester.

Scholarships for current students are decided by the department and do not need any application. They are usually based on your CGPA, although extra-curricular involvement is sometimes noted.

External scholarships are also available, but you will be mostly on your own in finding these! There are some popular ones to get funding for summer research (i.e. SURE, Mitacs) but other than that it is helpful to check the weekly newsletter MESC sends out to get informed about certain opportunities.

What to Do if You Fail a Course

If you fail a course, it is NOT the end of the world (and more common than you think you are not alone!). ChemEng is a really tough degree and sometimes it can get the best of you. Below are some tips to point you in the right direction:

- Talk to your professor. It may be an option for you to retake an exam/maybe get a few extra points in somewhere, especially if you were consistently trying throughout the semester.
- Talk to your advisor. They will be able to tell you what your best course of action will be, and what your scheduling options for future semester might be.
- Do not despair! First year courses especially are also known as "weed out" courses and are designed to be very difficult to be sure that you are able to do the rest of the program. If you work hard, failing one course will not stop you from getting your degree.
- Plan ahead. Find out if you will need to stay and extra year/semester so that there are no surprises down the road.

Professors and their Personalities

In this section, you will get to know some of McGill ChemEng's most well-known professors, as experienced by students! A portion of this section's information was compiled generously with the aid of members of the Classes of 2020/21/22.

If you are ever dissatisfied with a course or want to give feedback in any way, remember to *fill out your course evaluations and stick around for when council does academic forum.* Profs read and appreciate your feedback quite a bit.



Name: Prof. Berk

Nickname: Berk

Known for: Being a little disorganized, sweet as a person, calling students out for walking in late, hating the word 'formula'

Quotes:

"The ancient Greek words for suffering and education have the same root"

"It's not called sensible heat because it's wise"

"No, do not say 'cool' in a thermodynamics course"

Tips: Don't be late to class, do textbook problems because he will often copy/paste them on exams. Textbook is your best friend for his class! CHEE 200 is often failed so try your best to put in as much work as you can into practicing/understanding the class.

Class Averages: CHEE 200 – C+ to B-



Name: Prof. Leask Nickname: Leask Known for: dileyxas (Dyslexia)

Tips: Good at explaining concepts. Go to office hours and ask all the questions you want as he will not judge you. Practice using textbook questions, since finals and midterms are usually similar. Also, believe it will be on an exam when he says "hint hint, wink wink, nudge nudge" about a specific topic!

Class Averages:

CHEE 231 – B to B+



Name: Prof. Dorval Courchesne Nickname: Dorval Known for: Being wholesome Tips: Material is straightforward, and class averages are

admittedly the exam mark scheme is a little whack sometimes).

Class Averages: CHEE 291 – B+ to A-





Name: Prof. Girard-Lauriault Nickname: PLGL Known for: Difficult exams and proofs Quotes: "The mean of the mean is the mean" "Vaporliquidequilibrium"

Tips: Practice practice practice! Exams are tough but doable if you put in the time. Memorize ALL the proofs he does in class. Do all the old exams he uploads with your friends, since he gives no answer key.

Class Averages: CHEE 220 – C+ to B-

Name: Prof. Kopyscinski
Nickname: Jan
Known for: Being very German, long exams, has the cutest pet dog
Quotes:
"Question or statement?"
"Back in my day..."
Tips: Practice lots! Exams are very long so be prepared to go quickly, material is taught in a straightforward way and your understanding really is tested. Expect no surprises but still a challenge. Pro tip: Willing to push back deadlines if 100% of the class agrees!
Class Averages:

CHEE 204 – B-CHEE 423 – B- to B



Name: Prof. Moraes Nickname: Moraes Known for: Trying new teaching methods, loves airplanes Quotes: "Right on" "Moloto" Tips: Moraes cares about his students a lot and is very helpful in office hours. Tests however can be difficult and the learning curve for fluids is quite steep so you will need

to dedicate a lot of time to this course. Instrumentation and Measurements is a very time-consuming class, so be careful when budgeting time for it.

Class Averages:

CHEE 314 – B- to B+ CHEE 491 – A- to A

Name: Prof. Kietzig Nickname: Kietzig Known for: Critical thinking

Tips: Trying to implement critical thinking in her classes, so she requests a lot of feedback. Participating and asking questions in class is what you need to do well! Also, do the readings before every class and try to understand the concepts in advance.

Class averages:

CHEE 484 – Unknown due to COVID-19



Name: Prof. Servio Nickname: Can't sit still Phil Known for: His SPEED Quotes:

"It's brain-dead easy"

Tips: CHEE 315 is the one class you CANNOT get away with skipping. Servio is a fun guy, so be sure to get on his good side. If you ask nicely, he will give you extensions for CHEE 390 projects with no point deductions. Pay attention in class because he will tell you essentially all the questions that will be on your midterms/final.

Class Averages:

CHEE 390 – A-CHEE 315 – B- to B+





Name: Prof. Seifitokaldani Nickname: Ali Known for: Being wholesome Quotes: "Esteady estate" Tips: Textbook questions are your best resource for studying for his class, and midterms/final exams are very similar to assignments. If you ask in the right way you will get exam hints ;). Class Averages: CHEE 351 – B+



Name: Prof. Omanovic Nickname: Omanovic Known for: Loving samosas Quotes:

"Don't graph, you get half"

Tips: Class is very straightforward and Omanovic will provide you with all the resources you need and more. Do as much practice as you can, especially by repeating class examples. Remember to always graph everything, as it can be more than half the marks for a question! Don't forget units to your values.

Class Averages: CHEE 310 – B to B+



Name: Prof. Peters Nickname: Peters Known for: Thinking chemical engineering is the top degree Ouotes:

"Good afternoon, VTBs"

Tips: Peters takes formatting very seriously – if your Excel sheet doesn't exactly follow his template be prepared to lose more than 20% of your grade. His midterms and final are open book, so doing all of his past assignments and bringing them in with you should be a good way to prepare.

Class Averages: CHEE 453 – B+ to A-



Name: Prof. Rey Nickname: Rey Known for: Never failing anyone who genuinely tried Quotes: "Chain, Rule" Tips: Rey's PowerPoints in CHEE 400 contain a lot of information, so don't tire yourself out by copying them. CHEE 400 quizzes are best studied for 2 hours before the quiz, as he likes to ask questions about very specific details. Class Averages: CHEE 400 – B+ CHEE 440 – B+





Name: Prof. Hoesli Nickname: Corinne Known for: Actually being a circus performer Tips: Known for very long assignments. Classes time is used for working on assignments and quizzes, and

used for working on assignments and quizzes, and lectures are watched as videos at home. Be wary of multiple-choice quizzes – often times, there are multiple answers that seem right, but the "most correct" one is the one that will get you points.

Class Averages: CHEE 474 – A-

Name: Prof. Coulombe
Nickname: Coulombe
Known for: Being surprised when people show up to his
Friday classes
Quotes:

"Ok?"

Tips: Exams are heavily based on theory instead of calculations so be sure to focus on that while studying. Very engaging in class, so don't be shy to ask questions!
Class Averages:

CHEE 455 – Unknown due to COVID-19



Name: Prof. Hill Nickname: Hill Tips: To be updated!



Name: Prof. Tufenkji Known for: New prof! Tips: As of 2020 when this guidebook was published, we do not know much about her teaching style...

Class averages of other McGill classes can be found on a <u>crowdsourced spreadsheet</u>. This, among many other useful resources such as VSB, Microsoft Outlook, and Minerva can be easily accessed on a sidebar tool tab by downloading the *McGill Enhanced chrome browser extension*. You can <u>find it here</u>. This tool is ESSENTIAL to add to your browser.

3 Student Life

Now that your academics are all set, how do you exactly *be* a chemical engineering student at McGill? We've got you covered!

Getting Involved

One major thing we would recommend is to take part in an activity within your community. This could mean joining a club or starting one, contributing on a student council or society, volunteering for a cause you're passionate about, or more.

Reasons you should get involved with your community:

1. A successful career at McGill often doesn't just consist of a 4.0 GPA! While academics play a huge role in giving you technical understanding for a chemical engineer, the soft-skills (eg. leadership, communication) that you need for your

career are often learnt through what you do outside the classroom. Your experiences will be what inform your potential employer of how you are as a person, rather than any student.

- 2. Besides giving you a CV boost, getting involved is also a clear way to try new things and learn about your likes and dislikes.
- 3. You get to meet many like-minded people who are not necessarily in your program. While not a substitute for social gatherings, you can use this as a springboard to gain friends and create a community you belong in.
- 4. Extracurriculars can be a major de-stressor. It allows you to take a well-deserved break from studying and have fun, keeping your lifestyle balanced! That said, it can end up adding to your stress if you have too much on your plate, so be sure not to take on more roles than you can handle.

<u>Fun fact #1</u>: Chemical engineering is the 5^{th} largest engineering program at McGill, with 347 undergraduates enrolled as of June 2018. We constitute 10.5% of the population of the EUS. More departmental statistics <u>here</u>.

So, where should you start?

To find activities you might be interested in pursuing, ensure that you attend *SSMU Activities Night* and *EUS Involvement Day* which both occur around the beginning of every semester! You can find event information closer to the dates on the SSMU and EUS facebook pages. They involve many different student groups - from sports to hobbies to activism - coming together to recruit new members:

- List of SSMU Clubs, Services and ISGs
- <u>List of EUS Groups</u>
 - The <u>EUS Job Board</u> allows students to find available positions within the EUS and apply for them directly.

If you are still stuck on what to join, here are a few extracurricular groups that can be quite complementary to a ChemEng degree:

- Departmental Council (see section: <u>What does Council do?</u>)
- E-Week Coordinating and participating on the ChemEng team
- EUS Junior Council
- Chem-E Car Design Team
- SEAM (Sustainability in Engineering at McGill)
- McGill Society of Petroleum Engineers
- McGill Energy Association

<u>Fun fact #2:</u> Every year towards the end of the Winter semester, the EUS hosts a Volunteer Banquet in which active members of the EUS are invited with a limited number of tickets to attend a (subsidized) dinner amongst other EUS volunteers. This is to acknowledge all the work that goes into making the EUS function the efficient way that it does.

Note: do not take this list as a recipe for what extracurricular activities you should be a part of. Your own choice of what you spend your time on, and more importantly, your passion for unique things outside of chemical engineering will be what differentiates you to a potential employer.

One common misconception is that you need to join any of the listed groups in order to participate in your community. That's one of the easiest ways, but you can get involved on many different levels - with your department and the EUS, with McGill and SSMU, with your community in Montreal, and even on an international scale. You can choose to volunteer at a homeless or women's shelter in downtown Montreal, or you can spend your time instead founding a start-up for a global movement. Do what feels right to you - even if that means doing *no* extracurricular work for a year.

Downtown Campus: All its Secrets

This is easily one of the best sections of this book. It contains a crash course of information compiled over YEARS, including:

- Important underground tunnels
- How to be a true Wong building resident
- A review of nearby study spaces and libraries
- Places for different purposes: eg. naps, microwaves, cheap food
- Deals to take advantage of

Some Places of Interest on Campus:



Hack the Wong Building

Located at 3610 Rue University, the Chemical Engineering department shares this building with the Mining and Material Engineering department. However, the M.H. Wong Building was named after an alumnus of the McGill School of Architecture. One of the distinguishing features of the building is the large staircase leading up to the main entrance, holding a keychain sculpture that represents the keys to knowledge.



Excluding tunnels, you can enter Wong building from 3 different entrances (two of which took me 2 years to realize existed):

- 1. The first entrance is the most obvious one on top of the stairs beside the aforementioned keychain sculpture and the big metal words that say 'M.H. Wong Building'.
- 2. The second is a little further up the ramp, and it's the way you get into the building during after-hours when it is locked (use your McGill ID on the grey keypad/sensor). Enter through the door underneath the ominous 'JOHN STUART FOSTER RADIATION LABORATORY AND CYCLOTRON' etching. Note that you're allowed in after-hours because of the privilege of being a chemical engineering student!
- 3. The third entrance is on the 3rd floor of Wong, on the side of Avenue Dr. Penfield. This is a helpful door if you're trying to get to Brown building or McIntyre Medical building (aka. McMed) quickly. Be warned that it is closed from the outside during late hours and weekends/holidays, and there is no keypad.

"Hello, Neighbours!" There are additional routes from Wong that do not lead you outdoors. This will be especially useful for the winter between-class shuffle. There is a basement tunnel that connects Wong building to Rutherford Physics building and Trottier building. Furthermore, you can go to the Genome and Strathcona buildings entirely indoors, from Wong 3rd floor.

Wong-Rutherford-Trottier Tunnel

- 1. Head to the basement (oth) floor of Wong using the main elevator/main staircase. The washrooms and eyewash station should be right across the elevator.
- 2. Turn *right* coming out of the main elevator, walk to the end of the hallway and enter through the blue doors. Note that this door is locked by keycard access during after-hours, and you will not be able to unlock it.
- 3. Walk through the zig-zag shaped tunnel/ramp, through the second set of doors, and into Rutherford Physics building.
- 4. Take the first *left*.
- 5. Walk all the way to the end of the hallway and go through the set of doors.
- 6. Go down either side of the ramp (it should be split into two by a metal bar).
- 7. Go through that last set of doors and you are now in the Trottier basement, close to the building's main elevators.

Wong-Genome-Strathcona Tunnel

- 1. Head to the 3rd floor of Wong using the main elevator/main staircase.
- 2. Turn *left*, quickly reaching the 4-way intersection.
- 3. Turn *right*, and head straight, walking past the chemical engineering store (which you will find to the left soon), and into the Wong loading dock right at the end of the hallway.
- 4. Continue walking straight until the end of the loading dock, where you will find a grey door on the left. Pull the door and walk through.

- 5. You are now in the Genome building at its main lobby floor. Turn *right* and walk straight into the open lobby area, where you will see (and smell) Vinh's Cafe.
- 6. To head to Strathcona, continue walking straight and turn *left* (instead of turning right to go down the staircase) at the very end of the open area.
- 7. Follow the path, past the 'Canada Economic Development' sign, past the vending machines. Go through the automatic door (with the wheelchair sticker) on the *left* at the end of the hallway.
- 8. Follow the tunnel, through the second set of doors. You are now in Strathcona.
- 9. Continue walking through the low-ceiling tunnel to reach the main staircase and entrance.

Lastly, <u>linked here is a Prezi</u> showing the access points and routes of all the other tunnels on campus, which will be especially helpful during first-year when your classes are not always in Wong.

Navigating the inside of Wong building can be a little strange. There are, to my knowledge, 3 staircases and 2 elevators. The main staircase is pictured below in Figure 4, which you will find immediately after entering through the main entrance. Down the hallway beside it and then turning right past the main staircase to the basement, you will find the main elevator. There is another staircase right beside it. The final staircase and elevator are both at very 'back' of the first floor. That elevator is reserved for lab use only (transporting chemicals and lab waste bins), but the staircase beside it is available.



Figure 4. The Wong Building! This is what you will see if you enter through the main doors.

The ChESS Common Room is on the 1st floor, to the right as you walk in from the 'Radiation Laboratory' building entrance. It's beside the Materials lounge. I highly recommend you to hang out at the common room when the doors are open, as it's a relaxing spot to study, play video games (did anyone say Mario Kart?), drink free tea/coffee (FREE!!) and meet fellow Chem Eng students.



Figure 5. ChemEng common room (left) and its entrance (right). Feel free to come in or knock!

In the lobby next to the hallway leading to the ChESS Common Room, is a <u>uPrint</u> <u>machine</u>. As a refresher, uPrint machines help students print documents at a low cost (\$0.06 per black & white page and \$0.20 per colour page), scan documents into a soft copy for free, and other services.

To print from the comfort of your own laptop, you may release your document by your McGill email to the <u>uPrint Anywhere emails</u>. Then, you must scan your McGill ID card on the machine, and the cost of printing adds your student fees later. However, if your document has specific requirements for paper, ink or size, it may be better to try printing at the CopiEUS store in McConnell. There are 2 other uPrint machines in the Wong building and more across campus. Check out <u>a list of their departmental locations</u>.

There is also a lounge area outside the Wong labs on the 1st floor, where there is at least one microwave, a large table, a sofa and a billiards table. As the area is public, it is free for anyone to use. The two areas - ChESS Common Room and the lounge area - are both excellent for taking a nap in the Wong building, depending on the time that you arrive. A single snack vending machine exists on Wong 1st floor, close to the lounge area. Beware that it may only take cash. If in stock, I recommend getting the two-bite brownies! Next to the main elevator should also be 2 drinks vending machines and 1 candy dispenser. A quick tip if you don't have cash is to use the aforementioned tunnel to go to Trottier basement (during regular hours), where there is a vending machine that takes the McGill oneCard as payment.

The administrative offices for ChemEng are on floor 3A, and for MatEng, 2A. This information will help if you are trying to book rooms like the 7th floor conference room or the 'prison' study cells/cubicles outside the Wong laboratories. You will need to go to 3A to book these rooms.

<u>Fun fact #3:</u> The office of the current department head, Vivianne Yargeau, is at the back of room 3A. She is the first female department head in all of McGill's ChemEng history!

Food

The perennial student struggle of finding food when you're pressed for time is known to many. I won't bore you with cafes that you can find with a simple Google search - below are some extra resources for where to get food near Wong or around campus that might not be as obvious or official:

- <u>The Frugal Scholar's Cheap Sheet</u> (updated 2018). One of the *most useful guides you will ever encounter*, it lists inexpensive options for food, textbooks, clothing, transportation, services and activities in Montreal. If I could plaster this resource all over McGill, I would.
- <u>The Montreal Restaurant Directory</u> (created 2017) is a Google Sheets compiled by an anonymous life-saver. This is for if you're feeling like trying something new during a long lunch break but not sure where to go. It contains restaurants/cafes/dessert places for every budget, although it is unclear how updated the information is.
- <u>Samosa sales occur every day all over campus</u> during the semester. This is linked by The Frugal Scholar above, but it is worth another mention. It is one of the weird quirks of McGill, but everyone grows to love it. The unspoken rule is 3 samosas for \$2, or 1 samosa for \$1. Pay any more and the vendors have violated the <u>Mose Commandments</u>. This is a filling vegetarian meal that, when eaten with the chutney, will warm up your cold, dead, midterm-crushed soul. Samosa sales usually go from around 11am-2pm, and are popularly located in McConnell hallway, Leacock near the elevators, Burnside basement and more.
- Sometimes, <u>free food on campus</u> is a phenomenon that occurs due to leftover from on-campus events. There are also many people who just don't like or use the groceries that they buy who are itching to give them away. Be sure to join this group and turn on all notifications so that you don't miss out, as the food naturally disappears fast!

- <u>The McConnell G-store</u> recently started to sell Vietnamese sandwiches (banh mi) for \$5. There is one vegetarian tofu option. It is perfect for grab-and-go. The G-store also sells sweet treats, cheap coffee and stationery at almost wholesale price.
- *Vinhs* (Genome building, connected to Wong building), as mentioned, also sells banh mi. Did you know they give you 1 free sandwich for every 10 you've purchased, if you use their stamp card? Make sure to go just before 11:30am or after 2pm to skip the long lines. Their second location is connected by tunnel to the RVC residence dining hall.
- <u>Fair Trade Corner</u>, located in FDA building, sells fair-trade drip coffee, tea, cricket snacks, and sometimes baked goods. They recently got a milk frother too! Unfortunately, they are still cash only, but everything is by-donation. The FTC is managed by the EUS group Engineers Without Borders.
- *Soupe Café* (Burnside basement) is a classic must-go spot for reasonably-priced hearty soups, baked goods and meals. A large vegetarian soup will cost around \$5, and hot meals are around \$7 before tax. Try their grilled cheese on a cold day!
- *Japote* (1000 Rue Sherbrooke Ouest) is a relatively underground (seriously, you need to go down the escalators to the food court) restaurant that offers delicious inexpensive Japanese rice bowls. It is family-run, and if you buy their membership card for \$1, you get 1 free medium meal for every 5. Cash only.
- Finally, *prepare your food at home*! Eating out is one of the biggest strains on a student's budget, as each meal can easily go above \$10. Meal prep for the week every Sunday, so that unit costs can go as low as \$1-2 per meal. There are many <u>microwaves on campus</u> to reheat your home-cooked food.

<u>Fun fact #4:</u> G-store's candy is 10% off on Fridays. Beside it, Frostbite's baby-sized ice cream is only \$2 on Tuesdays and if you bring your own cup, you can get 1 big scoop for \$1.50 anytime!

<u>Fun fact #5:</u> SSMU launched an app in December 2017 called SSMU Eats that showed limited-time coupons and deals for McGill students from various restaurants downtown. One offer included a free bubble tea giveaway, sparking hour-long queues! The app has since been removed from the app store for unknown reasons.

Study spots

While studying at home is the most obvious choice, many students understandably find it difficult to do so. With the well-loved Schulich library closed for at least 2 years since May 2019, it is important to know where students can study near Wong. Below is a small list of FREE favourites along with practical information about the location. If these don't work for you, try any popular café on Parc Avenue (eg. Milton B, Chai Tea Lounge) or nearer downtown (eg. Leaves Café, The Humble Lion).

Legend:	
۵_	Drinking fountain nearby
∱ Å	Washrooms nearby
¥4	Food allowed
Ψ.	Charger ports available
	Computers available
$\mathbf{\overline{X}}$	Late-night access
┫⊘ ┫ ╡ ᠉	Noise level expected

Building	Location	Facilities	Comments
	Windowsills		Can get uncomfortable.
MacDonald			Similar to McConnell hallway
	Atrium	☑ 🚮 ¥! 🕈 ৰ∑	but quieter and closer
			facilities.
	TT 11		Only edge seats have charger
McConnell	Hallway		ports. Closest washroom up 1
			Hoor. Lots of natural lighting.
	Frostbite		Very few seats.
			Closest washroom and
	Lobby	127 前本 11 🕴 📣 🔀	fountain at the end of the
			building.
	Lounge area		Billiards table and a sofa
Wong	Lounge al cu		nearby.
	First floor cubicles		Quiet, popular, good for
			approx. 4 people at a time.
	ChemEng common room		Amazing place to meet fellow
			ChemEng students who might
			help you with your
			assignment!
Burnside	Basement		No sunlight, but comfy
Burnside	Buschlent		seating.
Trottier	Upper floors	🗹 👬 椫 🗏 🔽	Can get loud and crowded.
MaCill'a Libraria		Evplore them all!	Linked is an interactive map to
MCGIII S LIDIAITIES			all 12 branches downtown.

One important resource is the <u>EUS room booking system</u>, which allows students to book rooms for group study purposes. While McConnell building rooms like Infosys and the committee room are reserved for EUS group meetings, students are free to book <u>5th floor</u> <u>rooms in Trottier</u> for group study, although preference is given to ECSESS students and each booking made using one email address can only be 2 hours long. The rooms usually fit around 8 people. Click on the top left panel on the booking system to access the Trottier room bookings.

Social Life

A lot of students like to joke that this chemical engineering program removes any chance at a social life. While not entirely true, it does admittedly get difficult to balance spending time with friends and getting good grades for such a difficult program.

Some notable departmental social events every year include the ChESS Camping Trip, Fall Banquet, Winter Gala and your semesterly U-event. You can find pictures of these events in the Council section of this guidebook.

Without getting into too much detail (there's still much for you to explore yourself!), a *few* EUS-wide events include:

- <u>Blues Pub</u>: Attend BP on Fridays from 4-9pm, the superior on-campus afterschool student bar event. Happy hour is from 4-6pm where drinks are \$0.50 off! There is also Bar des Arts in Leacock basement (Thursdays), Management's 4 à 7 in the Bronfman basement, and Education's Detention Den (every other Thursday from 4-7pm).
- <u>OAP</u>: Open Air Pub occurs twice a year in September and in April, usually held near the Y-intersection. It's just a really good time! Nothing else need be said, except that volunteers get free food!
- <u>E-week</u>: A crazy week in January where engineering departments compete against each other in various team games.
- <u>Eng Games</u>: This is an intercollegiate social event wherein McGill Engineering goes up against other universities in engineering-related competitions.
- <u>Ski trip</u>: Every year, the ski trip committee hosts a you guessed it ski trip, open to anyone in the EUS. It costs money to attend but promises a good time! Make sure to get early bird (cheaper) tickets if you are attending.
- Faculty Olympics: An annual event where 40 or so engineering students battle it out with other faculty teams in wit and drinking abilities.
- <u>MERT-W</u>: MERTW is perhaps the most popular of the engineering pub crawls. It is all department inclusive and teams can choose to walk or run between the stops, all while completing challenges along the way.
- <u>Frosh coordinating, leading, and staffing</u>: Every year, Orientation Week (O-Week) can't happen without the help of dedicated and trained volunteers on all aspects of operation all throughout summer. The Frosh theme is always revealed during the July Blues Pub (there are only a handful of BPs over the summer).

<u>Fun fact #6:</u> The 2019 Chemical Engineering E-week team earned the 'Most Improved' award, earning a narrow 4th place title overall. Will you help keep up the momentum?

Regular <u>free</u> things going on at McGill that are not to be missed include TISED's research seminars, Astro McGill's public evening lectures, Soup and Science, the McGill Farmer's Market, and more! For non-McGill-affiliated activities, you can find events almost everyday all over Montreal on Facebook, Meetups, and pop-news outlets such as MTLBlog. Students also like to discuss current affairs on the McGill subreddit or discord.

Montreal is generally quite a diverse city and it is possible to have fun in many ways without spending money. In particular, try spending a summer here as there are free festivals set up all through June-August. Part of the fun is discovering the beauty of the city yourself, so make sure to be on the look out for things that interest *you*.

One tip would be to use studying as a chance to socialize! This program demands a lot of time dedicated to studying to get good grades, so why not kill two birds with one stone? Form study groups and head to the library for some fun and productive work. Don't forget to spend some time in the common room, as it is commonplace to strike up conversations with upper years who are able to provide you with wise words, guidance and support! Just make sure not to beat them too badly at Mario Kart on your study break.

Health, Safety and Wellbeing

Ensure that you aren't sacrificing your health while you are here either. It is of vital importance to take care of your wellbeing, such as making sure burnout doesn't happen. One way to go about this is to maintain social activities as mentioned in the previous section. The chemical engineering program can sadly be known to stretch students out thin, which can be dangerous to the unprepared. Luckily, you have the below, more targeted - but not exhaustive - list of McGill-based resources. Hopefully, these should be more of a reminder than new information:

<u>Equity</u>

- <u>McGill Office for Students with Disabilities</u>: The OSD helps provide accommodation to students with documented disabilities, whether physical or mental. This can include providing an alternative location for a final exam, notes throughout the semester, or more, depending on the student. They also host <u>accessibility workshops</u> for people who run events to be more inclusive to people of all backgrounds.
- <u>McGill DIRECTIONS</u>: Formerly known as the SEDE (Social Equity and Diversity Education) office, this unit provides outreach and educational opportunities within the McGill-Montreal community in the form of volunteering programs and more.
- <u>List of gender-inclusive washrooms on campus</u>

- <u>Union for Gender Empowerment</u>: The UGE is a queer/trans-friendly SSMU collective/service for an alternative lending library, selling at-cost menstrual and sexual health products, and running workshops on oppression
- <u>First Peoples' House</u>: FPH is a student service that supports indigenous students culturally and academically.
- A few clubs for minorities: Queer Engineer, POWE (Promoting Opportunities for Women in Engineering), NSBE (National Society of Black Engineers)
 - Note that these are only for engineering, but that many groups outside of engineering exist across campus!
- <u>Legal Information Clinic</u>: Law-student-run service that provides free legal information. Their Student Advocacy service also provides representation to students on McGill's internal issues such as wrongful disciplinary offense accusations.
- <u>EUS Equity Committee</u>: This committee works to keep equity at the forefront of EUS operations. There is also one position on each departmental council called the 'Equity and Mental Health Representative' whose job is to maximize both branches in each department. Contact them if you have any equity issues!

Fun fact #7: Chemical engineering is the only engineering program at McGill to have practically a 50:50 ratio between men and women!

<u>Mental care</u>

- Booklet: How To Be Mentally Ill at McGill
- <u>McGill Nightline</u>: A volunteer service that you can call in the evening (6pm-3am every day during the semester) if you ever need just a chat or need someone to direct you to a resource.
- McGill <u>counselling</u> and <u>psychiatric services</u>: McGill provides free-of-charge counselling services (and psychiatry, with a doctor's referral), to students who have paid the student services fee. While good to have around, one common complaint is the length of time it takes between calling them and your actual appointment (around 3 weeks or longer). Counselling services have recently reopened 'drop-in crisis' appointments for emergency visits.
- <u>SACOMSS</u> (Sexual Assault Center of the McGill Students' Society) and <u>OSVRSE</u> (Office for Sexual Violence Response, Support and Education): The former is student-run and latter is McGill-affiliated. You can decide which group is more applicable to you using <u>this comparison page</u>.
- <u>McGill Domestic Violence Clinic</u>: MDVC provides counselling to people who have experienced domestic violence. OSVRSE claims that appointments at the MDVC

may be made by contacting the clinic by phone. Information on this service is not very accessible, so take caution and ask questions for clarification.

- <u>McGill Peer Support Centre</u>: the PSC is run by student volunteers.
- <u>EUS Mental Health Committee</u>: the standing committee formed under the VP Student Life that hosts events for mental wellness, such as self-care scavenger hunts.
- <u>Local Wellness Advisor</u>: A new position created in each faculty at McGill to provide wellness workshops and one-on-one appointments with struggling students.
- <u>Wellness Hub</u>: The 'one-stop-shop' for student wellbeing. This hub directs you to some resources shown here, and some resources outside of McGill, depending on your situation.
- <u>McGill Office of Religion and Spiritual Life (MORSL)</u>: offering free (if you paid student fees) events, workshops, resources, activities, space, and meditation to EVERYONE religious or not.
- Do not forget to reach out to your family and friends, if they can help!

Physical care

- <u>Walksafe</u> and <u>drivesafe</u>: Both are free student-run services that help you get home safely after dark. You are highly encouraged to make use of this and/or volunteer if possible.
- <u>Campus night routes</u>: Recommended routes by McGill security to walk after dark. This resource shows the locations of all the emergency phones you can reach on campus, to call Montreal police at 911 or McGill security at 514-398-3000.
- <u>Campus Public Safety</u>: A general resource for McGill-related safety concerns.
- <u>Office of the Dean of Students</u>: The main contact to report student safety and well-being issues. In sexual harassment, assault or abuse cases, the Dean of Students has the power to coordinate emergency safety or conflict resolution measures.
- <u>MSERT</u>: Although only student groups can reserve MSERT services, it is good to note that at large events such as the EUS banquet afterparty, you will be covered by certified first-aid volunteers! They usually bring a lot of water with them, so be sure to swing by their setup to keep yourself hydrated. Events involving MSERT sometimes also involves Red Frogs Montreal, which is a city-wide service providing relief from alcohol/drug-related issues, including handing out granola bars and water at large scale events.
- Exercise habitually:
 - <u>McGill memorial swimming pool</u> as well as squash courts and certain other facilities, are free if you paid for student services (you probably have). You are free to go during the 'lap swimming' slots on the swimming

pool calendar. You can also pay an additional \$40 a semester for the fitness centre.

- Also try your <u>local YMCA</u>, as they offer memberships to youth for \$35 a month, with unlimited classes, pool and gym access.
- Try getting to school by walking and biking whenever you can! <u>Bixi bikes</u> offer annual memberships and discounts to students. There are also occasional Bixi Sundays, wherein 30-minute bike rides are free for the day.
- Join <u>McGill Outdoors Club</u>, or take up another personal hobby. It is a good way to take your mind off a stressful semester. MOC provides cheap gear rental for members who pay the \$20 fee.
- <u>Healthy McGill</u> provides tips, resources and merch for healthier lifestyles at McGill.
 - <u>Shag Shop</u> is a sexual health outlet run by Healthy McGill that sells items at almost wholesale price. They have very occasional sales of up to 50% off on specific items!

There are also resources in Montreal that are not affiliated with the university. If ever you feel you need support additional to this list, just ask the closest McGill-based resource as they are most likely the most well-informed.

4 Career

First things first – *having a chemical engineering degree does not mean that you must work as a chemical engineer after you graduate.* Engineering is about looking at the world through a systematic, problem-solving, and innovative lens. The skills that you will learn in the next 4 to 5 years are very much in demand and will remain with you for the rest of your life whether you enjoy the journey or not. If you pause for a moment and consider the "chemical" aspect only secondary to your "engineering" education, it might make more sense.

This section is best explained as a series of FAQs, in hopes that you walk into this program with the future in mind.

General FAQs

What do chemical engineers do?

This is one of the trickiest questions to answer – you will have the skills on how to supervise, create, or research a process that has large (or small if we're talking research) amounts of inorganic or organic matter (water, chemicals, food, oil, metals, wood, etc) with many constraints – usually time, money, and resources.

However, what you are taught in class does not narrow your job prospects down to just that. What you learn in the next 4 to 5 years will allow you to work in a wider range of industries that just energy, pharmaceuticals, waste management, oil & gas, food processing, research, and consulting. *Engineering is about applying your knowledge*.

What is the job outlook for chemical engineers (Canada)?

Engineers Canada released <u>a 10-year job outlook in 2015</u>. The summary is that there are 1,300 new graduates competing for 300 positions every year, mainly in Ontario, Alberta, and Quebec.

Before you start doubting your education choice, do realize that the study purely looked at chemical engineers with a singular bachelor's degree – technicians, lab engineers, and chief engineers. Sales engineers and consultants – which make up a very large number of chemical engineers – were not considered, much less engineers who continue to graduate studies or even chemical engineers who work under the title of mechanical or materials engineer.

So yes, the demand for chemical engineers from 2015 to 2025 is not as high as it used to be, but it should not be a cause of concern unless you are determined to do a purely chemical engineering job after graduating.

Is my CGPA going to be a big factor in being selected for an internship?

Short answer: no.

Employers know that chemical engineering is not an easy degree. Do not be discouraged if your CGPA is not above a 3.3 – theirs likely was not either. Besides, companies today always look for something unique in the candidate. *Focus on how you can stick out of the crowd*. Strive to widen your experiences by doing research, being part of clubs & teams, or even teaching yourself a new skill. That being said, GPA can still potentially be a factor, and some internships or positions (such as the SURE program) require a minimum GPA or request your transcript upon application.

Should I do an internship or do research during my undergrad?

This is another tricky question because it very much depends on your personality and interests.

McGill is a research school – so you will not find yourself short of opportunities for research and graduate studies. Research will force you to think outside the box and find novel solutions to a problem. You will be in a lab-and-office environment (although some labs are outdoors too!) and will need to be scientifically detailed. Research is usually considered to have a slower-paced environment and can teach you about the newest topics in the field. The work satisfaction can be pretty volatile because it largely depends on one project – but this totally depends from person to person.

On the other hand, the industry is about a systematic approach of using an existing solution. It is usually more professional, with more frequent satisfaction of your performance because the work you do is directly affecting someone else (though this depends heavily on what kind of work your supervisor gives you). It can seem repetitive at times and can be in an indoor or an outdoor environment. You are more likely to see the class topics in the industry. Montreal hosts offices of many industries and is close to companies in Ontario and north-eastern USA as well.

Lemme also point out that *you have time to do both in your undergraduate life* if so wished.

Do employers like industry or research?

This is also one of the tricky questions to answer. Generally speaking, companies will prefer someone who has had an internship over someone who has had a research experience.

But above all, *employers want to see something unique*. No matter what your experiences are, it's what you learnt from those experiences the types of skills that you can bring to the table that matter to employers. Employers will not throw your CV away just because they see a research experience. It's the culmination of your experiences that will decide if you get an interview.

Should I take an unpaid internship?

Unpaid internships are sometimes the only thing available to you at a specific time, and there are students who can afford it, choose to take them and decide that it is a wellspent few months with new experiences. However, there are a number of concerns that can be raised about it, importantly: when you take an unpaid internship, you may be devaluing the labour of not only yourself but also your chemical engineering peers', by suggesting to firms that they can obtain free labour. We can't tell you what to decide, but your decision should depend on how much you value your time and skillset.

Does McGill have any specific streams for chemical engineering?

No, McGill does not have specific streams for chemical engineering, like oil & gas, pharmaceuticals, catalysis, water treatment, etc.

That being said, you have the opportunity to pick 3 technical complementary courses that can be more specialized than other courses. In addition, you are welcome to take up a minor as well.

Minor programs in engineering can be found here.

What is the McGill Engineering Internship Program?

The **Engineering Internship Program (EIP)** is analogous to a co-op program, but with big differences. You can find <u>additional information on the McGill website here.</u>

The way it works, is that as soon as you receive an internship offer that you accept, let the EIP office in MESC know and if it fits into certain criteria (provided below), you can be entered into the program. Once you have 8 months total of internship experience, you will graduate with an "internship program" designation to your degree. Additionally, recruiters often contact students through this program before contacting other students.

Criteria:

- 1. The internship must be a minimum of 12 weeks (3 months) in a field related to your major.
- 2. Your supervisor needs to submit an intern evaluation to MESC at the end of your internship.
- 3. You have to submit a 2-page report at the end of the internship.

You do not have to pre-register for this program! You can only register for it once you accept an internship offer. Unfortunately, research opportunities do not count as an internship.

Research Opportunities

Can you tell me about research in chemical engineering at McGill?

You will soon find out that McGill is a research-oriented university rather than an industry-oriented one, and chemical engineering here is no different. The department boasts research in nanotechnology, water treatment, plasma, electrolysis, catalysis, proteins, and STEM cells. Many profs will have a link to more information about their particular research area on the ChemEng departmental website.

There are opportunities to work with graduate and post-graduate students on their research. More about that in "SURE and summer research."

How can I find research opportunities?

There are 3 main ways to get into research at McGill. The first is the *SURE program* (Summer Undergraduate Research in Engineering), which is a competitive research scholarship that groups you up with a professor for the entire summer.

The second option is to **talk to a professor** of your choice to work in their lab for as a volunteer. This would be an unpaid position and can be done during any time in the year.

The last option is to **take CHEE 494, 495 (or 496)** as a technical complementary. Both courses, offered each semester, enable you to work in a Professor's lab for 3 or 4 credits, respectively. However, **Professors are more likely to select students for the research course if the student has worked with them previously** (as a SURE student or a regular volunteer). CHEE496 applies for environmental research projects.

Note that you can apply the 3 different methods described above to any professor in the faculty of engineering, because the chances of you being accepted are much higher if the professor knows or recognizes you. The second method can even be applied for professors in the faculty of science.

There are a few other ways to get into research while at McGill. Firstly, the *EUL scholarship* (Eugenie Ulmer Lamothe) is another way to do summer research but it only for students who were not selected for a SURE scholarship.

Secondly, the **DAAD RISE Program** (DAAD Research Internships in Science and Engineering), while not specifically at McGill, allows you to combine research with an experience abroad. The DAAD is a German organization that links Canadian and American undergraduate students to German PhD students, and through this program you can apply to work with a PhD student on their research project in Germany for three months in the summer.

The best way to find out more about a professor's research is to talk to (in order) check their website. Then talk to older students, TAs, and lastly, the professor themself.

Professors are notorious for not replying to emails so be persistent (but don't be annoying)! It may take you up to 5 emails to get a single reply.

In addition, ChESS usually organizes an annual event for TAs and Professors to meet the students where research opportunities can be discussed. This is a great way to introduce yourself to the professor of your choice in hopes that they remember you when you apply.

What are SURE, EUL, and DAAD? When should I apply?

<u>SURE, EUL, and DAAD</u> are all opportunities many students take to perform research as an undergraduate, but have a few key differences.

SURE is a paid research opportunity (it's called a scholarship because they pay you less than minimum wage) for which you have to apply for in mid-January. The application and <u>other information can be found here</u>.

However, it is always a good idea to contact the professor you are interested in working with in late November. This is because if the professor knows that you will be applying for their project, they are allowed to prioritize you over others when MESC evaluates all the applications.

You can apply to 3 projects every year – of the same professor or different – from the entire faculty of engineering. The research lasts for 3-and-a-half months and ends with a poster presentation where awards are presented. Upon completion, the summer experience is registered in your transcript as "FACC 301" for 0 credits.

EUL applications are sent out in late February, specifically for students who were not able to secure a SURE position. It is a separate application process and provides a very similar experience as SURE. However, this scholarship is not recorded on your transcript.

DAAD is similar to SURE in that you also apply to a maximum of 3 projects per year. It is also similar in that you are paid a monthly stipend for your work and have the option to apply for additional funding through McGill, as purchasing a plane ticket to Germany is an additional expense that the SURE program would not have. DAAD Projects generally last from mid May until the end of August, but you are flexible in choosing your exact project dates with your supervisor as long as the length of the project is at least 10 weeks.

This opportunity allows you to both strengthen your research skills and also start to build a global network. You must be at least a U1 student to apply, and the deadline is generally in early December.

It is best to decide whether or not you are applying to the program and what projects you will be applying to, as part of the application process requires you to submit a recommendation letter from a Professor in ChemEng (person must be in your program of study AND hold a PhD). Profs appreciate it if you give them time to work on such a letter, and you will get a much better letter as a result ©.

If applying to this program be aware that there are extra administrative steps you will have to take: Germans love their paperwork, and McGill is not the most efficient or helpful in processing it. But the opportunities abroad this program provides are certainly worth the hassle! More info about DAAD <u>can be found here</u> or you can contact Tess (one of the authors, contact information in introduction ;)) for any additional questions.

Opportunities in Industry

What is McGill Tech Fair? Will chemical engineering companies be present?

McGill Tech Fair is a large career fair organized by MESC that takes place in *early October and February*. Around 160 companies pay to attend this massive event to recruit students for internship and/or full-time positions.

Out of the 160 companies, however, there are usually 5 that are purely for chemical engineers. Don't be discouraged though, because while it may seem that you are doomed, *there are up to 60 companies that will still accept chemical engineers* for roles in other types of engineering, consulting, sales, programming, and finance. Remember what you read earlier, the "chemical" in your degree is secondary – you are an engineer first.

How do I prepare for Tech Fair?

Tech Fair can be daunting, but there are a number of things you could do to be more confident.

Firstly, use *Engineering.myfuture.mcgill.ca* to look at the companies that will be attending. Sometimes, MESC will also post the list on Facebook so try that too! Find the companies that you can be an ideal candidate for and *do your research* on the company before going. Recruiters will be unlikely to hire you if you do not know what their company does.

Secondly, *practice to summarize your interests, achievements, goals in 30 seconds*. But practice them in such a way that the goals and values of the company are reflected in you. You need to sell yourself to the recruiter. The recruiters are going to meet hundreds of students in the span of two days - you need to stand out. Lastly, do not be too intimidated by the recruiters. They were once in your shoes, have gone through the exact same process, and are as excited to meet new students as you are to meet them. *Don't wait for them to introduce themselves* – walk over and fake the confidence if you have to.

I am simply in U1, should I go to the Techair or Corporate Cocktail?

YES! A thousand times yes! Recruiting and networking events are not just about finding a job. They are also for you to learn about the industry. They allow you to speak with the company representatives, who were once in your own shoes, about the employee culture, breakthroughs in technology, and advice on future applications! A bonus is the cool merch you can get at each stall, from pens to bags to mints and tshirts.

And perhaps most importantly, events such as tech fair and corporate cocktail allow you to *practice your confidence*. They force you out of your comfort zone so that you can practice what to say to the company representatives for future opportunities.

Lastly, *the recruiters recognize you and your efforts* as you attend the events multiple times.

What is Corporate Cocktail?

Corporate Cocktail (CC) is a networking event organized by ChESS *in early February*. It is not a recruiting event – rather an evening to establish a connection with company recruiters and engineers.

The companies that are invited by ChESS are selected based on their interest in chemical engineers. Many of the companies have had a long relationship with ChESS and are always excited to meet the students. Typically, *5 to 10 companies* attend this event.

How to prepare for an interview?

Here are a few suggestions in order to feel more confident at an interview.

- 1. Research the company well know their goals, products, values, and recent news.
- 2. Practice a 30 sec. spiel about your interests, achievements, and goals.
- 3. Reflect the company's goals and values while describing experiences and/or achievements on your CV.
- 4. You might be asked to describe specific experiences pertaining to leadership, teamwork, critical-thinking, and failure
 - a. Think of such scenarios before-hand
 - b. If interviewing for a sales position, practice on how to sell a random object
- 5. Think about asking the interview panel any questions before leaving ask more about the position and/or about the company.
- 6. Dress professionally and speak clearly. Don't lie they can tell. Good luck :)

What computer programs are good skills to have?

Your chemical engineering education will train you in the basics of MATLAB, but there are a few other programs that are considered a good asset.

- 1. Microsoft Excel especially advanced functions and VBA.
- 2. Python a programming language
- 3. AutoDesk AutoCAD a computer-aided drawing software

Where can I find jobs internships?

There are many different resources to find jobs and internship.

- 1. *ChESS job database* an excel sheet with links that takes you to the job search page of a company. You <u>can find it directly here</u> or on the ChESS website.
- 2. *LinkedIn* online recruiting and networking platform
- 3. Engineering.myfuture McGill's online recruiting and networking platform. Big plus if registered in McGill Engineering Internship Program. <u>You can find it here</u>, and you can log in using your McGill username and password.
- 4. Indeed.ca online job platform
- 5. *Personal connections* talk to older students, keep in touch with representatives that you meet, attend networking and recruiting events.
- 6. Company websites going on the website of each company and applying for any open positions

What is Engineering.myfuture?

Engineering.myfuture.mcgill.ca is an online job platform where you can create an account an add you CV, past experiences, and job interests for companies to search. Essentially, *it is the "LinkedIn" of McGill*.

The platform is also useful to know about any events, talks, and workshops that occur throughout the year.

What is the McGill Mentor Program?

The McGill Mentor Program is an excellent tool for planning your career. It allows you to connect with professionals across a variety of industries and hear about their experiences. This can be a great way to learn about how to break into, or the day-to-day life of a career path or industry. Mentors are not meant to help you find a job in their company or field, but they can serve as a valuable connection to the industry.

When applying you pick two mentors from the list provided by CaPS, and they match you with who they think is the best fit. Mentorships are meant to last 4 months, so you can have multiple mentors through your schooling to get a sense of different industries, and build your network. <u>More information can be found here.</u>

5 Your ChemEng Council

Our Website: http://chess.mcgilleus.ca

Our Facebook: <u>https://www.facebook.com/mcgillchess/</u>

Our Instagram: @mcgillchess

Hang out in our common room: WONG 1130



Figure 6. Find us here, the ChemEng common room!

What does council do?

ChESS (Chemical Engineering Students' Society) aka ChemEng council is a student run organization that serves as the link between ChemEng students and the department and the EUS as a whole. Council is also essential in creating and organizing (usually free!!!) networking events, review sessions, apartment crawls, and other social events.

ChESS was formed to specifically address the needs of ChemEng students, whatever they may be. If you are interested in seeing what exactly council's mandate is, you can find everything outlined in <u>the ChESS consitution</u>.

Who is on council?

Below you will find descriptions of each position and what they do. You can find whoever has been elected to each position on the ChESS website.

President

Matthew Nohos-Katsaros

The president is the voice of ChESS and is the main link between ChESS and the department. They delegate tasks to all the other VPs on ChESS, but their #1 goal is to make ChESS in to a strong and efficient team.

<u>VP Internal</u>

Tatiana El-Khoury

The VP Internal is in charge of putting together large social events such as the U1 Welcome Event, Blues Pubs, Banquet, and Gala.

VP External

Sophia Roy

The VP External position focuses on maintaining relationships between ChESS and other organizations, especially those that can help students find internships. They are also responsible for organizing at least one networking event and industry tour as well as a trip to the Canadian Society for Chemical Engineers' Annual Conference.

VP Finance

Angel Hebert

It's all about the \$\$\$ for this position. The VP Finance handles all of ChESS's finances to ensure that events run smoothly and stay within budget.

VP Academic

Gregory Brock

The VP Academic works with professors to create things like coursepacks and review sessions. Additionally, they organize the Academic Forum where students can give feedback about their classes. This feedback is presented to the department's authoritative voices (eg. department head) in the annual Undergraduate Curriculum Committee meeting.

VP Communications

Tyler Kim

VP Comms is, as the name implies, in charge of communicating information to the general ChemEng student body. They send out weekly emails, organize class announcements, and maintain the ChESS website as well as ChESS's accounts on other social media.

VP Engagement

Kenza Diouri

The VP Engagement's main focus is student life and promoting a sense of community within ChemEng. They organize sporting events, apartment crawls, merch sales, and are responsible for maintaining the common room.

Class Representatives (UReps)

Jia Sun – U2 Ali Beydoun – U3 Ryan Zelnicker – U4

The URep position was designed in order to help represent the needs of each year in ChemEng. UReps communicate upcoming events and important information to their year and also communicate to ChESS any year-specific concerns or ideas they may have. UReps usually organize one event per semester that is catered to those in their class, and participate in biweekly 3 hour <u>EUS Council</u> (the foremost representative body of the EUS) meetings.

Equity & Mental Heath Representative

The Equity & Mental Health Representative is a relatively new position that was introduced to promote mental health in ChemEng. They maintain close ties with EUS & MESC and organize smaller fun events, making sure existing events are accessible to all, and promoting ongoing mental health initiatives in ChemEng.

Events

Council organizes many events throughout the year, but here are some of our favorites:

Fall Banquet and Winter Gala



An excuse to ~get fancy~, drink, and hang out with your favorite people in ChemEng. This is often subsidized by council - bringing the overall cost to around \$30-35 for a higher end meal and after party! The annual departmental awards are presented at Winter Gala, after students vote for their peers!

U Events



Taco Night, Trivia Night and Banquet Pre are some of the most popular events...free food and friends, what more could you need?

Corporate Cocktail



Corporate Cocktail is McGill's only ChemEng specific networking event – your chance to meet with representatives from companies looking for ChemEng graduates and to see what working after university is like!

Industry Tours



Industry tours are an amazing opportunity to visit local ChemEng companies and see what Chemical Engineers are currently doing in the field!

Conference



Every year, ChemEng students have the chance to attend the Canadian Society for Chemical Engineers' Annual Conference. Travel fees are usually subsidized by council and attending the conference is a great way to network with other Chemical Engineers and to explore exciting new developments in engineering.

Blues Pub



Happening every Friday in the basement of McConnell Engineering, Blues is the best place to get cheap beers and hang out, all while supporting your favorite engineering clubs and Student Societies. Keep an eye out for Blues Pubs hosted by ChESS!

Merch Sales



Once every semester, you can order hoodies, T-shirts, sweaters, and much more ChemEng SWAG so that you can rep the best department in engineering and look fly at the same time. Merch can usually be bought and picked up in the common room!

Apartment Crawls



Usually once a semester, ChESS will organize apartment crawls, often partnering with other engineering departments. Apartment crawls are a guaranteed good time, with all the drinks, food, and games you could wish for!

<u>Fun fact #8:</u> The Winter 2019 gala was the most attended McGill chemical engineering event in all of history, with both waves of ticket releases being sold out in mere minutes, and the entire restaurant booked out! Make sure to secure your ticket quickly at the next banquet event. A quick tip: don't wear stilettos in the snow!

Elections

Want to be the mastermind behind all of these LIT events? Want to make more friends in ChemEng? Want to find out more about the EUS and help make the ChemEng experience better for you and your peers? Consider running for council!

Elections happen every year during the winter semester a little after Reading Week – keep an eye out for the announcements on Facebook or in class. In order to run, you usually need to fill out a nomination form and get it signed by a certain number of people in ChemEng. For positions such as Uo Rep, U1 Rep and Equity & Mental Health Rep, there are no elections and you must apply and then be interviewed by a selection subcommittee of current council members.

6 Well wishes

Now, armed with your youthful excitement and this indispensable information, you are ready to move forth with your peers into the battlefield that is the ChemEng curriculum. Before you go, the authors would like to impart you with few final words of encouragement.

You've worked hard to get here. However, unless you are a prodigy, classes from now on will certainly be tougher. You may no longer be in the top 5% of your class, and you may even fail a course or two.

That will be okay.

Note that you are not alone if you ever feel like an imposter, and this is merely evidence that you are challenging yourself, growing, and in close settings with some of the world's most inspirationally clever professors and students. The reality is that to others, you are one of these clever people. Let such an environment motivate you to be better, and to never struggle on your own.

See you on the other side (or in the fall)!

7 Appendix

Key Contacts

All contacts are accurate as of the 2019 school year.

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Undergraduate Coordinator	ugrad.chemeng@mcgill.ca
MESC Wellness & Mental Health Advisor	lauren.weber2@mcgill.ca
Engineering Career Centre	julie.godin@mcgill.ca
Wong room bookings	louise.miller@mcgill.ca

Links

All links that have been mentioned in each section of this book can be found below, in case of a broken hyperlink:

Academics

Undergraduate Handbook	https://www.mcgill.ca/chemeng/undergrad
Minor Programs	https://mcgill.ca/study/2019- 2020/faculties/engineering/undergraduate/ug_eng_mino r_programs
VSB	https://vsb.mcgill.ca/vsb/welcome.jsp
SIMVO	https://simvo.io/
FRezCa	https://www.mcgill.ca/mathstat/undergraduate/freshmen -students/frezca
ChESS YouTube	https://www.youtube.com/channel/UCt6g1JV8yXoYZZtQ 80Wl9EQ
Paul's Online Math Notes	http://tutorial.math.lamar.edu/
ChESS Website	https://chess.mcgilleus.ca/
Learn ChemE	http://www.learncheme.com/screencasts

DIPPR	https://app.knovel.com/web/toc.v/cid:kpDIPPRPF7/view erType:toc
Exam Deferral	https://www.mcgill.ca/exams/dates/supdefer
Crowdsourced Class Averages	https://docs.google.com/spreadsheets/d/1NGUBQuF8FI6 ebna86S1RHpc27srxpMbaSyjipIkr- gk/edit#gid=1452918956
McGill Enhanced browser extension	https://demetrios-koziris.github.io/McGillEnhanced/

Student Life

Departmental Stats	https://eus.wiki/Departmental_Statistics
SSMU Clubs and Services	https://ssmu.ca/student-life/clubs-services-isg/
EUS Groups	https://eus.wiki/EUS_Groups
EUS Job Board	https://eus.wiki/Job_Board
McGill tunnels	https://prezi.com/-oflsn4wo80f/pulp-paper-otto-maass- burnside-schulich-fda-macdonald-harrington-macdonald- eng-mcconnell-eng/
uPrint	http://kb.mcgill.ca/kb/?ArticleId=2652&source=article&c =12&cid=2#tab:homeTab:crumb:8:artId:1348:src:article
uPrint Anywhere	http://kb.mcgill.ca/kb/?ArticleId=2652&source=article&c =12&cid=2#tab:homeTab:crumb:8:artId:5133:src:article
uPrint departmental locations	https://www.mcgill.ca/uprint/departmental-printers
Cheap Sheet	https://www.mcgill.ca/studentaid/files/studentaid/cheap sheet march 2018.pdf
Montreal Restaurant Directory	https://docs.google.com/spreadsheets/d/1PxCRoJHKok5 xw4PGvTmhJxS4rQY36nAnjEhirEIXWA0/edit#gid=2138 600066
Samosa Sales	https://www.facebook.com/groups/720504868069082/
Mose Commandments	https://eus.wiki/Samosa_Sales

Free Food on Campus	https://www.facebook.com/groups/189542714498636/
G-Store	https://www.facebook.com/mcgillgeneralstore
Fair Trade Corner	https://www.facebook.com/FairTradeCornerEWBMcGill/
Campus microwaves	https://eus.wiki/Campus_Microwaves
McGill libraries	https://www.mcgill.ca/library/branches
EUS room booking system	https://bookings.mcgilleus.ca/
Blues Pub	https://www.facebook.com/McGillBluesPub/
OAP	https://oap.mcgilleus.ca/
E-week	https://www.facebook.com/McGillEWeek
Eng Games	http://enggames.mcgilleus.ca/
Ski Trip	https://eus.wiki/EUS_Ski_Trip
MERT-W	https://eus.wiki/MERTW
Frosh	https://oweek.mcgilleus.ca/
Office for Students with Disabilities	https://www.mcgill.ca/osd/
OSD workshops	https://involvement.mcgill.ca/organization/osd
McGill DIRECTIONS	https://mcgill.ca/equity_diversity/
Gender inclusive washrooms	https://eus.wiki/Gender Inclusive Washrooms
Union for Gender Empowerment	<u>https://ourcampusourcommunity.wordpress.com/the-</u> <u>union-for-gender-empowerment/</u>
First Peoples' House	https://mcgill.ca/fph/
Legal Information Clinic	https://licm.ca/
Equity committee	https://eus.wiki/EUS_Equity

MORSL	<u>https://www.mcgill.ca/morsl/</u>
How to be Mentally Ill at McGill	https://eus.wiki/How To Be Mentally Ill at McGill
Nightline	http://ssmu.mcgill.ca/nightline/
Counselling	http://mcgill.ca/counselling
Psychiatric services	http://mcgill.ca/psychiatric-services
SACOMSS	http://sacomss.org/
OSVRSE	https://www.mcgill.ca/osvrse/
Comparison between SACOMSS and OSVRSE	http://www.sacomss.org/wp/osverse/
McGill Domestic Violence Clinic	https://mcgill.ca/dvc/
Peer Support Centre	https://psc.ssmu.ca/
Mental health committee	https://www.facebook.com/EUSmentalhealth/
Local wellness advisors	<u>https://mcgill.ca/wellness-hub/get-support/local-</u> wellness-advisors
Wellness hub	https://mcgill.ca/wellness-hub/
Walksafe	https://walksafe.ssmu.ca/
Drivesafe	<u>https://drivesafe.ssmu.ca/</u>
Campus night routes map	<u>https://www.mcgill.ca/campussafety/files/campussafety/</u> web g180555 campus pub safety nt rte map 2017 1. pdf
Campus Public Safety	https://mcgill.ca/campussafety/
Samosa Search Group	https://www.facebook.com/groups/720504868069082/
Mose Commandments	https://eus.wiki/Samosa Sales
Free Food	https://www.facebook.com/groups/189542714498636/

EUS General Store	https://www.facebook.com/mcgillgeneralstore
Fair Trade Corner	https://www.facebook.com/FairTradeCornerEWBMcGill/
Microwaves	https://eus.wiki/Campus_Microwaves
Library Map	https://www.mcgill.ca/library/branches
EUS Booking	https://bookings.mcgilleus.ca/day.php?year=2019&month =08&day=22&area=1&room=1
OSD	https://bookings.mcgilleus.ca/day.php?year=2019&month =08&day=22&area=1&room=1
Accessibility Workshops	https://involvement.mcgill.ca/organization/osd
Gender Inclusive Washrooms	https://eus.wiki/Gender Inclusive Washrooms
How to be Mentally Ill at McGill	https://eus.wiki/How To Be Mentally Ill at McGill
Campus Night Routes	https://www.mcgill.ca/campussafety/files/campussafety/ web_g180555_campus_pub_safety_nt_rte_map_2017_1. pdf
Campus Night Routes Office of the Dean of Students	https://www.mcgill.ca/campussafety/files/campussafety/ web_g180555_campus_pub_safety_nt_rte_map_2017_1. pdf https://mcgill.ca/deanofstudents/contact
Campus Night Routes Office of the Dean of Students MSERT	https://www.mcgill.ca/campussafety/files/campussafety/ web_g180555_campus_pub_safety_nt_rte_map_2017_1. pdf https://mcgill.ca/deanofstudents/contact http://msert.sus.mcgill.ca/
Campus Night Routes Office of the Dean of Students MSERT McGill Swimming Pool	https://www.mcgill.ca/campussafety/files/campussafety/ web_g180555_campus_pub_safety_nt_rte_map_2017_1. pdf https://mcgill.ca/deanofstudents/contact http://msert.sus.mcgill.ca/ https://mcgillathletics.ca/sports/2012/10/25/1025125047 .aspx
Campus Night Routes Office of the Dean of Students MSERT McGill Swimming Pool YMCA	https://www.mcgill.ca/campussafety/files/campussafety/ web_g180555_campus_pub_safety_nt_rte_map_2017_1. pdf https://mcgill.ca/deanofstudents/contact http://msert.sus.mcgill.ca/ https://mcgillathletics.ca/sports/2012/10/25/10251250477 .aspx https://www.ymcaquebec.org/en/Find-a-Y/Downtown- YMCA
Campus Night Routes Office of the Dean of Students MSERT McGill Swimming Pool YMCA Bixi	https://www.mcgill.ca/campussafety/files/campussafety/ web_g180555_campus_pub_safety_nt_rte_map_2017_1. pdf https://mcgill.ca/deanofstudents/contact https://msert.sus.mcgill.ca/ https://mcgillathletics.ca/sports/2012/10/25/1025125047 .aspx https://www.ymcaquebec.org/en/Find-a-Y/Downtown- YMCA https://montreal.bixi.com/en/pricing
Campus Night Routes Office of the Dean of Students MSERT McGill Swimming Pool YMCA Bixi Bixi	https://www.mcgill.ca/campussafety/files/campussafety/ pdf https://mcgill.ca/deanofstudents/contact http://msert.sus.mcgill.ca/ https://mcgillathletics.ca/sports/2012/10/25/1025125047 .aspx https://www.ymcaquebec.org/en/Find-a-Y/Downtown- YMCA https://montreal.bixi.com/en/pricing https://www.mcgilloutdoorsclub.ca/
Campus Night Routes Office of the Dean of Students MSERT McGill Swimming Pool YMCA Bixi McGill Outdoors Club Healthy McGill	https://www.mcgill.ca/campussafety/files/campussafety/ web_g180555_campus_pub_safety_nt_rte_map_2017_1. https://mcgill.ca/deanofstudents/contact https://msert.sus.mcgill.ca/ https://msert.sus.mcgill.ca/ https://mcgillathletics.ca/sports/2012/10/25/1025125047 aspx https://www.ymcaquebec.org/en/Find-a-Y/Downtown- YMCA https://montreal.bixi.com/en/pricing https://www.mcgilloutdoorsclub.ca/ https://www.mcgill.ca/healthymcgill/

Career

Job Outlook	<u>https://engineerscanada.ca/sites/default/files/Labour-</u> <u>Market-2015-e.pdf</u>
Minor Programs	https://www.mcgill.ca/study/2019- 2020/faculties/engineering/undergraduate/ug_eng_min or_programs
EIP	https://www.mcgill.ca/careers4engineers/engineering- internship-program
SURE	https://www.mcgill.ca/engineering/students/undergrad uate/research
DAAD	https://www.daad.de/rise/en/
Internship Database	https://docs.google.com/spreadsheets/d/1sCTlMO1TA3 YxYha-HcfSzApRhzNTSrOy3KIJdpCLifE/edit#gid=0
MyFuture	https://engineering.myfuture.mcgill.ca/students/?signin tab=0&signin_tab=0
McGill Mentorship Program	https://www.mcgill.ca/caps/students/services/mentor

Council

ChESS Constitution	https://wiki- dev.mcgilleus.ca/Constitution of the Chemical Engineering Students%27 Society
ChESS Website	https://chess.mcgilleus.ca
EUS Council	https://eus.wiki/Council