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Orientation Week
Event Overview

Page 12



Meet Your EngSoc Execs

Page 14



Get Involved With
Clubs and Teams

Page 20

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Waterloo Engineering Orientation 2014

Willst Thy Swords Prevail or Ur Las3rs Strt A Nu Wrld Ordr?

JACOB TERRY AND SANTIAGO GIL SUPERHUGES

Hello Frosh, and welcome to Battle of the Ages: Past vs. Future, where great beings from history and from tales yet to be written clash to earn dominion over this year's Engineering Orientation!

By now, you've hopefully navigated your way through the Interwebs, been to our website (engorientation.uwaterloo.ca), it's pretty cool we hear) and learned a little bit about Waterloo's Engineering Orientation. We hope you're just as excited about the week as we are and that you're prepared to have one of the greatest and most welcoming weeks of your life!

If you're reading this, you have probably received your Frosh Kit. Feel free to take a look through it! It has some great swag that will give you a taste of what to expect this week, along with some very helpful information.

Tuesday is when the fun really begins! Remember to wear your Frosh shirt as well as pants or shorts that you don't



Superhugie: Jacob Terry

mind getting wet! You'll start the day by finding your colour group's headquarters (follow the signs). Here, you'll be greeted by your some of your leaders, the Bigs and Hugues. We encourage you to talk to them as much as possible because they can give you a wealth of information; they have all been in your shoes before. Their job is to answer any of the questions you may have about Engineering or the week in general. It was not too long ago that they were Frosh, so they know how you feel! You might get a little overwhelmed with the number of new faces you're meeting, but don't worry! You're all in the same position, so go and introduce yourself to someone as there's a 7.692% chance that they're in your class — and some of them may well become your best friends.

H'okay, so... Once you're in your headquarters, you might be a little scared, excited, or both! Now what, you ask? Tuesday is packed with activities such as meeting the Dean and meeting the infamous Education Committee. You'll also be earning your hard hat with your fellow Frosh and Bigs. Your hard hat is your protection against the foes of Engineering and is a well-established tradition that ties together all of

the great Waterloo Engineers before you. You must do everything in your power to protect this hard hat and all that it represents. Once you have earned your hard hat, you'll come together in a show of

Engineering unity as you pose for an Aerial Photo.

On Thursday, grab the multi-tool in your Frosh Kit and your freshly earned hard hat as you'll put them to good use at Junkyard Wars! You'll have the opportunity to prove your ENGINUITY using only items found in a massive pile of salvaged junk to build contraptions to meet the challenges of the day. In the afternoon, you'll have a chance to

meet several student-run engineering design teams, then you'll get to meet our Engineering mascot, the Tool. It's the ultimate and the all-knowing Tool (did we mention it also loves Engineering spirit and loud noises?).

On Friday, you'll participate in a battle of wits, hilarity, and creative genius during the final Engineering event: Scavenger Hunt. Go forth and try your hand at challenges such as Ultimate Calculus, Pool Noodle Jousting, and 3D Twister, not to mention that there's a 60-page Acquisitions List of things you can find to earn points and tokens for your team.

But wait there's more! During nighttime events, you'll get to mix and mingle with frosh from other faculties. Make sure you come out to events like Tuesday's Choose Your Own Adventure, World of Waterloo, Monte Carlo on Thursday, and put on your best Roman-inspired bedsheets for Saturday Night's Toga party! Check your schedule to know all the details.

We, as your SuperHuges, are part of the Engineering Federation Orientation Committee (EngFOC) and are here to help make this week as fun as possible for you. This week was created especially for you, so the more you put into the week, the more you'll get out of it. If you have any questions or just want to say hello, don't be afraid to stop us at any time! We are wearing gold jacket-vest things all week!

Enough talking from us now! It's about time for you to defend your team and your place in history as the ultimate temporal champions.

There can only be one team that achieves victory over all time, will it be yours?



Superhugie: Santiago Gil



LISTEN UP, FROSH!

HEADCOM EDUCATION COMMITTEE

Now that you're here, it's time for you to learn what it takes to be a Waterloo Engineer. You have a lot to learn and a short time to do it in, so pay attention. We are HEADCOM and we are in charge. We control EDCOM and Orientation Week. Make no mistake about it — you have one job this week: IMPRESS EDCOM. We cannot stress this enough to you.

EDCOM is the Education Committee. We are your lifeline and your guides. We are a dedicated group of senior students who are the best and the brightest that Waterloo has to offer, meaning we are the best and the brightest, PERIOD. We also participate actively in the Engineering Society, the Waterloo Engineering Endowment Foundation (WEEF), and the many student teams you will learn about on Thursday. We are everywhere, we do everything, and we are not impressed easily.

We are the ones who will award you your hardhat, that is, if you earn it. This means that we are the ones who decide whether or not you are a Plummer; a true Waterloo Engineering student. Once you have your hardhats, we will be there to watch your ENGINUITY during Junkyard Wars, and oversee all the events during Scavenger Hunt. On Sunday, based on everything we have seen, we will decide who has won the week, and who has lost. Good luck, Frosh. You're gonna need it.



Letter From the Outgoing Editor



NINA FENG
OUTGOING
EDITOR-IN-CHIEF

Welcome Class of 2019!

Congrats on landing yourselves in Waterloo Engineering. Here you'll spend what will hopefully be a fantastic 5 to 7 years! While these next few years will certainly be filled with trials and tribulations, you're bound to have quite a bit of fun along the way. You'll meet some wonderful people while having some wickedly cool experiences. Oftentimes, high school becomes a distant memory as you leave the safety of your hometown and start to try new things. Orientation Week can be such a blast as you go through a whirlwind of events whilst forming those initial bonds with your classmates and get pumped to be here (note: it's perfectly normal for the excitement to die after the first week). When the term starts, join a club or student team, they're seriously pretty darn awesome!

This year is going to be a heck of a learning experience. Many people learn the hard way that they can no longer get by with their old slacking/cramming hab-

its. This may be the first time you're living apart from your family and suddenly you're the only one responsible for you making it to class in the morning and getting your homework done.

You're going to mess up occasionally, and that's okay. Failed your physics midterm? Keep going, you'll make it up in the final. Ate Kraft Dinner for a whole week? We've all been there (just FYI: Festival Fare on the second floor of SCH is good for balanced hot lunches – just a tad pricey). Stayed up 'til 5 a.m. three nights in a row? Take a nap and get yourself back on track ASAP. Fake it 'til you make it.

It's also super important to keep yourselves healthy, because you'll feel both its mental and physical impacts otherwise. Try to be consistent with sleep. A common goal is 6 hours per night, at least. Use that meal plan and make sure to eat right. Keep yourselves hydrated (protip: the best and coldest water fountains are the boxy-looking ones that say "Oasis" on them). Also, exercise dammit!

Finally, don't be too discouraged if it feels like you're stumbling through the dark while other people seem to have it all figured out. To some of you, the ob-

stacles might be harder to conquer than for others. Please make use of the ridiculous amount of services available to you. Most professors really do want you to succeed and will help you accordingly. Don't be afraid to lean a little on your peers, you're in this together. Your TAs can do wonders in explaining things. Help sessions can be the difference between a pass and a fail...it certainly was for me in linear algebra. There are counsellors who will help you with your study habits, and counsellors who will help you with your mental health. There are workshops that will teach you how to make a good résumé and develop your interview skills. There are resources for virtually everything. MAKE USE OF THEM.

Someday, you'll get to a point where you'll feel like you've gone through everything so many times that it's not half as scary anymore. Besides, as upper years you'll realize that all first years look pretty lost and confused. Perhaps by then you'll have ditched the UW lanyard/campus map look that we all sported as freshmen.

But in the meantime, make the most of this year. Work hard and play hard, as engineers will do. And ROCK those lanyards and maps.

Letter From the Incoming Editor



LEAH KRISTUFEK
INCOMING
EDITOR-IN-CHIEF

University is like the waiting room, a bit of a holding zone for adulthood. It's the place where we leave our parents behind and venture out alone. It is not boring like in a doctor's office. University is more like a series of airport terminal waiting rooms, back when airplanes couldn't carry enough fuel for long haul transcontinental flight. It's like trying to get to New Zealand or Australia from good old Toronto. At each stop you celebrate the fact that your plane didn't crash, have adventures, and learn all sorts of random things in the place where you just landed. Through the shared trials and tribulations of air travel you bond with your fellow travelers, clap with them each time the plane safely touches down, commiserate about the five consecutive breakfasts they've subjected you to. Sometimes your plans get derailed. You get stuck on an island somewhere lamenting the stupidity of a place that builds a runway next to a mountain that slumps over the runway every time there are tropical storms, so nearly a quarter of the year. Why haven't they built a retaining wall or re-enforced it or something? Gosh darn it! Other times you might get unexpected surprises. Sitting on the tarmac wondering why two guys just entered the plane and are systematically spraying everything. Then they leave closing the door behind them. You look around, why aren't the other passengers concerned?! That could have been poison.

Have they been brain washed!!!! WHAT IS GOING ON!? Oh wait, the plane is just getting fumigated, no big deal. This is totally normal, obviously...

University is all that time spent in waiting rooms, and the time spent in the air. It is the trip, full of detours, impromptu adventures and unlimited learning (some of it mandated of course). Adult life is the destination. For most of adult life means working some version of 9-5 hours, limited vacation time. You will take many more trips, but chances are you won't be nearly as unencumbered as you are now. This is your chance to take risks, learn new things and share your unique talents with others. This is a time when you can afford to fail, and learn what it means to pick yourself up and emerge stronger for it.

Co-op gives us a unique opportunity to try lots of different jobs. You could end up doing anything for 4 months and after those 4 months you are under no obligation to return to it. Take this opportunity to try living in different places, working non-traditional hours and maybe even explore radically different industries. I have fond memories of my first co-op among the forests and wildlife based out of Whitehorse in the Yukon Territory. I have really appreciated the extra days off that working 12 hour shifts gives me. (If you work night shifts you can sleep in as late as you want!) The world is your Oyster – enjoy it.

Here at Waterloo you will make friends, you will learn new things, you will grow as a person. There will be times when it feels like everyone knows what they are doing – they probably don't, and there

will be times when you might feel stranded – there are resources, remember, you are never alone help is at the end of your fingertips. In high school I did a lot of sports so I usually worked alone and did a lot of catch up on my own. At Waterloo I've realized that that isn't an option. Engineering is like a big family. Studying and Labs are often group activities. In the end this is your education, you are paying for this opportunity to learn and this is the degree that future employers will look at. If you find yourself lost don't be afraid to ask for help to dig yourself out. WEEF TA's, fellow classmates and upper years, like your Bigs and Huges, are excellent resources while study groups can help you learn those things you didn't even realize you hadn't learned and push you to keep at it. Sometimes friends even help you to know when it's better to take a break and eat a Kitkat. (Or some real food, real food is a pretty good idea).

As Incoming Editor in Chief I'm really looking forward to creating five informative, exciting, and sometimes humorous publications. Hopefully they will keep you up to date on what's going on around campus, especially EngSoc events, and offering advice as you make your way through this first term. (Should you study for the Phys 115 midterm? Only if you think you've studied enough to get 100% in all of your other exams! Also, pro tip, sometimes the most boring sounding O-week events are actually the best!)

So I'm going to close where I really should have begun. Welcome to the Waterloo family! This is the beginning of the rest of your life. I know you will make the most of it!

THE IRON WARRIOR

The Newspaper of the University of Waterloo Engineering Society

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Nina Feng

Incoming Editor-in-Chief
Leah Kristufek

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The Iron Warrior is a forum for thought-provoking and informative articles published by the Engineering Society. Views expressed in The Iron Warrior are those of the authors and do not necessarily reflect the opinions of the Engineering Society.

The Iron Warrior encourages submissions from students, faculty and members of the university community. Submissions should reflect the concerns and intellectual standards of the university in general. The author's name and phone number should be included.

All submissions, unless otherwise stated, become the property of The Iron Warrior, which reserves the right to refuse publication of material which it deems unsuitable. The Iron Warrior also reserves the right to edit grammar, spelling and text that do not meet university standards. Authors will be notified of any major changes that may be required.

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Welcome from the Dean of Engineering

PEARL SULLIVAN
DEAN OF ENGINEERING

Welcome to Waterloo Engineering!

I am very pleased that you have chosen the University of Waterloo to pursue your postsecondary education. Once again, we have attracted an impressive cohort of the brightest students to our first-year engineering programs, and you should take pride in joining our Faculty. You will be in the company of top researchers and teachers, dedicated staff, and motivated undergraduate and graduate students.

The Faculty values the importance of a vibrant, engaged student body and the contributions our students make to Waterloo Engineering, the university and the community.

The success of our students — academically, on co-op work terms and in extra-curricular pursuits — is a major contributor to our excellent reputation, and so we look for students who are well-rounded and passionate. The result is an involved student body, home to active student societies, competitive student teams, service-

minded organizations, as well as newspapers, clubs and bands. I encourage you to get involved in one or more group or activity that inspires you and will enrich your Waterloo Engineering experience. Over the course of Orientation Week, you will be introduced to many new faces, a lot of new information and a diverse offering of new opportunities.

During this week and throughout the year, you may feel overwhelmed at times, adjusting to new expectations for academic and workplace performance, learning the ropes of our co-op program and choosing among the abundance of extra-curricular activities.

Always remember that there is a strong support system available to you. The First-Year Engineering Office is an invaluable service, here to help with your transition by offering academic and personal counselling, as well as tutor sessions and upper-year mentors. Your professors and teaching assistants are also excellent resources, and upper-year students can provide important insight.

Waterloo Engineering also has a staff

member dedicated to enriching your experience. Robin Jardin is our Student Relations Officer and your contact in the Dean of Engineering Office. Be sure to get in touch with Robin to find out about activities that match your interests, to provide feedback about Orientation Week or to share your Waterloo achievements.

But perhaps your most important resource will be the people you meet during Orientation Week. No doubt many of your classmates and other engineering students will become supportive friends that you'll have throughout your time with Waterloo Engineering — and well beyond.

In the next few years, you will be presented with different career possibilities. Whether you aspire to work for a specific industry, get involved in innovative research or start up your own company, or all three, there will be opportunities to pursue your aspirations within your undergraduate program. Get involved and learn as much as you can. Once again, class of 2019, welcome to our Faculty and enjoy your Orientation Week!



Whether you aspire to work for a specific industry, get involved in innovative research or start up your own company... there will be opportunities to pursue your aspirations...

Student Relations Officer

ROBIN JARDIN
STUDENT RELATIONS OFFICER

Welcome to Waterloo Engineering! I am excited to see so many new students on campus participating in Waterloo Orientation.

The Faculty of Engineering Orientation Committee (EngFOC) have worked tirelessly for almost a year, planning every detail of this welcoming, exciting and fun week for you. I truly hope that your orientation experience makes you feel welcomed and excited to be a part of this incredible faculty!

The role of the Student Relations Officer was created in 2008 with the goal of enhancing your engineering student experience and improving student relations with the administration. I believe

we have made tremendous progress in both of these areas. A large part of my job is to listen to you and to ensure the student voice is heard. I provide regular updates to the Dean from our student body, and likewise, share updates from the Dean with you.

As your main contact in the Dean's Office, I am available to provide support to your activities and initiatives. One of my responsibilities is to serve as the Faculty Orientation Advisor, so you will see me around during orientation.

Hopefully you will be motivated by the energy of this week to get involved in one or more of the many extra-curricular engineering activities. And of course, we love to boast about our students, so please share your stories and successes with me and others in the Faculty. I can be contacted at rjardin@uwaterloo.ca.

I hope you have an awesome Orientation experience and I look forward to meeting you at some point during the week and throughout your time as a Waterloo Engineering student.



NANCY HUI
4N CIVIL

Retraction

Entrepreneurship: An Option

In Issue 5 of the Spring 2014 Iron Warrior I wrote an article entitled "Entrepreneurship: An Option." I would like to officially retract this article, which does not provide a complete and accurate representation of the attributes of the entrepreneurship option provided by Waterloo Engineering and the Conrad Centre, and make clear that the opinions presented in the article were solely my own and did not represent the stances of the Iron Warrior or the Engineering Society.

The opinion in the article was written solely based on the limited information found in the online engineering course calendar, regrettably without input from the Conrad Centre at all.

To clarify, the entrepreneurship option is equally well suited for students in all engineering programs, because it is

flexible and provides two streams for students to develop entrepreneurially: within existing, large organizations as well as startups.

There are two paths to choose from when completing the option: Venture Creation Emphasis or Corporate Entrepreneurship Emphasis. Students taking the entrepreneurship option are required to complete courses in Economics (ECON 220), and Business, Entrepreneurship & Technology (BET 300, 320, & 400), as well as technical courses related to the experience, and other courses specific to the path chosen.

If you would like to find out more about the entrepreneurship option, visit the Conrad Centre's webpage at uwaterloo.ca/conrad-business-entrepreneurship-technology/undergraduate-students/entrepreneurship-option-engineering, or the course requirements at ugradcalendar.uwaterloo.ca/page/ENG-Option-in-Entrepreneurship-6.







FALL WELCOME WEEK

SEPTEMBER 8-12

#FEDSWW14

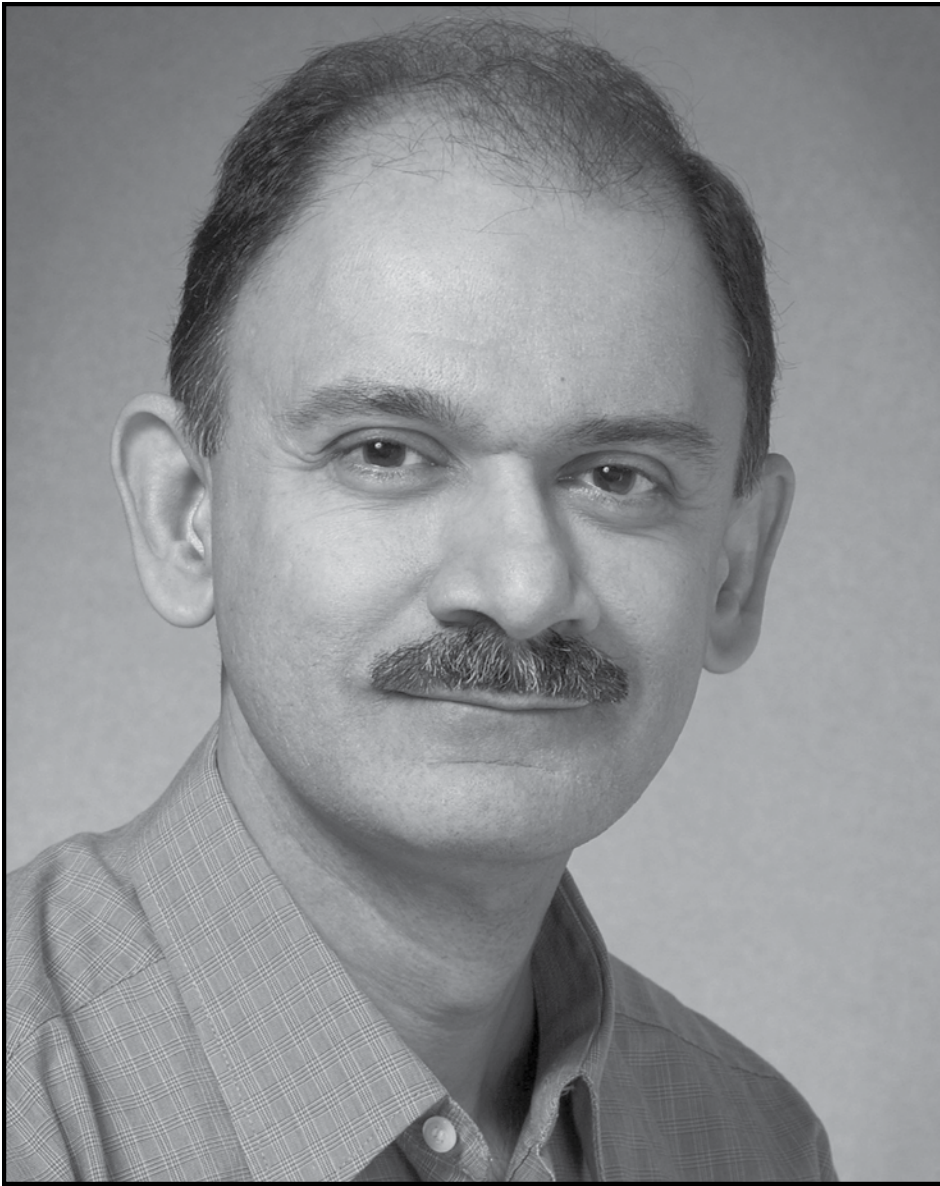
<p><i>All Week</i> WELCOME WEEK ARCADE</p>	<p><i>Monday</i> BREAKFAST OF CHAMPIONS SEX TOY BINGO (19+)</p>
<p><i>Tuesday</i> BIKE DAY PRESENTED BY SUSTAINABLE CAMPUS INITIATIVE WELCOME WEEK CARNIVAL</p>	<p><i>Wednesday</i> MONOPO-TEA \$5000 AMAZING GOOSE CHASE</p>
<p><i>Thursday</i> WELCOME WEEK CONCERT FEATURING DOWN WITH WEBSTER, USS, AND SERANI</p>	<p><i>Friday</i> MOVIE MARATHON</p>

Register for your FREE tickets now at welcomeweek.feds.ca

Next Issue: September 24, 2014
Send your submissions to iwarrior@uwaterloo.ca
Fall 2014 Publication Schedule:
September 24, October 8, October 29, November 12, November 26

Welcome to First Year Engineering



AJOY OPAL
DIRECTOR, FIRST YEAR ENGINEERING

A warm welcome to all first year engineering students and congratulations on joining one of the finest universities in Canada. Starting university will provide many opportunities for personal and academic growth: to make new friends, to visit new places, to develop critical analysis skills, to gain valuable work experience and to develop a career of your choice. Your undergraduate degree will take approximately five years to complete and it is important that you start this process with care and planning. The First Year Engineering Office is here to help you plan and manage the transition from high school and home to a new environment in the university.

Starting university is also synonymous with becoming an adult. You have the freedom to do what you like and also the responsibility of taking care of yourself. It is your choice to attend classes, complete assignments or write exams; however, we highly recommend that you participate in all of these activities, as they will benefit you greatly. The decisions that you make now will have far reaching consequences later in your life. So, choose wisely! Let me give you some tips on what to expect and on how to succeed in engineering at Waterloo.

What to Expect in Your 1A term

Each one of you will have approximately 30 hours per week of scheduled lectures, tutorials and laboratory periods during the 1A term. In addition, you will have to put in 20-30 hours per week to study, review concepts and to finish assignments and reports. This adds up to 50-60 hours per week of work; it is more than a full time job! To manage this workload, you may have to change your study habits and how you manage your life. Let me give you some tips on things that work, and some things that do not work:

- Attend classes. Follow along with what the instructor is teaching in class. Ask questions. During classes do not be distracted by Facebook, Twitter, movies or games on your computer or smartphone.
- Review your course material and complete assignments on a regular weekly basis. Do not try to cram the day before exams.
- Understand the underlying concepts that you are studying in class, instead of memorizing formulae. Solve problems to evaluate your understanding of concepts.

Balance your Life

Your first thought when you join university may be at either end of two extremes: either study-study-study, or possibly, party-party-party. Neither of these extremes is the ideal choice and, as usual, the best choice lies somewhere in between. Let me suggest that everyone is made up of three major parts: mind, body and soul. To be successful in life you need to nurture all of these parts because they depend on each other for survival. For your mind you need to spend time studying and developing critical analysis skills; for your body you need to eat, sleep and exercise regularly; and for your soul you need to relax with friends or take part in extracurricular activities. Not only do you have to nurture all three parts, you need to balance the amount of time spent on each activity, without ignoring any aspect of your life.

You will also find that time will become an important resource that is in short supply during your undergraduate career. There will never be enough time to complete all the tasks to the degree of satisfaction that you would like. Thus, you will have to set priorities and spend an appropriate amount of time on each task. To help you with this process it is important that you make a schedule for all your activities. Not only should you make a schedule, you must follow it and make adjustments to it as you go along. In summary, there are

three major things to consider during your undergraduate studies. They are neither study-study-study, nor party-party-party. Instead, they are mind-body-soul, and the balance between them.

Ask for Help

All engineering programs are demanding and have heavy workloads. The workload may result in limited time to understand a concept, finish an assignment or project, or prepare for an exam. The lack of time may also cause stress in your life. In these situations you will need help with your studies or personal life. Keep in mind that asking for help maybe the better choice in many situations, as opposed to doing everything yourself or doing nothing.

There are many sources of academic help available at the university. First will be your classmates and friends studying the same or similar subjects. It will be beneficial to form study groups with other students taking the same course. Help is also available from your course instructors and teaching assistants during lectures and tutorials, and outside class hours by making appointments to see them in their office. Additional help is available through special staff and tutors hired by the First Year Engineering Office to help you with your courses. The First Year Engineering advisors are available to provide academic counselling, for example, in case your academic performance is not meeting the standards we expect of all students. Please make use of all these resources.

To get help with stress, personal issues, and to learn study and time management skills you can come to Counselling Services. There are Engineering Counsellors available within the First Year Office, or you can go to Needles Hall for additional university Counselling Services. For your physical health you have access to doctors and nurses on campus at Health Services.

Information and access to all of these kinds of help can be obtained by coming to the First Year Office in CPH 1320, or by calling extension 84761 during normal working hours.

Be Professional

Engineering, like many other programs, such as, medicine, law and accounting, are called professional programs. The reason is that the work done by these professionals can, and does, affect the lives of other people. As a result, professionals are expected to adhere to high standards in their dealings with other people and amongst themselves. To help you develop as a professional, we expect you to behave in a professional way with everyone, including your fellow students, teaching assistants, instructors and university staff. Any unprofessional behaviour during your university career can have serious consequences and, depending upon the seriousness of the misdeed, these can range from loss of marks in a course all the way to expulsion from the university.

Being a professional means being ethical, courteous, and considerate in all your dealings, and communicating your ideas and thoughts clearly. Being professional in a classroom will mean not disturbing your fellow students or the instructor by talking in class. Being professional to your fellow students will mean treating everybody equally and without prejudice, regardless of their race, colour, creed, sex or religion. Being a professional means not to lie, cheat or copy on assignments and exams. Being professional means giving credit where it is due, without misrepresenting somebody else's work as your own. Being a professional is all about doing the right thing at the right time. If you are ever in doubt about if an action is professional or not, ask someone in a position of authority to help you decide.

I wish you all a successful career in engineering and a enjoyable time at the University of Waterloo.

Your first thought when you join university may be at either end of two extremes: either study-study-study, or possibly, party-party-party. Neither of these extremes is the ideal choice and, as usual, the best choice lies somewhere in between. Let me suggest that everyone is made up of three major parts: mind, body and soul.

Awards, Grants, and Scholarships Available

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For intermediate-level undergraduate students who have demonstrated outstanding contributions to the Faculty in the promotion of extra-curricular activities.

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PETER H. ROE

DIRECTOR OF INTERNATIONAL
EXCHANGES

Welcome, class of 2019, to Waterloo Engineering, where we try to help your career, long term, to be the best possible for you. And what has international exchange got to do with this? If you have lived most of your life in Canada, with just a few trips overseas for holidays or to visit relatives, you can really win by going on exchange to a foreign country and being totally immersed in their environment. The experience is often life-changing; it can open your eyes to the outlook, traditions and culture of your host country and to many peoples around the world. You will meet other exchange students from all the continents when you are at one of our partner universities for your 3A or 3B term (or both!). You will make life-long friends and contacts from around the world.

International Exchange is a privilege which we offer to students who have

completed 2B and satisfy a number of other criteria. So why think about it at the beginning of 1A? It's a great opportunity that deserves to be high on your list of things to plan for. It needs preparation, organization and forethought. If you plan ahead you can be among the 15% of your class who can go on this major adventure and learning experience.

We have exchange programs with over 80 top-tier universities in about 30 countries around the world. You need to evaluate which best suits your needs; some of our exchanges are restricted in numbers, some are open only to certain disciplines of engineering, for some you need to learn the language spoken in the country and used for instruction. In some of our exchanges it's easiest to go for a one-term exchange; in others two terms, or even a full year including a work term is best. All this is a part of planning for your future career, which could take you anywhere in the world. To get started, visit our website (search for "Engineering Exchanges" from

the UW home page) for a wealth of detailed information and all the contacts you need to help you in the process. If you are on Facebook, look for the "UW Engineering Exchanges" group, which is specifically for outbound students and those who have been on exchange, and is moderated by the Engineering Society (EngSoc). You should also contact Cindy Howe

(eng.ug.exchange.askus@uwaterloo.ca) in the Faculty Exchange office, located in CPH 1320. Don't let the idea slip past; you may need more than a year of lead time, after completing the application process, before you can go on exchange.

If you're concerned about money, more and more scholarships and bursaries are becoming available to help. Normally exchange students lose no time on exchange and graduate with their class.

Finally, exchange is great for fun, travel and adventure. You will visit parts of the world that stay-at-home students may never experience. Don't take my word for it; talk to students who've gone, or read

what they have to say. For example:

"I wouldn't have traded my experiences for the world. My time on exchange was great: I got to go traveling and backpacking, got to meet some fantastic people from all over the world, and I graduated on time with my class and my friends! ... If you are even just considering an exchange, I recommend without the slightest reservation that you go. Waking up and looking forward to every day in a new country... that's just not a feeling that you get [if you stay at home]!" (Matthew Lee, SyDe)

"Doing an exchange was probably the best decision I have ever made. I learned so much about engineering (of course), but also about European culture and history, and simply interacting with people of an entirely different background. The time and distance away from home, and the completely different lifestyle was definitely not easy to adjust to, but these aspects made the whole experience worthwhile." (Winnie Tse, MechE)

Engineering Student Societies' Council of Ontario

HEATHER SMITH

VICE-PRESIDENT EXTERNAL 'A'

The University of Waterloo is one of fifteen member schools of the Engineering Student Societies' Council of Ontario (ESSCO). The council serves to represent undergraduate engineering students across Ontario to professional associations such as Professional Engineers of Ontario (PEO), the Ontario Society of Professional Engineers (OSPE), and the Council of Ontario Deans of Engineering (CODE). ESSCO also communicates matters of common interest to the council on a national level through the Canadian Federation of Engineering Students (CFES). In addition to representing engineering students across Ontario, ESSCO also provides many opportunities such as conferences, events, and volunteer opportunities, which are all excellent ways for YOU to get involved!

First Year Integration Conference (FYIC)

FYIC is one of four conferences run annually by ESSCO. This conference is

for first year engineering students who are looking to become more involved with their school's engineering society. FYIC focuses on leadership development, and provides an introduction to CFES, PEO, and OSPE and the role of ESSCO with each of these organizations. This conference will take place at Laurentian University in Sudbury, Ontario over a weekend in the Winter term and is open to students that are in 4-stream and 8-stream. Students attending this conference will learn about ESSCO, being a leader and getting involved. FYIC is also a great way to meet first year engineering students within Waterloo and across Ontario, as well as interacting and gaining insight from the VP-Externals who are involved in the Waterloo Engineering Society, as well as ESSCO. Applications will be opening at the end of October, so keep an eye out for FYIC application details on the EngSoc Facebook page and your email!

ESSCO Rube Goldberg Project

March is National Engineering Month and during the month, ESSCO takes on various initiatives to learn about

and showcase engineering excellence. One of these initiatives is the Rube Goldberg Project, where ESSCO schools individually design and build a Rube Goldberg Machine. These machines come together to create one big machine. The Rube Goldberg Project from last year had 9 schools build machines that came together to light up the CN tower purple! All undergraduate engineering students are welcome to help design and build Waterloo's piece of the Rube Goldberg Machine. The build takes place on campus so if you are on 8-stream or 4-stream with a nearby co-op, come on out! Keep an eye for an email with details in February.

Wonderland Math and Physics Day

ESSCO and Wonderland team up for a day in May for an outreach event to engage high school students in engineering through learning about the science behind roller coasters. ESSCO schools send volunteers to travel around the park with a group of high school students to answer questions, go on the rides with them and explain the engineering background. This



Engineering Student Societies
Council of Ontario

event also involves a marble roller coaster contest where students can compete to build a mini roller coaster. This is a fun and exciting outreach initiative by ESSCO that happens just before or at the very beginning of the Spring term. This means that if you are in 8-stream, this event is at the beginning of your first co-op term after 1B, and if you are in 4-stream, this event takes place at the beginning of your 1B term. This event is open to all engineering students, details on applying and volunteering will come out in April!

If you have any questions or would like more information about getting involved in ESSCO, check out essco.ca and send them an email at executive@essco.ca, or talk to one of your VP Externals, Heather and Sarah-Rose!

Canadian Federation of Engineering Students

KRISHNA IYER

NANOTECHNOLOGY '14

The Canadian Federation of Engineering Students (CFES) is a national organization that represents engineering students all across Canada. CFES provides a platform to facilitate sharing of know-how and the furthering of the engineering profession from a student perspective. Due to its national appeal, it is a bilingual organization. The CFES represents students on the Canadian Engineering Accreditation Board (CEAB) which decides on the legitimacy of various engineering programs across the nation. Historically, CFES was instrumental in effecting change in the engineering student body. Following the Ecole Polytechnique incident, CFES was instrumental in advocating for more rigorous gun control laws as well as assist students in coping with the tragedy.

The CFES also conducts several events and services for YOUR benefit These include the yearly CFES President's Meeting which serves as a platform for VP Externals from across the country to dis-

cuss best practices and understand what challenges could potentially arise from the various activities conducted by individual engineering societies. These meetings are attended by representative of almost all of the 49 member schools and thus representing 55000 students across the nation. In addition to this, CFES has been running the Canadian Engineering Competition (CEC) for several years now. The CEC is a competition between 150 of the brightest engineering students from across Canada vying for titles in each of the six categories including design, consulting, presentation and debate. The competitors for CEC are distilled from each leg of local competitions starting with the Waterloo Engineering Competition and then the Ontario Engineering Competition.

Additionally, CFES has been working

hard to promote the needs of women in engineering and identify lacunae that need to be addressed. For this purpose, CFES runs the National Conference for Women in Engineering which runs annually. This conference encourages the interaction of professional engineers with the students and thus hope to address issues arising from gender issues in the engineering profession.

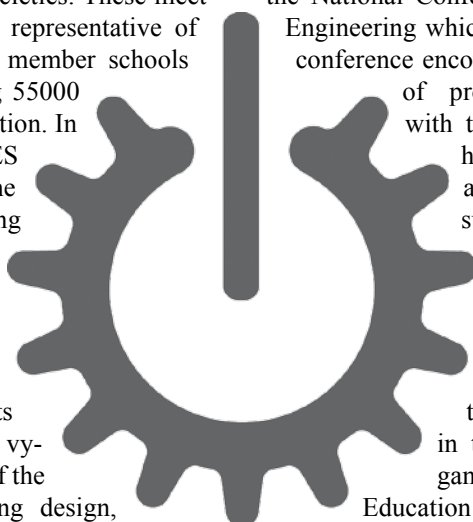
Additionally, in order to keep the engineering students across Canada up to date and relevant in the future, CFES organizes Complementary Education courses in a wide variety of subjects ranging from "The Engineering of Beer" to "Sustainable Engineering". These courses are heavily subsidized and provide an opportunity for one to gear up to be the engineer of tomorrow. Recently, CFES held a "Lean Six-Sigma Course" in partnership with Canada

Post to provide the opportunity for Canadian engineering students to get certified in these career advancing qualifications.

Waterloo's involvement with the CFES in quite extensive. This year, Waterloo is the host for the biggest event organized by the CFES; Congress. This Congress provides a platform for almost 200 students from over 40 different schools to interact. Furthermore, there are several sessions held by industry professionals to empower the national transfer of knowledge. The Congress also serves as the annual general body meeting of the CFES and policy changes are often made here.

Additionally, Waterloo is also the host and producer of "Project Magazine". Project Magazine serves as the official medium of communication employed by the CFES and is the voice of engineering students across Canada. If you wish to help out with the running and making of this publications, email promag@cfes.ca.

Despite all the acronyms and cryptic sounding titles, CFES strives for a better tomorrow for the Canadian engineering profession.



Welcome From Your Colour Group Leaders

Colour Groups: Past

ARYN, ANSON, ELYSE, JAD & MICHAEL DARK PINK HUGES

OMG magic! Wands at the ready! Grab your brooms, grab your staffs. Don't forget your pet toad! Orientation Week is upon us and the Dark Pink Magicians

JAQUELINE, TIFFANY, SITESH, ALVIN & MICHELLE DARK RED HUGES

Spartans, are you ready for battle? Sparta is a brotherhood founded upon of

JENNIFER, JOSHUA, CASSANDRA, LEAH & WILLIAM LIGHT ORANGE HUGES

Howdy Cowboys and Cowgirls! Are you starting to think there's more to life than rounding up cattle and throwing brawlers out of your local saloon? Despite all those good times are you feeling like you aren't quite ready to ride off into the

MARYSE, GRAHAM, MELISSA, MATTHEW & VICTORIA LIGHT YELLOW HUGES

We are the mighty dinosaurs! Hello class of 2019!! We are super excited to welcome you to the herd of dinosaurs!! Get ready for a week more epic than that robo-T-Rex from the new Transformers movie, and leaders more friendly than Ducky from Land Before Time! This week is going to be packed full

JOHN, NIMISHA, ALICIA, SCOTT & AMY DARK YELLOW HUGES

Welcome, fellow citizens, to team Dellow (Dark Yellow). We are the peoples of the mysterious lost city of gold, El Dorado! This September, we are leaving our beautiful city to compete in the Battle

CHRISTIAN, SARAH-ROSE, TERESA & HIMESH DARK BLUE HUGES

In the battle between the future and past, the raw power of the Ice Age will freeze any opposition in their tracks and shatter them. Mammoths, saber-toothed tigers, and the bone chilling ice apocalypse give Dark Blue the advantage as we embark on our journey into

ZACK, BEN, JULIANA, LISA & JENNIFER DARK PURPLE HUGES

Greetings comrade! We are the Dark Purple Knights. With the return of our

SARAH, ADRIAN, ANDREW & CHELSEA DARK BROWN HUGES

Welcome to Dark Brown! We can't wait to meet all of you! We are the mighty

have been called to the Battle of The Ages. Join us as we combine forces with the PAST to achieve victory over the Future. The fate of Engineering depends on it! Congratulations, The Grand-Mages have clearly identified you as worthy to practice witchcraft and wizardry with Dark Pink. Take 100 First-years (that's

the strong hands of our brothers and sisters.

Strong warriors don't always make the best armies. Great armies are forged on both strength of body, and intellect.

Brought back from the Past, the Spartans are here representing the Dark Red team.

sunset with your favourite mare? Never fear, the adventure has just begun! Let me tell you partner, there's a wily bunch of outlaws waiting in ambush in this here country township, the likes of which we've never seen before. It is our job to keep these ruffians in check and defend our homesteads! Waterloo is our county, and we've got to show them that it is our way or they'll be packed into the next stage

of events that will keep you having fun and making amazing friends. Every single one of your fantastic leaders loved their Orientation Week, and have come back to make sure you have a great experience make some lasting memories of your own! A few things you can get started on: Practice your Dino roar. Get yourself a punny and/or awesome dino-nickname. (Sadly, #SWAGosaurus is already taken by one of your Huges). Practice your roar again. Re-watch Land Before Time

of Ages. Join us on our quest to conquer the Battle of the Ages, where we will be in competition with many other courageous competitors- many who will do anything to win. As we leave our city, remember that these outsiders are of a peculiar species. As your leaders, we have heard there are many other strange creatures in the world and must be careful. This is the first of

Waterloo University's world. Those on our team can expect to see a large group of friendly faces eager to help everyone become a part of the engineering community and Waterloo University as a whole. We'll learn all about the campus, our programs, the city of Waterloo, and much more. Of course we'll make sure we do it in a way that everyone enjoys the entire week. Competition, intelligence, and enthusiasm make every

sword fighting brethren representing us well in Game of Thrones, the mediaeval times are back and better than ever. Fighting dragons and saving the Damsel in distress are our specialty. We uphold the highest level of chivalry and honor of all

Vikings! Get ready for an adventure on the high seas! We'll be sailing and singing and riding dragons (or at least doing very good dragon-riding impressions) the whole week long! If you want to prepare before Orientation Week starts, we suggest

you), 20 Bigs, 5 Huges, add a dash of ambition and a pinch of spirit, stir twice counterclockwise. Double, double toil and trouble; fire burn, and cauldron bubble! Welcome, and let the tournament BEGIN! We're so excited to meet you magicians, and look forward to dueling alongside you on September 2!

We Waterloo Warriors are carrying on the tradition of ferocity and spirit. Together we'll reign supreme this Orientation Week, defeating all before us. Spartan, ready your mind, ready your body for a fierce battle of the ages!

coach to Timbuktu! Now that sure puts the pig meat in the fire! You have been chosen for your superior intellect and excellent reputations as superior gunslingers. Now you must begin to prepare! Read up on the history of our great county of Waterloo, practice your feats of physical strength and strengthen your cunning. We need you partner. Are you ready to conquer the Wild West? It's going to be quite the hoe down!

1-13, Jurassic Park, The Flintstones, and every other piece of your childhood that contained dinosaurs. When you think your roar is ready, go outside and practice it. If any of your neighbours run screaming, you know it's ready. Your leaders are all really excited and have all put in a lot of time to make your O-Week amazing. If O-Week or university seems intimidating, remember this: you are a dinosaur, so it's definitely more afraid of you than you are of it. See you all soon!

many steps that you will take to achieving your iron (not golden!) ring. To prepare you for this amazing week, it may be beneficial to find things that rhyme with "El Dorado" (Mel Potato?). Come with us and experience a week you will never forget. In El Dorado, our clothes our gold, our houses are gold, and even our bathrooms are gold! It's goooooooooooooooooooooooooold!!!

event something you won't soon forget! Prove yourself a true Waterloo Warrior as we unite with our allies of the past and clash with those of the future in the battle of ages. By the end of the week, you'll know your way around campus, have plenty of new connections, and be on your way to becoming a true Waterloo Engineer. It's time to show the future how Dark Blue's Ice Age will stop them in their track as we emerge victorious!

time. A storm is approaching. My fellow comrades, we need your skills and courage. This final battle will dictate who will stand victorious and claim the title Champions of Time! Prepare the horses and Draw your swords! We will ride to VICTORY!

looking up some Norse mythology (not just the Marvel version of Thor), watching How to Train Your Dragon, and brushing up on your paddling skills and navigation! We'll see you in RCH 112 bright and early on September 2nd!



The Meaning of Orientation Week Hardhats



The Yellow hardhat is reserved for incoming new students who complete the Principles of Engineering during the Earn Your Hardhat event.



The Green hardhat is awarded to the Bigs during Orientation Week that prove their ability to dedicate and sacrifice themselves to their colour group.



The Red hardhat is awarded to the Huges during Orientation Week who have the ability to organize their colour group, motivate their leaders and lead their team to victory.



The Orange hardhat is awarded to the Media Gurus during Orientation Week who prove their ability to handle a camera, manage media, and compile videos to create works of art.

Welcome From Your Colour Group Leaders

Colour Groups: Future



**BOGDAN, HANNAH, GORDON,
SHREYA & MOHAMED**
LIGHT PINK HUGES

We want to be the very best, like no one ever was! To win O-week is our real test, guiding first years is our cause! We will travel, throughout campus, searching far

and wide, so all of you can understand, Engineering pride! So get excited to join the Light Pink party as we harness the power of Pokemon and join the forces of the future to put the past back into the history books! We're counting on all of you: Electric, Steel, Rock, Poison and all other types of Pokemon to combine your skills and talents towards

our noble goal! Along the way, you'll learn all about Waterloo Engineering traditions, what to expect in your first year, and where to find all the resources you need on campus. Whether you're new to Pokemon, or a total Poke-maniac, we require all of your wit, cunning, spirit, and engineering prowess to help us come out on top!

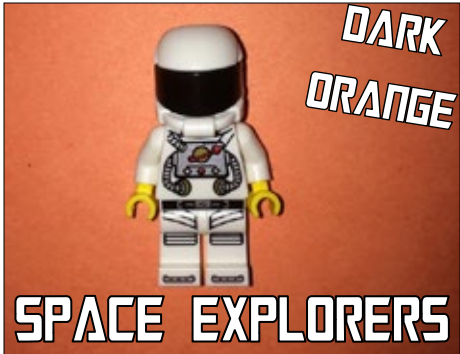


**KATHERINE, SEAN, DANE,
PUNEET & CASEY**
LIGHT RED HUGES

Earth's Mightiest Heroes gather to fight the foes that no single superhero can

withstand. Science, mutations, and magic combine under a single name to protect the Earth from all forces, no matter where in time or space. In a battle for the ages, we must fight for those who cannot. We will rise victorious as the past fades away and

the future remains bright. Because if we can't protect the Earth, you can be sure we'll avenge it! Alone, we are strong, but together, we are unstoppable. We are the ultimate team. We are Avengers! Avengers Assemble!



**JILLIAN, BENJAMIN, SOPHIE,
SHAHID & NICHOLAS**
DARK ORANGE HUGES

Welcome to the biggest and greatest adventures of your lifetime! We, the space explorers, are pushing new boundaries and exploring the edges of our universes in hopes of conquering any form of life out there. This September you will board our newest and most impressive spaceship,

DORANGE14, along with our esteemed team of officers, that you shall refer to as Huges, and our adventurous crew of supernauts, that you shall refer to as Bigs, as we travel through the vast universe of Waterloo campus in our attempt to win the Battles of the Ages and prove ourselves to be the fiercest combatants this earth has ever seen! TRAINING STARTS NOW! We need you to be in tip-top space-worthy shape by the beginning of September.

The best way to prepare is to watch/read/memorize anything and everything Chris Hadfield as ever posted (you could very well see him on campus!). It would be beneficial to also watch all the highly accurate depictions of our life that we have published such as Star Trek, Firefly, Stargate, Battlestar Galactica, and Star Wars. May the force be with you. You are now ready to start your journey to infinity and beyond!



**JOSHUA, EMMA, WESLEY,
FARWA & TIMOTHY**
LIGHT GREEN HUGES

Greetings first years, we come in peace. We are Aliens from the planet Light Green. We have come to fight alongside our future brethren to defeat the enemies

of the past, and conquer Orientation Week 2014!

In our search across the universe, we have assembled you, the brightest, strongest and most awesomest first year engineers every encountered in the Milky Way. With our combined might, we will take on and surpass all of the challenges

that we will face. You will use your ingenuity to build new alien technologies, and possibly destroy planets (if we can fit it into the super busy schedule)!

So prepare yourself, yell out Allons-y as we launch into light speed and embark on the best Orientation Week in all of space and time!



**JARED, AMANDA,
EVANGELINE, CHRISTINA
& BRANDON**
DARK GREEN HUGES

Master Chief awoke to find that he was alone. He got up, and dusted off his armour, then looked around. He could feel something strange in the air. Surveying his surroundings, the corridor he found himself in was dark, the floor was covered in chipped brown tiles and the walls were made of painted cinder blocks. He attempted to patch a communications channel through the device built into his helmet but all he heard was static. His first thought was to find supplies when a bright light at the end of the corridor drew his attention. He stepped forward into the light and was momentarily blinded as his helmet's vision system adapted to reveal the ruins of a 2-story atrium. Holes in the ceiling exposed

the sky above and everything was covered in a thick layer of fine beige dust. Large plaques hung loosely from the walls, names worn away, and the rusted metal frames of couches whose cushions were long eaten away by moths lay to his left. Crumbling brown stone bricks attempted to cover half the height of the walls but the upper half appeared as if it had once been lined with windows. Chief felt exposed, he could see into the empty hallways of the second floor just as easily as anyone or anything on the second floor could see him. Though in front of him was an abandoned canteen which may contain supplies, the set of steps to his right distracted him from his goal. The tiled steps were immaculate, not a speck of dust, chip or scratch as if they were immune to the ravages of time. The steps led up to an equally untouched set of double doors which were shut. Wiping the last bit of dust from the front of his helmet, he read the

gothic lettering on a sign nearby: POETS. Approaching cautiously, he could hear a low hum emanating through the opaque glass, the steady sound of a drum-beat was growing louder from within, along with the unmistakable sound of a 6-string-BAM! The double doors flew open and a fireball exploded forth, sending Chief flying. He hit the wall spine first, shattering bricks on impact and fell face-down onto the ground. His armour had saved his body from some of the damage but his ears rang and he felt nauseous. Mustering the last of his strength, he lifted his head, and with blurred vision could see pairs of black boots surround him. The last thing he could remember as he closed his eyes was the faint jingle of steel chains before his mind slipped into the darkness. DARK GREEN!! Master Chief needs you help! Join us in CPH 3679, we must band together to shift time in our favour and win Frosh Week!



**JENNIFER, BRENDAN,
VINAY & CLARISSE**
LIGHT BLUE HUGES

A mighty battle is upon us all. As a light blue member, you will be

joining the ranks of the finest mutants. We will fight until the end and refuse to back down until we are the last team standing. You must be ready, there is no turning back. Read all your X-Men and TMNT comic books, watch all the shows and movies,

and think of a great mutant nickname. Your greatest weapons are spirit, wit, intelligence, and strength. Do not leave any of these behind. This week will help prepare you for the more important war that will last for at least 5 years - university.



**YUKI, GABRIEL, SOFIA,
NICOLA & SCOTT**
LIGHT PURPLE HUGES

Welcome purple minions, Power Puff Girls, Frankensteins and all other mistakes! We are the Failed Science Experiments and we are here to dominate this epic Battle of Time. Not only do we rel-

ish in big hair, undecipherable screams and every forbidden chemical, we are the masters of the unexpected. Goop, slime and foam will be our specialty for the week. In our secret laboratory, we are testing all of our new inventions for the battle ahead. Welcome first years to the Light Purple Team! We are excited to see what experiments you will try that will lead us

to victory, and will help you to succeed in your first year of Waterloo Engineering. Be prepared for a mind-blowing week of daring adventures, epic brain challenges and all the dancing and cheering you can imagine. Bring your smarts, your creativity and your enthusiasm because there is no time to waste. FUTURE WILL RULE THE AGES!



**STEVEN, LAURIE, BENJAMIN,
CHAD & MATHIEU**
LIGHT BROWN HUGES

Do you recognize this planet that you have just stepped on to? Yes? Think again, young, untested froshling... What may look, and sound like the University of Waterloo on planet Earth is actually.... the Planet of the Apes! And us, the Light Brown team, will be the rulers!

Welcome, new Frosh, to Orientation Week 2014! O-Week will be the first of many obstacles in your path to become an engineer, but through our ingenuity, medically advanced brainpower, and opposable toes, the Planet of the Apes will overcome all challengers!

We know that we have the best of the best wannabe-engineers from all over the world, but these are the big leagues now! You will need all of your skills and knowledge to rule

the jungle that is Engineering O-Week, but you will not be alone. Your Huge and Big ape leaders will direct you where to throw your poo.....rly rhymed cheers (and will even throw some of their own!).

So come, unite our monkey brethren, and we shall Mighty Joe Young stomp over all the competition! Get ready to monkey around (heh...see what we did there?)

Bonus points for bringing bananas everyday!

Engineering Programs at Waterloo

RAIN MAKI AND JASON MCMILLAN 2B ARCHITECTURE

As you may have discovered already, we don't call Waterloo home, but rather a historic building at the heart of the old Galt neighbourhood in the City of Cambridge. The refurbished Riverside Silk Mill sits on the banks of the Grand River and will soon become your home sweet home.

In your first year you'll be tossed into a whirlwind of learning, challenging you

NINA FENG OUTGOING EDITOR-IN-CHIEF

Hello 2019's, Welcome!

You're the trail blazers in an adventure that will give you the expertise to design and develop biomedical devices and sensors, work on medical imaging, analyze bioinformatics and much more!

As you progress through your time here you'll be able to customize your degree

WILL WILMOT 2B CHEMICAL

Congratulations class of 2019!! Now that you're here, get ready to learn about distillation, energy balances, process controls and well, I guess a little bit of chemistry mixed in there. Along with first year comes preparing a resume, many hours spent slav-

NANCY HUI 4N CIVIL

Welcome, class of 2019, to the wonderful world of civil engineering! Civil engineering is the second oldest discipline of engineering, after military engineering, and deals with road networks, transport systems, excavations and mines, structural systems, sewer systems, material sciences, and construction scheduling, to name a few. In first year, you will take general courses in chemistry, calculus, physics, and linear algebra (Protip #1: Once you finish linear algebra you'll want to forget it forever. But

ANTHONY CLARK 3B COMPUTER

Do you like calculus? Do you like Boolean algebra? Do you like designing multistage differential amplifier circuits at 3 in the morning? Great! You've come to the right place!

Partial joking aside, welcome to Computer Engineering! You probably already have an idea of the problems Computer Engineers work on – digital hardware, firmware, and even some analog circuits for when there are no Electrical Engineers

AUSTIN COUSINEAU 3B ELECTRICAL

Welcome to the University of Waterloo, and congratulations on choosing Electrical Engineering! You have an exciting path ahead of you. This year will be full of new experiences. You will need to enforce good study habits, and put the effort in to succeed. You will be taking a wide variety of courses ranging from circuits,

KRISTINA LEE 3N ENVIRONMENTAL

Welcome and congratulations on being selected to be a part of Environmental Engineering at the University of Waterloo! We're happy to have you and hope you enjoy your 5 years here.

Environmental engineering focuses on the chemical and biological world around

to develop knowledge in architectural design, building science, cultural history and visual communication. Expect to become immersed in the world of architecture, indulge in all things design at the Musagetes architecture library, explore living metropolis of New York City, and maybe even get an exacto knife cut or two along the way.

While academics are a huge part of first-year architecture, it is also time to explore your own interests with your new classmates. Our campus offers a wide variety of extracurriculars to choose from,

further. It'll be possible to graduate as a generalist or to concentrate on Biomedical Signals, Biomechanics or Biomedical Devices. First year you will be tackling more general concepts like which will unite you not just with your class but also the larger engineering student body.

As the first ever class of Biomedical Engineering at Waterloo there will be some pros and some cons. There may not be any upper years in your program but this is an

ing over Excel and TONS OF FUN!!! Once you're through most of your first year, you'll learn more about separation processes and bioprocess engineering which are studied by chemists and scaled up by future engineers like you! Most of your first year courses are fairly general, Chemistry, Linear Algebra, Calculus, and Physics with a lot of concepts being review of material

don't - it'll come back to haunt you in third year.) You will also learn how to survey on Columbia Lake, identify rocks and minerals in the Earth Science labs, program with Matlab, and loads of other impressive things.

Take advantage of your co-op terms to experience different work environments – and not just things you think you'd want to do. Visit construction sites. (Protip #2: if you don't have a driver's licence, get cracking on it RIGHT NOW.) Spend a work term in the oil sands. Work in the public sector. Work in the private sector. By the time you reach 3rd year, you'll

nearby. In the year ahead you will build up skills in the fundamental areas of Computer Engineering, including Physics, Calculus, Programming, Circuits, Digital Logic and Discrete Math.

The best advice I can give is to ensure you put a good amount of effort into your courses, you will thank yourself later on! On the other hand, do make sure to get involved in things outside of classes – sign up for an intramural team, or join a few clubs. Wondering how to find the right balance? This is one of the most important challenges each of you will face while transi-

programming, math, physics and more. Do your best to study them well, as what you learn will be needed in courses and the workplace later on. First year will be full of exciting firsts for most of you, such as interviews, internships and independent life. Make sure you put a lot of effort into your resume, and make sure to take advantage of the resume critiques run by our lovely Engineering Society. You are sure to encounter some tough times as you adjust to

us, with a strong focus on water systems. Your first two years, although not the most fun, are very important to create a foundation of knowledge you'll need in your upper year courses. Upper year courses are where you'll get to delve deeper into topics of interest to you. One of the best parts about environmental engineering is that we get to do quite a few outdoor labs! In 1A you'll be outside for about 5 weeks learn-

including Waterloo Architecture Students Association (WASA), BRIDGE, F_RM-LAB Build, coffee houses, yoga mornings, hockey evenings and much more. We join our Engineering friends for Archneering events and Of Term Parties. After all, we're only a short bus ride apart!

The school has a dynamic and tight-knit community, where your peers are your greatest resource. The third floor studio is full of creative energy, where ideas spark, people collaborate and friendships form.

Best of luck, and much love from your new family at Waterloo Architecture!

excellent opportunity to develop strong ties with your professors. As you make your way through undergrad, your classes will be developed for you by the people who are teaching them. Go to office hours and ask questions not just about that class the professors' research.

You will also get to define how your program is perceived by coming up with a program nickname and creating your own traditions. The future is now, good luck!

covered in high school. Don't be afraid to go to help sessions, ask a classmate or join other sections of the core classes for a fresh perspective! In addition to the Engineering Society, the Chemical Engineering Student Society (UW CESS) also puts on fun events to take your mind off things. Now is the time to find a good work-life balance before the going gets tough!

know which areas you'd like to specialize in, and will be able to take the corresponding technical electives in water resources, structural engineering, transportation systems, and more!

Until then, don't be afraid to seek help from your TAs or your profs! Ask questions in class and visit them during office hours. But also remember there is a world outside the campus and people outside your class: get involved and write for the Iron Warrior, represent your class at EngSoc meetings, or compete with the Concrete Canoe and Concrete Toboggan teams. And don't forget: CIVILS ALWAYS WIN.

tioning into University, take advantage of the resources available to help you figure it out (TA's, Engineering Society, First Year Office etc.)

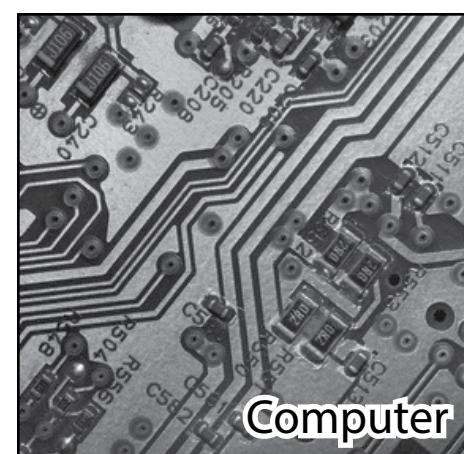
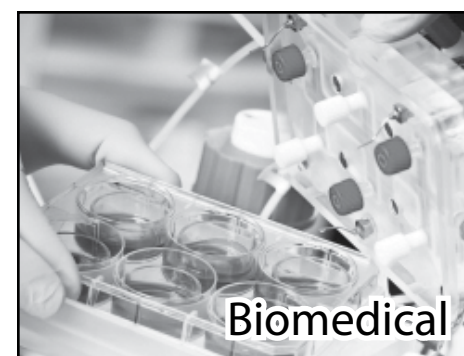
Finally, some of you will be introduced to co-op in the next few weeks. While it may seem daunting, Computer Engineering opens up some fantastic opportunities in the tech world. Spend some time perfecting your resume and practicing for interviews, and you may just find yourself on your way to your dream company.

Now go ahead and begin the best 5-7 years of your life!

the new world that is university. Everyone will, so don't be afraid to reach out for help when you need it. Take advantage of your TAs, professors, advisors and classmates – you're all in this together. But while this is all very important, don't forget that university is a social place as well. Make time to go the various events on campus, meet people and check out the various student teams that would love to have you join and help out.

ing the basics of field surveying through hands-on field labs. The information you gather there will help you determine a solution to the problem posed in your concepts course.

You may feel bogged down with work but remember to have fun, hang out with your class, and talk to upper years. We can't wait to meet you and have a fabulous time during O-Week!



Engineering Programs at Waterloo



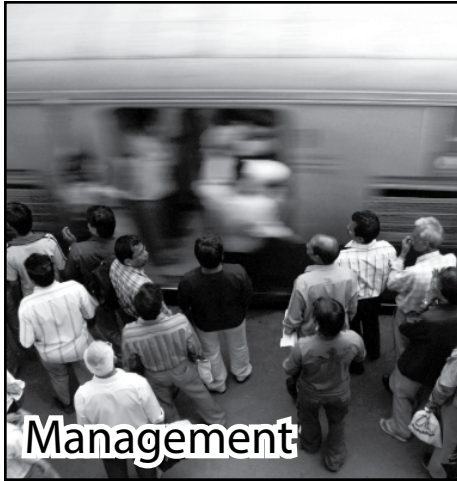
CHRISTY ROUAULT 4A GEOLOGICAL

Welcome to GeoEng! Geological engineering is a dual faculty program in the Faculty of Engineering and the Faculty of Earth and Atmospheric Science that can lead you to a wide variety of fields including geology, hydrogeology, hydrology, geotech, geophysics, geochem, geohazards,

mining, oil and gas, and many more.

Whether you want to get to work via helicopter and get your hands dirty hiking in the mountains or you want to be a sophisticated engineer in a sky scraper in Toronto, this is the field for you. You are on your way to a career with many unique opportunities including hands-on field work, working abroad, and a high paying salary. Field trips across Ontario and an interna-

tional trip to locations like Peru and Iceland are some of the highlights of your next five years. As a GeoEng in a tight-knit class you'll graduate with 20 best friends instead of 200 classmates. Nicknamed by Professor Unger as "engineering's best kept secret," we are a rare kind making us all the more valuable! Work hard, play hard, and get to know and love the people who will be your "rock" for the next five years.



ANJIDA SRIPONGWORAKUL 3B MANAGEMENT

Hello class of 2019 and welcome to Management Engineering! We're glad to have you join us.

Management Engineering is all about optimization, the knowledge to understand, design, implement, and manage, not engineers, but complex management systems that organizations are dependent on. Management engineers combine analytical methods, mathematical models, information systems, and behavioral science to solve problems and to strategically make

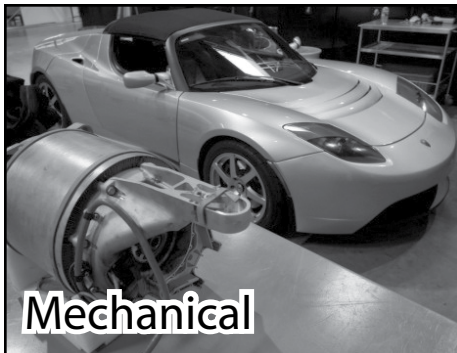
decisions, arriving at optimized, efficient solutions.

With electives selection beginning in second year, management engineers can specialize in three areas: applied operations research, information systems, and management of technology. Applied Operations Research covers areas from manufacturing distribution, logistics, to supply chain management and applies mathematical models to find the best ways to coordinate and operate an organization's activities. Examples of jobs in Applied Operations Research are consultant and production supervisor. Information Systems involves fields such as

human-computer interaction (HCI), utilizing computer technology for the design, development, and implementation of applications to meet organizations' needs. Examples of jobs in Information Systems are systems analyst and database administrator.

Management engineers start off first year with a solid foundation in chemistry, calculus, physics, programming, and financial engineering, before going onto upper years' courses, a blend of the three specializations.

So that's management engineering in a nutshell. It's a long, but rewarding journey ahead, and we hope you enjoy the ride!



LEILA MEEMA-COLEMAN 3B MECHANICAL

Congratulations 2019 Mechanicals on starting the five most exciting years of your life! So what can you expect in your first year? Well you will learn a little bit of everything. Mechanical is very general in first year, learning lots of physics, calculus, and materials, then specializing in upper years. First-year Mechanical Engineering

will provide you with opportunities to learn about design principles, AutoCAD, and SolidWorks. You will meet your WEEF TAs who are fantastic upper years that are there to get to know you and help you succeed in your ME 100/101 course (best course ever by the way!). The other exciting part of your first year experience is coop! Mechanical is so diverse we have the opportunity to work in almost any engineering industry so whether its

automotive, materials or building systems, you will have the chance to try it out first hand. Lastly, even though school and grades are important, first-year is about trying new things so get out there and join some clubs, student teams, WEEF, the Engineering Society or one of the other millions of opportunities Waterloo has to offer! If you have any questions or need advice I am always around and happy to chat :)



SAMI RAHMAN 3N MECHATRONICS

"You're in mechatronics engineering? Whoa, that sounds awesome, do you make like, Transformers?" That's how most of your first conversations might go with the friends you'll meet in first year. Feel free to confidently answer, "Probably."

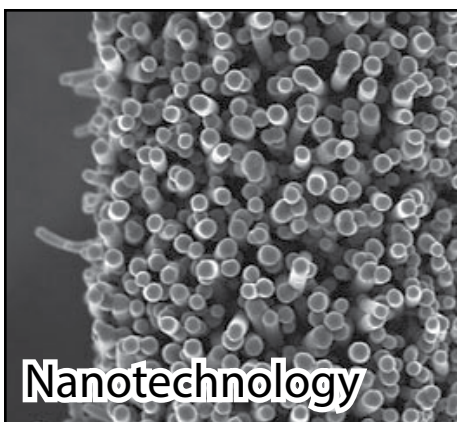
Congratulations and welcome to one of

Waterloo's standout multidisciplinary engineering programs, also known as Tron. Get ready to carve your undergrad legacy with an eclectic combination of electronics, mechanical engineering, controls, and computer science. You'll be challenged in each of these unique directions, making you an experienced, well-versed engineer and a valuable asset for cutting edge, high profile co-ops.

First year's going to fly by with a tonne

of exciting hands-on projects that'll help solidify your interests. You'll program and assemble a robot, optimize a fuel cell car, build a truss bridge, tear apart an engine, and draft by hand and with software.

You're at the front of a roller coaster with way more ups than downs. Waterloo's mechatronics alumni are notorious for making waves internationally. I can't wait to see what you're going to accomplish, Class of 2019.



MEAGAN CARDNO 2T NANOTECHNOLOGY

Welcome to the family, newest generation of Nanos! I see you ogling the QNC as you shuffle around campus. I know, I know, it's beautiful, you lucky ducks. Back in my day, we had to wait fifteen years—uh, wait, maybe that's a story for another day.

You'll grow to hate every iteration of joke relating to Schrödinger's Cat and superposition, and might have the occasional

nightmare regarding amino acids, but it'll be worth it for everything that you'll learn in the wonderfully diverse range of courses you can look forward to taking—organic chemistry, electromagnetism, semiconductor physics, quantum mechanics, biochemistry, and calculus. Lots of calculus.

Like all programs and faculties, first term will be a rush of new experiences and challenges, but you, young nano, will be able to face and conquer them all with enough perseverance and smart thinking. Now's the time to figure out what balance of work,

play, and sleep works best for you (try not to skimp out on that last one too much). A lot of the stuff you learn in first year will be the foundation of your upper year courses, so be sure to keep savvy, and remember: MATLAB is love, MATLAB is life.

Keep your eyes and ears open for details about the Nano Barbeque held every term, which will give you an opportunity to talk with other students and professors in the program. Talk to your Bigs and Huges, upper years, professors, and of course, classmates! It's a small world, after all.



JOSHUA KALPIN 3B SOFTWARE

Welcome to the land of Software Engineering 2019 Softies. You'll learn quickly that being called a Softie is actually an awesome thing, because we aren't soft at all. Software Engineering is a unique program in that you are fully in both the Math and Engineering faculties. This means you get to experience the best of both faculties!

In Software Engineering you'll learn everything about how computers and the software that runs on them works. This

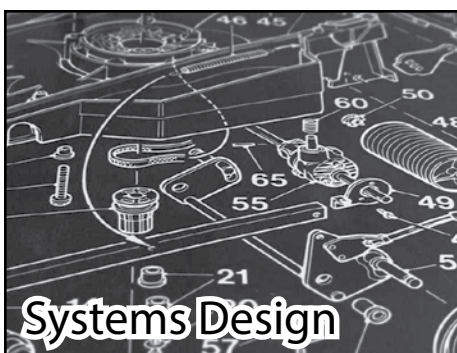
ranges from the design and implementation of complex software systems to the physics and circuits that explain how computers function.

Your first year will consist of a strong base of engineering and math fundamentals, and you may notice that you share a number of courses with other engineers and math students in other programs. As you progress through the program this will quickly change and you'll get to experience a slew of unique and interesting courses.

Software Engineering is a stream 8 pro-

gram. This means you have the first eight months of your time at Waterloo to adjust to university life and the program itself before you embark on your first of many co-op terms. Don't worry about getting a job, JobMine, the school's job application service has a ton of jobs to apply to.

Lastly, don't be a stranger! Software Engineering resources are all on the second floor of the Davis Centre (DC), including the labs, lounge and administrative offices. Best of luck to you all. We're super excited to have you joining us and hope you have an amazing time here at Waterloo!



KEVIN LAU & CLASS 2B SYSTEMS DESIGN

One of the first things you'll memorize is the definition of Systems Design Engineering (SYDE), although in reality you'll spend the next five years defining what it means to you through electives and extracurricular activities. As the most interdisciplinary engineering program, you'll take courses from other engineering disciplines and unique de-

sign courses, culminating in unprecedented elective-flexibility in your upper years that will allow you to shape your degree.

Your home for the next five years will be the sixth floor of E5, where you'll have all of your core classes with your classmates, who will be some of the most well-rounded students from across Canada and beyond.

When it comes to co-op, the job opportunities available to us reflect the flexibility of our program. SYDE students have been

hired for everything from software development to project management to working at hedge funds or oil refineries, in countries all over the world. Take advantage of your co-op terms to explore your interests.

Don't be afraid to ask the hard questions and actively seek answers. Always strive to make the most of your time here. SYDE will be challenging, but take some time to enjoy the journey. You're in for an awesome ride!

Welcome to the Family!

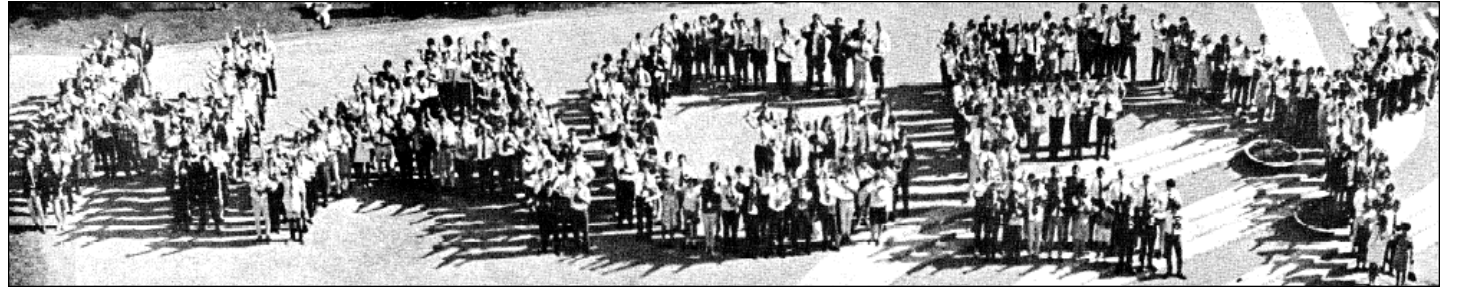
The History of Orientation Week at Waterloo

ROSS RICUPERO
CIVIL '09

The oldest recorded discussion of Orientation Week at the University of Waterloo is from the October 13, 1961 edition of *The Coryphaeus*, the University of Waterloo's first student newspaper. It's a simple article that welcomes freshman engineers to the school and the Engineering Society. It also gives thanks to Dave Smith, chairman of the Initiation Committee (Orientation used to be called initiation) and announces the Initiation Dance as part of WA-WA-WEE '61 (The old name of Warrior Weekends, an event that ran up to 2011).

The September 27, 1963 edition of *The Coryphaeus* gives even more details on "initiation" with an article discussing the school-wide scavenger hunt (apparently they acquired things like wagons, tractors, hay bales, snow fences and pictures of someone named Brigitte Bardot), a game to measure the length of a city block with hotdogs, a challenge to make a line of pennies stretching from Kitchener City Hall to Waterloo City Hall (which is apparently approximately 140,000 pennies), the (seemingly) annual 'Froshman Hop' dance, and some unknown event called the 'Hootenanny'. Each faculty organized their own Initiation program and worked with the Orientation Committee, which ensured the individual programs worked across the school.

In '64, '65, and '66 even more traditions had started to form. First year students from Arts, Science and Engineering (the only faculties at UW at the time) were all awarded 'beanies' or caps at the beginning of (the now called) Orientation and the cheer of "I'm a dirty rotten dead horse and I stink!" was used throughout the week, accompanied by students falling to the ground, laying on their back and sticking their arms and legs in the air. The Frosh Queen



competition, in which 'Freshettes', or female first-year students, competed to be elected to the position complete with sash and crown, became a major event. The penny-drive also became Slave Day, where first-year students would be sold to members of the community to help them with whatever they choose, or for charity purposes.

In 1967, Stewart Saxe, a political science student and head of the Orientation Committee, re-imagined the entire week and introduced the big-brother concept. All first year students (there were only 2,200 in 1967, a third of the 6,000+ we expect this year) were divided into groups of ten which were overseen by Archons, a single upper-year student leader, which stayed with the group the entire week. This year continued the method of each society running their initiation programs, and the Orientation Committee overseeing the entire thing.

1967 was also the first year that an aerial photo from Orientation Week was published. The 360 strong group spelled "Hagey" across the Arts quad to salute then-president J. G. Hagey (the same Hagey that Hagey Hall is named after).

It was during the late 1960s that the bulk of Orientation Week was moved to the control of the Federation of Students (FEDS). While the student societies still planned and ran programming for their specific faculty, many of the larger events would be planned by FEDS.

It's from this point throughout the 1970s that FEDS took the Orientation Week of the 1960s and made it into a month long Orientation program with varied social or educational events each day from the start of September to the end. This included many high-profile concerts such as Meatloaf, Gordon Lightfoot and Ike and Tina Turner, as well as speeches from major political figures, cabinet ministers, MPPs and radical leaders.

While the much expanded programming offered more choices for incoming students, it was during this time that student apathy and low attendance began to take its toll. Concerts lost money (the Ike and Tina Turner concert lost \$6,000 in 1972, which is over \$30,000 today accounting for inflation), speeches went unattended and acts cancelled or simply didn't show. Reviews of the Orientation program varied wildly from condemnation to enthusiastic.

It was during this time that the Engineering Orientation program moved away from the Slave Day charity and began running the Bus Push charity (which has continued annually since then in the Winter term). 1969 also saw the Engineering Stag event of Orientation Week, which was little more than a drunken strip-tease for first-year students.

It wasn't until 1978, when the LLBO took dispute with the University's 'beer tents' that programming needed to be reduced and concerts rethought. The LLBO refused to license the outdoor tents that were part of Orientation Week in years past, reducing the amount of money that the Orientation program had to use, preventing headline concert acts and major guests.

Then began the dark years (or the years where written records become spotty). It's expected that Orientation Week continued this way for the 1980s and early 1990s. Student societies continued running programming for their faculties, and the Federation of Students continued running the overall program. It was during an unknown Orientation Week during the 1980s that the Education Committee was founded, and that the engineering hardhats became a major symbol. These have stayed as key components of Engineering Orientation Week since then. The oldest record of the Education Committee is an Orientation Week video from 1988 and hardhats could be over a decade older than that.

At the end of the dark years, Engineering Orientation Week was a tight, multi-day program packed with events. Incoming students would go through a program similar to the program we have now, but that had very distinct differences. In 1993 a UW Orientation Manual was produced and distributed to the groups running the faculty programming and soon after a major part of Orientation Week today was founded; the Federation Orientation Committee (FOC). The goal with FOC was to have better collaboration between the independent groups running various Orientation Week programming and the Federation of Students, allowing a more efficient Orientation Week overall. This started the process of Orientation Week becoming more regulated and controlled, something that would take the unorganized month-long Orientation programs of the late '70s and '80s, to the smaller, week-long programs of the '90s. By 1996, a schedule that resembles the modern day Engineering Orientation Week began to emerge: Aerial photos were taken (these can all be seen in the POETS lounge), they earned their hardhats, and they all met the Dean. However,



they also competed in chariot races, paraded through town and had organized off-campus parties, events long since banned or modified.

It was during 1997 and 1998 that a new program started to address major concerns highlighted in an Orientation Student Survey conducted in 1994 and 1995. This survey concluded that there was a dangerous undercurrent of behavior across all Orientation programs. From discriminatory chanting to exclusive programming and a dependence on drinking, it was seen that there was a fundamental problem with Orientation Week; the leaders themselves. There was no formalized Orientation Leader training program for leaders to go through, and there were few checks and balances on the actions of these leaders too. People simply ran Orientation Week like it had been run for the year they went through it and every year before that.

It was because of this that the Provost's Advisory Committee on Orientation (PACO) was founded, and PACO training was implemented in 1998. This training, mandatory for all Orientation leaders, covered things like drinking and drugs, inclusivity and non-discrimination. While some students cried out that this was gutting the Orientation Week they knew and loved, it ultimately led to the modern Orientation Week we have now, which many believe to be better than ever before.

With the double cohort of 2003, a large percentage of students were now entering university at age 18; younger than the legal drinking age. This became a problem as many planned events during Orientation Week were 'wet' events where alcohol was served. A controlled environment was implemented, with 'beer gardens' allowed at certain events and each organizing group allowed to have a single 'wet' event for their faculty or residence.

By 2004, PACO was dissolved and we were left with Orientation Leader Training, the modern version of PACO leader training. 2004 was also the last year that Orientation Week officially included alcohol with a beer garden at the Saturday night Toga party. Once Orientation Week 2004 closed, alcohol wouldn't be part of the week again.

In 2014, Orientation Week is over 50 years old, involves over 8,000 first-year students, 1,000 upper year students, has a budget in the hundreds of thousands, and the support of countless sponsors and contributors. While it may be completely different from the Initiation of 1961, Orientation Week 2014 has built upon the past decades; all of the conflicts and problems, changes, successes and failures have been rolled into the week.

While it may not be perfect, it is a continuation of a tradition started soon after the University of Waterloo was founded, and it represents the unconventional history and future of this school.

(Editor's note: Some minor modifications made to the original article by Ross to keep the article current.)



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how to apply!

INFORMATION SESSION
September 22, 2014 2:30 PM - 4:30 PM
Davis Centre - Colloquium 1302

IXL.COM/JOBS

Frosh Week Event Schedule

Engineering students Schedule for On-Campus Residence. Software differences noted below.

1
MONDAY

2
TUESDAY

3
WEDNESDAY

- 9:00 a.m.
- 9:30 a.m.
- 10:00 a.m.
- 10:30 a.m.
- 11:00 a.m.
- 11:30 a.m.
- 12:00 p.m.
- 12:30 p.m.
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- 9:00 p.m.
- 9:30 p.m.
- 10:00 p.m.
- 10:30 p.m.
- 11:00 p.m.
- 11:30 p.m.

MOVE-IN / CHECK-IN

Residences and Student Life Centre

* Also on Sunday, August 31.



RESIDENCE PROGRAMMING

Various Locations



WARRIOR WELCOME

Various Locations



HQ TIME & MEET THE DEAN

Colour Group Headquarters

*Software to Waterloo Park Day @ 10:00 a.m.

DEPARTMENT LUNCHES

Various Locations

EARN YOUR HARDHAT

Various Locations



AERIAL PHOTO

St. Paul's Green

ENG 101/DEPARTMENT HANGOUTS

OR

SINGLE & SEXY

RCH/CPH Courtyard OR Hagey Hall



CHOOSE YOUR OWN ADVENTURE

Various Locations



SE 101

Math & Computer 1085

SOFTWARE LUNCH

Mongolian Grill

EARN YOUR TIE (MATH)

Various Locations



WORLD OF WATERLOO

Various Locations



Engineering

Aerial Photo

Taking place immediately after Earn Your Hard Hat, you will head to St. Paul's Green for an Aerial Photo. This is one of the only times until graduation that the entire class of 2019 will be in the same place for a photo. The photo design will reflect the theme, Battle of Ages, and the finished product will hang in POETS for the duration of your undergraduate career and beyond!

ComEng

Hosted by EngSoc, join in for a night of hilarious comedy by professional comedians as a way to relax before class the next morning. Meet your new upper year friends and watch the Orientation Week awards show where we announce the winners of the week. Will the world be taken over or defended? Stop by to find out!

Department Lunch

This is a great opportunity for you to meet your fellow classmates, upper year students in your program, as well as your TAs and Professors. It's a great chance for you to learn more about your department, get useful tips on how to succeed, and have any questions about your program answered.

Software: Faculty Lunch is held in place of Department Lunch

Earn Your Hardhat

Earning your Hard Hat is one of the oldest traditions in Waterloo Engineering Orientation. The Hard Hat is a prestigious item awarded to incoming Engineering Students and is worn with pride by all. During this event you will, with your team, compete in several challenges centred around the 6 Pillars of Engineering. This is an event you won't want to miss out on, you'll be needing that hard hat for the rest of the week.

Eng 101

This is your chance to be introduced to the academic world of Engineering at the University of Waterloo. Faculty members along with a student panel will provide information and answer questions about academics, co-op, counselling, and the fine balance of school and socializing.

EngSoc Day

The Waterloo Engineering Society will play host to a fun afternoon of bouncy castles, dunk tanks, a BBQ, and more! Come to POETS, the engineering student lounge, and see what EngSoc can do for you!

Engineer's Guide to the Galaxy

During this event you will travel through various mystical lands with the help of your leaders. During your adventure you will get the chance to participate in fun and informative mini-events centred around various services offered on campus. Through

the event one of you leaders, designated as your champion will assist you in completing tasks to earn items that will help you along your quest.

HQ Time & Meet the Dean

During this time you will get the chance to come into your teams Headquarters and meet your fellow first-years as well as your leaders. You will get an intro to the week and meet the Dean of Engineering, Pearl Sullivan. You will also participate in fun icebreakers to get the day started and to see a virtual tour of the Engineering Campus.

Software: Meet the Dean will happen first, followed by Waterloo Park Day.

Junkyard Wars

Our flagship event, Junkyard Wars, is exactly what its name implies. Colour groups are challenged to solve problems and complete challenges using only recycled materials and scrap parts. This event

All photos credited to Frosh Media & EngSoc.

■ Engineering

■ Software

■ Math

■ Cross-Campus

4
THURSDAY

JUNKYARD WARS

Village 1 Green

*Lunch @ 11:00 a.m.

Grad House Green



**MEET THE TOOL/
STUDENT TEAMS SHOWCASE/
ENGINEER'S GUIDE TO THE
GALAXY**

Various Locations



**ENG 101/DEPARTMENT
HANGOUTS** OR

SINGLE & SEXY

RCH/CPH Courtyard OR Hagey Hall



MONTE CARLO

Student Life Centre/
Physical Activities Complex



5
FRIDAY

EXPERIENCE WATERLOO

BMH Green/
Physical Activities Complex



SCAVENGER HUNT

Grad House Green

*Software can choose to do
the Math Scavenger Hunt



6
SATURDAY



BLACK AND GOLD DAY

Warrior Field / Columbia Icefield



TOGA PARTY

BMH Green/ Student Life Centre



7
SUNDAY



**ENGSOC DAY/
CHARITY HEADSHAVE**

POETS Patio / Carl Pollock Hall



COMENG

Hagey Hall



is the true test of ingenuity, creativity and plain old smarts.

Meet the Tool

This is the oldest and most sacred of traditions at Waterloo Engineering. This is a must see event where you will get to meet the majestic Engineering Mascot 'The Tool,' a 60-inch chrome-plated pipe wrench. Tool is love. Tool is life.

Scavenger Hunt

The infamous Engineering Scavenger Hunt is where the colour groups have their last chances to try to gain points and win the overall competition of the week. There are countless activities for everyone and also a never-ending acquisition list with items for you to collect. This is the final flagship Engineering event and is sure to not disappoint!

Software can also choose to participate in the Math Scavenger Hunt

Cross-Campus

Black and Gold Day

Come join us for our annual Black and Gold Day! Show your Warrior pride by coming out to the carnival and cheering on our Varsity Football team. Don't forget to wear your black and gold!

Residence Programming

Meet your fellow floormates and your Don as you learn more about your residence community and have your first floor meeting.

Monte Carlo

Orientation's annual semi-formal comes complete with red carpet, live music, a mock casino and more. Dress to impress with this night of class and elegance.

Move In / Check In

Move into your residence by picking up

your keys and move in packages from your residence Front Desk. Remember to have government issued photo ID or your Wat-Card ready when moving in.

Once you're done moving in, head over to the Student Life Centre (SLC) to pick up your student card if you haven't already. Remember to check in for UWOW14 by picking up your wristband and swag bags!

Single & Sexy

An original drama production by the University of Waterloo, this hilarious play deals with the challenges of living away from home and out from under the parental eye for the first time. Issues explored include sexual harassment, orientation, sexual assault, transmitted infections, pregnancy, love and succeeding in University. With several TV and music video farces, the play promises not only a humorous view of student life, but also delivers crucial information about the topics discussed and how

to find help regarding those issues.

ToGa Party

This is the final night of Orientation programming! A giant ToGa dance party at BMH Green, coffee house, a bonfire, improve and magic will help close the week with a bang!

Warrior Welcome

Get your official Waterloo welcome by getting together with all 6000+ incoming first-year students for the largest icebreaker you'll ever experience! Also a special appearances from the University's President, Feridun Hamdullahpur, and Feds' President, Danielle Burt.

World of Waterloo

Get a chance to mix & mingle with new students from other faculties while learning about the campus and the City of Waterloo.

What is the Engineering Society?

LEILA MEEMA-COLEMAN
PRESIDENT 'A'

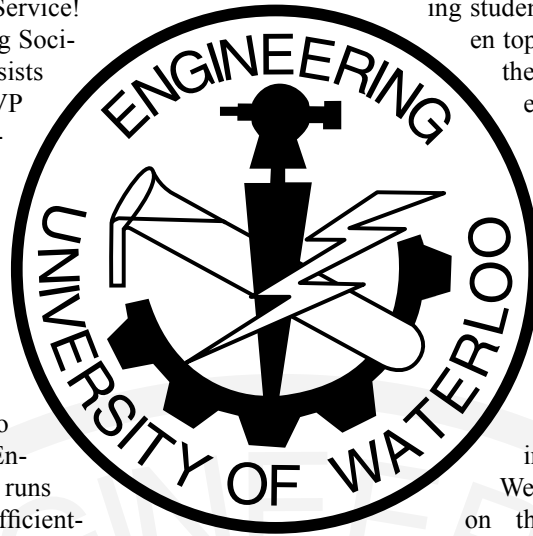
The University of Waterloo Engineering Society (or EngSoc) is the official representative body for all engineering undergraduate students at the University of Waterloo. Headed by a set of executives, it works on your behalf with the Faculty of Engineering, student union, external engineering groups, and many more. It is their job to make sure that your voice is heard and you are getting the most out of your five years here.

In addition to the representation, the Society offers many different services and events. More information about those can be found in this issue of The Iron Warrior, as well as on the Society website. All of these events and services are completely student run and that means there are so many ways to get involved. During your first term here you can sign up for our director mentorship program where you will

get to shadow an experienced director and learn the ins and outs of running an EngSoc event or Service!

The Engineering Society executive consists of a President, VP Internal, VP External, VP Education and VP Finance. They are all introduced in this paper as well, but as a whole the executive team functions to make sure the Engineering Society runs effectively and efficiently, to serve you all as best as possible.

More important than the VPs and the President is the Council. The Engineering Society Council is the group that makes all



of the decisions for the Society, whether that be a stance on how the engineering students feel about a given topic, or how to spend the \$60,000 budget each term. Council is composed of two representatives from each of the engineering classes on campus, together sharing one vote. Their job is to attend the Council Meetings (every other Wednesday) and vote on their class' behalf.

They report back to their class about what is going on in the Society, including the awesome events and services that are coming up. But you don't need to be a class rep to attend, council

meetings are open to everyone and we encourage anyone interested to come out! Showing up at the meetings is definitely the easiest way to get involved in the Society. Interested in being a class rep? The EngSoc executives will be coming around during the first two weeks of class to run elections for the position. It is a great way to get involved and gain some experience early.

Council meetings are also where we will be electing students for our Board of Directors, some of the many committees we run, as well as special leadership positions! These are all open to everyone to apply so make sure you check out the agenda on the website before the meeting and see if there is anything you are interested in.

The Society is always looking for new initiatives and improvements it could make, so please do get involved, or just let us know what you would like to see! Drop by the EngSoc office any time and pitch an idea, or just say hi!

Engineering Society Services

LEILA MEEMA-COLEMAN
PRESIDENT 'A'

The Engineering Society is proud to offer an amazing number of services. Here is just a brief summary so you know how to get around and fully utilize everything that is offered.

C&D (Coffee and Doughnut)

The Society runs a coffee and doughnut shop, with the lowest prices on campus. Just head over to Carl Pollock Hall (CPH) for low cost coffee and treats! There are also soups, sandwiches and many other lunch options. Please note that it is cash only.

EngSoc Office (a.k.a. "The Orifice")

The Engineering Society Office, also located in CPH, is a great place to get cheap printing, photocopying, and report binding. Trust us when we say that cheap report binding will be a great thing for all

of you in the near future. Please come by and check out what else the Orifice has to offer, and to say hi to all of the lovely Engineering Society executives.

POETS

POETS is our student lounge and is a great place to hang out in between classes or after a long day of engineering. You can find it in CPH foyer and its open from 8:30 a.m. to 5:30 p.m. every day and for special events. There is a pool table, Foosball table, and movies playing round the clock! Though everyone is welcome all the time, look out for special "first year Fridays" throughout the term!

Novelties

Engineering Novelties is your one stop shop for all you could want in Waterloo Engineering swag. Located between the C&D and POETS, it is typically open Monday to Friday from 11:30 a.m. to 1:30 p.m. We have everything you'd need from keychains to apparel to glassware. Come

out and show off your Engineering pride.

Student Deals/Discounts

The Society offers a student deals program with discounts from local restaurants. Come on by the EngSoc Office, CPH 1327, and pick up your FREE student deals sticker. All you have to do is show the sticker at participating restaurants, and get discounts! It really is as good as it sounds!

Resume Critiques, Interview Skills and Jobmine Party

Each term there are thousands of students at Waterloo looking for co-op jobs, but don't worry! The Society runs numerous resume critiquing sessions where you will get one-on-one time with an upper year student to go through your resume and make sure it is tailored to the type of engineering career you want. In addition, we offer an interview skills workshop where you can practice answering some engineering specific questions and

a Jobmine party where we offer a step-by-step tutorial on how to use our application software and cover everything from cover letters to prioritizing jobs!

Exam Bank

Midterms may be a stressful time, but we try to limit that stress by having an enormous online exam bank where you can browse and search hundreds of past exams to help you study. The online bank makes it super easy to get a sense of what your first university exams will look like, and will enable you to earn that 100%. You can find it on our website engsoc.uwaterloo.ca.

Text Book Library

Textbooks are important for every class and can be very handy for extra research while writing reports or papers. The Society offers a free textbook library to students, so come check out our book collection in the EngSoc office and make use of this awesome service!

Welcome From the Engineering Society Executive

JOSHUA KALPIN & PERMEG KENTH
VICE-PRESIDENTS EDUCATION

Welcome class of 2019! You are about to begin your journey to becoming engineering graduates and earning your iron rings. This will be some of the most amazing years of your lives so hold on and enjoy the ride!

We're Josh and Permeg and we're your current VPs Education for the Engineering A (this fall) and B (this upcoming winter) Societies. Our job is to represent the academic interest of all engineering undergraduate students. As a result, we represent the engineering undergraduate population on a number of committees that range from faculty wide to university wide. Specifically, they deal with issues such as co-op

PUNEET NATT & MATHIEU TREMBLAY
VICE-PRESIDENTS INTERNAL

Hi 2019s!

We are Puneet Natt and Mathieu Tremblay and we are your VP Internals of the Engineering Society for Fall 2014 and Winter 2015, respectively. Our job is to plan great events and services for undergraduate engineering students. Though your main reason for being at

requirements, work term reports, course offerings, elective choices and degree requirements. In addition to attending these meetings, we will be communicating back to the engineering student body information that we receive. If you want to learn or hear more about education news you should attend EngSoc meetings to listen to our exec reports, read our articles in each issue of The Iron Warrior or stop by The Orifice (CPH 1327) to chat at any time.

For the next two terms there are two main initiatives that we will be focusing on: Waterloo Works and Course Critiques.

Currently, to find co-op jobs during a school term, you need to use a system called Jobmine. Starting this upcoming winter term (sorry 4-streamers) this will be replaced by a new system called Waterloo Works. The new system includes a

the University of Waterloo is academia, the Engineering Society wants to work with you to help balance your social and academic life.

The Engineering Society runs several social events for undergraduate students to enjoy. We have a semi-formal for all the people who like to get groovy, an engineering play (EngPlay) for all the amazing actors and actresses out there, and a talent show (TalEng) for you to showcase your awesomeness – just to

couple of new features that seem like no-brainers to those not acquainted with Jobmine including advanced job search, saving individual job searches and having the ability to see exactly where an employer is located using Google Maps. Our main focus with Waterloo Works is to ensure a smooth transition from Jobmine for engineering students and to keep students informed of any major happenings regarding this new system.

Course Critiques are a way of evaluating both your courses and the professors teaching them at the end of the term. At the end of this upcoming term you will be able to compete one of these, with the results being posted online a few weeks into the subsequent term. Our main focus with Course Critiques is to keep students informed that the results can be viewed online a few.

We love to have fun with social events, but we also provide many services to undergraduate engineering students. We will be running several workshops in the fall on the following, but not limited to: Programming, Interview Skills and Resume Critiquing. Come out with your academic and career-related questions and we would love to help you find the answers you are looking for.

Specifically for first years, this fall

line (uwaterloo.ca/engineering/teaching-learning/course-evaluations) and to try to make the critique itself more effective for students.

With those things in mind, our primary job is to make sure that you are getting the most out of your education, whether that be co-op or course related. With the help of the first year office, we are here to help you through the transition between high school and university life. If you have any questions at all about exams, study tips or just want someone to talk to feel free to send either of us an email (Josh: vpeducation.a@engsoc.uwaterloo.ca and Permeg: vpeducation.b@engsoc.uwaterloo.ca) because we are happy to chat.

We are both thrilled to have you all here at Waterloo and we hope to see you around campus in the coming months!

we have a mentorship program, a first year newsletter you can subscribe to and the first-ever First Year Engineering Conference run by the Engineering Society, which we are very excited about!

We plan diverse events so there is something for everyone! Feel free to chat with us in the hallways or email us any questions you may have to vpinternal.a@engsoc.uwaterloo.ca.

Keep an eye out for posters and emails with the latest scoop!

Welcome From the Engineering Society Executive

LEILA MEEMA-COLEMAN & ALLYSON FRANCIS PRESIDENTS

Hello Class of 2019!

We are your Engineering Society Presidents: Leila Meema-Coleman (A-Society) and Allyson Francis (B-Society). We are super excited that you are here, and can't wait to meet all of you! You will be sure to see a lot of us in the coming week and term, and we encourage you all to come and talk to us whenever you get a chance! We will be the two wearing the white hardhats and handing out sweet EngSoc slap

KEVIN MCNAMARA & MELISSA FERGUSON VICE-PRESIDENTS FINANCE

Welcome to Waterloo Engineering, class of 2019!

We are Kevin McNamara and Melissa Ferguson, and we are the Vice Presidents of Finance (VPF) of Engineering Society 'A' and 'B' respectively. You will all meet Kevin in the Fall term, and those of you in 8-Stream programs will meet Melissa in the Winter! As VPF, it is our responsibility to oversee the finances of the society, including our termly operating budget, capital purchases, sponsorship of student groups, and services like our Coffee and Donut Shop (CnD), Novelties, and RidgidWare.

One of the main jobs in the VPF portfolio is creating the termly operating budget for the society. Each term you are in school, you pay an Engineering Society Fee (currently \$15.22!), which is allocated in the budget.

HEATHER SMITH & SARAH- ROSE LANCASTER VICE-PRESIDENTS EXTERNAL

Hey there 2019s and welcome to Waterloo Engineering! We hope Orientation Week gets you excited for the next few years here at the University of Waterloo. We are your Vice-Presidents External, Heather Smith and Sarah-Rose. You'll see Heather in the Fall and coming Spring term, and Sarah-Rose in the Winter 2015 term if you're in 8-stream. Our main roles and responsibilities include charities and community outreach initiatives, the Waterloo Engineering Competition, and representing the Engineering undergraduate population on provincial and national levels. You can learn about all of these through attending EngSoc meetings, keeping an eye out for our emails, or coming to the EngSoc office in Carl Pollock Hall (CPH) to ask questions. But for now, here is an introduction to external matters of your engineering society!

Each term, EngSoc runs various events to raise funds going to a charity of EngSoc's choice. Charities that EngSoc has supported in the past include Free the Children, Canadian Cancer Society, and National Service Dogs. Curious about what these events are? Let's

bracelets!

As Presidents our main role is representing you, the students. We advocate on your behalf to the Faculty, university, student union and external groups on issues that affect your undergraduate experience. To do this effectively we need your input!

During the term, please feel free to stop us with any questions or concerns you may have about school, university issues, services we offer, or just the Society itself. We can often be found in Carl Pollock Hall (CPH), especially the EngSoc Office in CPH 1327) and our Engineering Student Lounge, POETS in CPH 1337. You can also reach

This budget is used to support all of the awesome events and services that the Society runs each term, along with many other initiatives.

Another job the VPF is in charge of is Engineering Society Sponsorship. A percentage of our operating budget each term goes towards sponsoring students groups on campus in support of their initiatives. This can come in the form of purchasing parts for a car or robot, or helping pay for competition fees or tools. Any student group or club on campus is eligible to apply. Each term we elect a sponsorship committee, which is made up of 6 at large engineering student members, and the two VP Finances. This is a great opportunity to get involved, especially in first year. If you are interested in serving on the committee, make sure to join the EngSoc mailing list and check when the elections will be happening.

We also chair the Engineering Capital Improvements Fund Committee (ECIF) each term. ECIF is a fund that is contributed to

say you're hastily making your way through the hallway, stomach grumbling as you forgot to eat breakfast. You round the corner and are pleasantly surprised by the sight of friendly students selling warm fluffy delicious pancakes. Just as you start to think that it doesn't get much better than this, you realize that funds raised through pancakes sales goes to charity! Forgot to pack a lunch? Have no fear! Delicious, warm, melt-in-your-mouth grilled cheese for charity is also a thing! Who knew donations could taste so good?!

Find the change between your couch cushions, under your bed, in your sock, or wherever; save it up and bring it to Change for Change week, where each graduating year competes as teams to collect the most money! And the final charities event: Festive pictures with Santa and the Tool! Take a break from studying for finals and come out to this event, and get a picture with your friends!

Perhaps you are looking to get more involved in the community! Waterloo EngSoc plays an active role in plenty of outreach events and volunteer opportunities in the Kitchener-Waterloo area. These initiatives include Education Outreach, Engineering a Difference, and Environmental events. Education Outreach is an event that is run once

both of us at president@engsoc.uwaterloo.ca.

We can also quite often be found at all of the different events the Engineering Society runs each term. The first event is coming up fast on Sunday September 8. It's ENGSOC Day! Each year we run a Charity Head Shave, bouncy castles, dunk tank, and free BBQ starting at 11:00 a.m. outside Carl Pollock Hall, followed by ComEng (a free stand-up comedy show). ComEng starts at 7:00 p.m. in the Humanities Theatre, in Hagey Hall.) We cannot wait for this year's EngSoc day, and look forward to meeting you all then. The rest of our amazing events can be found

each term from the operating budget, and is used to make long lasting purchases for the Society, such as upgrading the equipment in the Coffee and Donut Shop, making purchases to improve our student lounge, POETS, or any other capital expenditure that will benefit student life on campus. The committee is made up of the two VPFs, two at-large members from each Society, and Mary Bland, our Business Manager. Anyone can make submissions to the fund, so if you ever have a cool idea for a purchase that could improve student life in engineering, be sure to let us know!

One of our brand new services this term is RidgidWare, which is an electronics component shop that will be run out of CPH Foyer. At the shop you will be able to purchase components for your own electrical projects, at very low prices. If you're interested in electronics and don't have the time to go shopping off campus or looking around online and waiting for deliveries to come, this

or twice each term, where Waterloo EngSoc volunteers go to THEMUSEUM in Kitchener to perform science experiments with kids to get them excited about science and engineering at a young age! Engineering a Difference is an initiative to find volunteer opportunities around Kitchener-Waterloo and to keep students informed with and involved in these various volunteer opportunities throughout the term. Environmental events in the past have involved cleaning up Waterloo Park and having a guest speaker talk to engineers about various environmental issues.

You can also march with EngSoc in the annual Santa Claus Parade in the Fall term, pull a bus from campus to downtown Kitchener while collecting donations in the Winter, and head to Toronto with EngSoc to march in the Pride Parade in the Spring! All of these outreach events are tons of fun and you'll meet awesome people along the way!

The Waterloo Engineering Competition (WEC) is an excellent event for students to showcase their ingenuity and innovation while competing to attend the Ontario Engineering Competition (OEC), then possibly the Canadian Engineering Competition (CEC). Held on November 7 and 8, WEC is separated into Consulting, Programming, Junior Design

on the Engineering Society website, engsoc.uwaterloo.ca, so please head on over to that to check it out. There are a ton of events each term, and it is a great way to get involved in university, or to just have a great time.

The Engineering Society is a great thing to be a part of, and we hope that you all will get a good head start. We have opportunities and services for everyone and run a very diverse set of programs so you should be able to find something you are interested in! We look forward to working with you, and want to wish you luck for your time here at Waterloo. Have a great Orientation Week, and see you Tuesday!

is going to be the place for you. Make sure to keep a look out for the grand opening of the store which will be in September.

There are a ton of awesome events and services that the Engineering Society runs each term, and without the \$15.22 EngSoc Fee that every undergraduate engineer pays, a lot of them would not be possible. We encourage you to check out some of the awesome services that we offer. Head over to POETS on your first day of class, grab a coffee at the CnD, come to the Beginning of Term (BOT) Party, or stop by the Engineering Society Office to see everything that is going on.

Don't forget to check out our website to see everything that we offer. If you ever have any questions related to the Engineering Society and finance, or anything at all, don't hesitate to ask us. You can email Kevin at vpfinance.a@engsoc.uwaterloo.ca, and Melissa at vpfinance.b@engsoc.uwaterloo.ca. Have an amazing Orientation Week, and we hope to see you at EngSoc Meeting #1!

(first and second year students), and Senior Design (third and fourth year students). For more information, check out wec.uwaterloo.ca and keep your eyes peeled for details about signing up or volunteering in October!

Our final responsibility as VP External is EngSoc representation. We attend Engineering Student Societies' Council of Ontario (ESSCO) and Canadian Federation of Engineering Students (CFES) conferences and represent Waterloo EngSoc's opinion on matters relevant to engineering students across the province and across the country. ESSCO conferences for the upcoming 2014-2015 year are the ESSCO Presidents' Meeting, Annual General Meeting, and First Year Integration Conference. You're all encouraged to apply for the First Year Integration Conference, which takes place in the Winter term and is open to both 4-stream and 8-stream students. CFES conferences are the CFES Presidents' Meeting, the National Conference on Women in Engineering, and CFES Congress. Applications for most of these conferences are open to all undergraduate engineering students!

If you have any further questions, please do not hesitate to ask us! We cannot wait to meet you! See you at the awesome events that your Engineering Society has to offer!



Engineering Society 'A' Executive



Engineering Society 'B' Executive

Engineering Society Directorships and Events

DEREK JOUPPI ATHLETICS DIRECTOR

In the Fall Engineering Athletics will be running community weightlifting sessions

MATTHEW MULVALE CHARITIES DIRECTOR

EngSoc Charities is an initiative by engineering to give back to the community. Charities are nominated and voted on by engineering students to

HEATHER SMITH VP EXTERNAL 'A'

It's important to reach out to our community, and it can be tons of fun! The Engineering Society runs several programs to give back. *Engineering*

KAIVALYA GANDHI ENGFair DIRECTOR

Hey Waterloo Engineering Students! Need some help finding jobs? Looking for a chance to network with industry professionals? Seeking full-time employment upon graduation? The Engineering Society will be holding its first-ever Career Fair

HEATHER SMITH ENGPLAY CAST MEMBER

Hey 2019's, so you may have heard that engineers only do science and math. FALSE. We do plays as well!

EngPlay is a play that is run once a term. It is organized, directed, and acted by engineering students, for engineering

GURJYOT SINGH NANDA EXCHANGE DIRECTOR

Do you want to feel the pulse of a new country's culture? Do you want to experience how our education can transcend borders? Do you really want to be a global engineer?

If the answer to any of the above questions is yes, you have met the right peo-

NANCY HUI GLOW DIRECTOR

Glow is the oldest queer student organization in Canada! The organization aims to promote acceptance of all sexual orientations and gender identities. The Glow Centre for Sexual and Gender Diversity is located in SLC 2101, and offers opportu-

ANNAMARIA REDA MENTAL HEALTH DIRECTOR

University can be stressful, but you're not going through it alone! Each term, the Engineering Society runs multiple de-stressing events, and brings awareness to

LEAH KRISTUFEK NOVELTIES DIRECTOR

This is the place to find all your Waterloo Engineering Swag! From patches and sweat pants to fancy EngSoc Tie Clips this

LEILA MEEMA-COLEMAN P**5 DIRECTOR

Does the idea of some free cash for your class to spend however you want sounds awesome?? Well the Engineering Society can make it happen. The P**5 competition is a term long spirit competition where the top three classes win cash prizes for their class!

P**5, Paul and Paula Plumber Participation points, P to the five, P^5,

at 7:30PM on Mondays and Thursdays in the PAC Weight Room. We will be building a community so that when you go to the gym, you know there will be engineering friends there to spot you, check your form,

determine what charity will be supported over a calendar year.

Come check out all the awesome charity events happening this Fall like Purplepalooza, Pictures with The Tool and Santa, and Change4Change! You can also come to our weekly events like

a Difference connects you with local charities that are close to your heart while *Education Outreach* takes Engineering Students to local venues to make science and engineering hands on! We also attend the Santa Clause Parade and Canada day. In the Winter term Community Outreach

later this Fall, and you're invited!

We are working hard to get you access to professionals and recruiters from some of the best companies across various engineering disciplines, and hope you will make the most of the opportunity. This will be a great chance for you to research career options in your field, learn about what companies have to offer and

students. If acting is your passion, or if you have never acted before but would like to try it out, come on out and audition! No previous acting experience is required and it is a great way to get involved, meet new people, and have a lot of fun.

If you are looking to get involved in EngPlay but are not interested in act-

ple! Hello, I (Gurjyot) and Cassandra will be the Exchange directors for the fall term of 2014. Our mission is to educate uWaterloo engineers about the amazing exchange opportunities we have available and how they can avail them. In order to do, we have planned a couple of events. To whet your appetite, we're holding an Exchange Student Information Session on September 30 and November 18 where

nities for advocacy, discussion, and social events.

The Centre is open to the students and the public from 10 to 5, Monday to Friday, during which students and the public can relax, have lunch, peruse the lending library, and meet queer students and allies! Peer support and mentoring is also offered in the evening from Monday to

mental health. These events include bringing therapy dogs to our student lounge, POETS, around midterm and exam time, as well as various stress relieving workshops. The society also assists with informing students about the various resources on campus that can assist them in

is the place to buy if you want to show off your school pride! It's also a great place to get gifts for friends and family members, and just plain useful stuff like sunglasses and belt buckles. Novelties is centrally located between the two most important

is an EngSoc tradition that promotes involvement in the Society, class spirit, and the engineering camaraderie at Waterloo. Classes collect point through the term and the winners are announced at the at the End-Of-Term celebration in POETS!

Points can be earned by anything you do within the Society or a related group. Holding directorships, attending EngSoc Meetings, filling out surveys, serving on committees, volunteering in community

offer advice, and/or work out together. Going to the gym is intimidating, but not when you have friends there to help. Stay tuned for announcements and posters on the Engsoc boards!

Charity Pancakes (Wednesday mornings) and Charity Grilled Cheese (Friday lunches)!

The Charity Directors are excited for you to come out and help a great cause, which will be announced at the beginning of the term!

helps keep National Engineering month alive beyond our faculty walls. *Engineering Explorations*, run annually, lets students and faculty introduce local youth to the exciting Engineering things happening here at UW. Volunteering not only enriches Waterloo but is also rewarding for you, come on out!

explore upcoming projects. You will also be able to show your skills and qualifications to potential employers and possibly be offered an on-site interview. There will also be swag and giveaways happening throughout the event.

Watch out for more information. Hope to see some great engineering talent bring the house down! (Not literally, please...)

ing, join the EngPlay crew! Close to the performance dates, there will need to be students just like YOU helping out with lighting, sound, and staging.

If you would like to see what EngPlay is all about before jumping into it, grab a ticket to the show and prepare for a fantastic night of supporting your fellow engineers!

we will provide all the information you might need about the exchange program and give you a chance to meet some students who have been on an exchange. If you feel that you want to get on board to fly to another country, come to the Exchange Application Workshop where we walk you through all the necessary steps to make this possible for you.

Stay tuned for any other updates!

Friday from 5 to 6 p.m. The Centre also hosts weekly events and socials, including discussion forums (Monday nights), board games (Tuesday nights), and movie night (Thursday nights).

To volunteer or get more information, the Glow centre can be contacted at glow@glow.feds.ca.

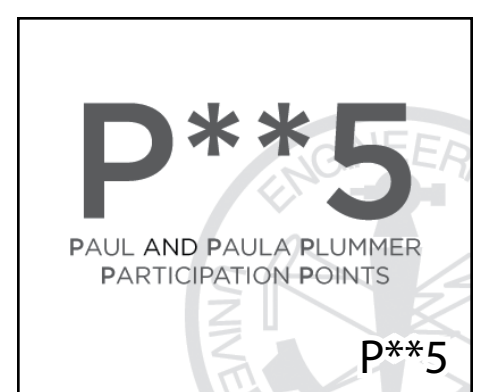
(Photo right: Jeff Luo)

various aspects of mental health. Whether you are looking for studying skills, de-stressing workshops, connecting with upper year students, or counseling services, the Engineering Society can point you in the right direction on where to go or who you can talk to.

student hang outs – the C&D and POETS and is conveniently open for the lunch time rush Monday through Friday 11:30 – 1:30. Run by students for the students we determine what we think is cool! For that reason alone it's worth checking out.

and even holding class spirit events all earn you some sweet P**5 points!

Your class representatives will be responsible for submitting any extra points your class accumulates and keeping you up to date on how you are doing! We will also be updating standings at the Middle-Of-Term party and throughout the term! If you have any questions to want more information e-mail Leila at president.a@engsoc.uwaterloo.ca.



Engineering Society Directorships and Events



ABDULLAH M. BARAKAT
POETS MANAGER

Want a place where you can hang out between classes? Want to meet upper



NACHIKET SHERLEKAR
TALENG DIRECTOR

Engineers are a smart bunch of people, but in addition to our problem-solving capabilities, we also have a great pool of talented individuals.

Every semester, the Engineering Soci-



WILLIAM WILMOT
WEC COMMISSIONER

The Waterloo Engineering Competition (WEC) is a design/consulting competition that allows university level students to qualify for the Ontario Engineering



KACIE LEBLANC
WOMEN IN ENGINEERING DIRECTOR

Do you want to get involved but are not sure where to start? Are you looking for somewhere to continue your hobbies in university? Wouldn't life be easier if you had a mentor with similar interests that can answer all of the above?

The University of Waterloo has always been the best in outreach programs, especially in improving female enrollment

years and make a lot of new friends? Want to just relax with a movie, check out engineering memorabilia and get caught up on all of the latest events happening within Engsoc? Then you should definitely

organizes TalEng, an event that encourages engineers to show off the skills and talents that they learned while taking a break from academics. It is always a pleasant surprise to see the diversity and range of performances that students display every term, from juggling to stand-up comedy to playing exotic musical in-

Competition (OEC) which will take place at Ryerson University. There are Junior and Senior level design competitions, a consulting category and new for this fall term, there will be a programming competition. The Sandford Fleming Foundation provides prizes for each of these competi-

for the faculty of Engineering. This fall 2014, we will be continuing the Women in Engineering First-Year Mentorship Program. This program pairs you with an upper year student and facilitates opportunities to meet new people and bond with your mentor.

In the past Women in Engineering has hosted events including BBQ's, Co-op panels, keychain workshops and Yoga classes with many more planned for this term. If you have any questions about

ly come by POETS (CPH 1337) and have yourself a great time. POETS is a place where you can socialise, get a breather between classes, or destress after a long day of hard work. Everyone is welcome!

struments.

TalEng is also a fun event to attend in itself, as you get to see your peers and classmates in a whole new light, and be entertained as well! If you think you have special talents, you should definitely consider showing them off by practicing for and participating in TalEng!

tions and also runs Debate and Technical Speaking Competitions. Keep a look out for information during the month of October if you are interested and mark your calendar for November 7 to 8. Direct any questions to Will Wilmot at wec.a@engsoc.uwaterloo.ca.

being a female in engineering or would just like to hear about experiences from other students then come on out.

Women in Engineering is not only for women either, and has a number of volunteer opportunities with Elementary and High Schools in the community.

So stop by one of our events and join our Facebook group at [facebook.com/groups/wie.mentorship](https://www.facebook.com/groups/wie.mentorship) or email wimentorship@engsoc.uwaterloo.ca for all the details!

WEEF

DAVID BIRNBAUM
WEEF DIRECTOR

Hello first years!

As you all know, you recently experienced the exciting activity of paying your first tuition! Although that is not actually exciting, there was one portion of it that is! For those of you that looked at the more detailed breakdown, you saw a \$75 fee for the ENG Endowment Fund, and probably thought to yourself "what is that?"

What that is is your contribution to the Waterloo Engineering Endowment Foundation (or WEEF as you will learn to call, and love it, by). Your money helps to build up the largest student run endowment fund in the country, with a principal of over TWELVE MILLION DOLLARS!

WEEF is a foundation run by students to help us help ourselves. It allocates

hundreds of thousands of dollars each year for upgrades to lab equipment, student space, and pretty much anything and everything else that students want! It is an amazing organization, that you should definitely get informed and involved with. Keep an eye out during the first couple weeks where we will be running elections for you to represent your class to WEEF Council, and for you to help decide where all that money goes to!

If you aren't interested in doing any of that, remember to keep WEEF on your mind at all times. If you ever catch yourself thinking "this equipment is old and broken," or "why can't we have this instead" just shoot me an email, and WEEF can get to work!

I look forward to meeting all of you in the coming term, if you have any suggestions shoot an email to wef@uwaterloo.ca.

First Year Services

RAY ZHAO
FIRST YEAR COMMISSIONER

Hi there, I'm Ray and I'll be going into 2A Civil Engineering in the fall. Looking back to my first year, I can say I have nothing to regret because all the experiences and challenges I faced helped me grow to a better individual! I will be your Engineering Society First Year Commissioner for the upcoming fall term! Feel free to email me anytime at: firstyear@engsoc.uwaterloo.ca. If I don't know the answer to your question, I will make sure to direct you to someone who knows the answer :)

In the upcoming fall term, the Waterloo Engineering Society will be hosting the First Year Engineering Student Conference at the university for the first time. The conference will include educational, professional and leadership development sessions as well as speakers to talk about how

to adapt to university life, what it means to be an engineering student and tips on finding your first ever co-op job. You will also get a chance to mingle with your fellow students and talk to the Federation of Students (FEDs) on how to get involved at the university campus, Professional Engineers Ontario (PEO) on their students programs and so much more. Make sure you sign up and get all of your questions answered.

The first year mentoring program is also here to help. You could sign up to be a mentee and be paired up with your classmates and an upper year mentor. Your mentor is here to help you to have a smoother transition to university. The program features a couple of social sessions such as a "Decorating Your Hardhat" event and academic events such as pre midterms talk, post midterms recovery session.

Last but not least, make sure to attend some of the sessions targeted exclusively for first year students such as Resume Critiques, the Jobmine Workshop and Mock Interview Sessions.

Meet your Mentors / Kick-off BBQ

Date: Thursday, September 18, 2014

Time: 6:30 p.m.

Location: POETS patio

Come and meet your upper year mentor and learn what EngSoc can do for you!

Resume Critiques

Date: Thursday, September 11, 2014 & Tuesday September 16, 2014

Time: 6:30pm

Location: RCH 3rd floor

Want to know what makes your resume stand out among your peers? Drop by and get your resume critiqued by one of the upper year student!

Jobmine Workshop

Date: Saturday, September 20, 2014

Time: 11:00 a.m. - 3:30 p.m.

Location: TBA

Feeling stressed seeing all the job postings? Come and apply together with upper year mentors who will give you some tips on using Jobmine.

KITCHENER WATERLOO

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www.kwtravelclinic.ca

Physicians Certified in Travel Medicine

Greetings New Archies!

RAIN MAKI & JASON MCMILLAN
ARCHFOC

This week will be an epic journey through Architecture and Engineering, a Journey Into Space, navigating across far-flung galaxies and worlds, and a Battle of the Ages between past legends and future up-start heroes.

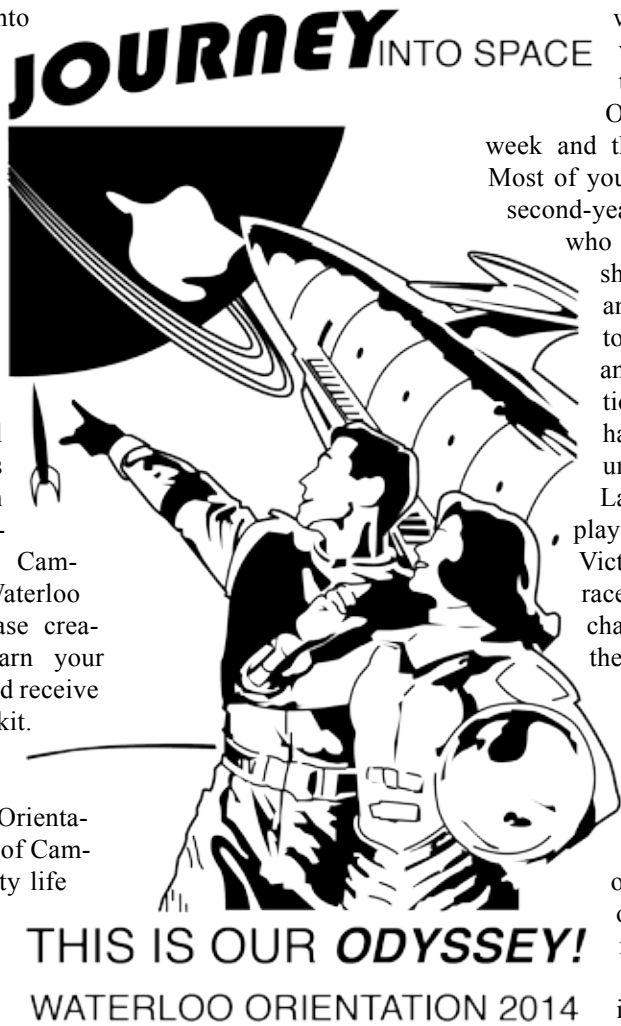
During Orientation Week, you'll meet students in your program and faculty, explore both the Cambridge and Waterloo campuses, release creative energy, earn your first hard hat, and receive your drafting kit. We're taking a three-pronged approach to Orientation — the City of Cambridge, university life in general, and Waterloo Architecture in particular.

If you're reading this, you've probably received your Orientation kit. Dig through it and take a look at all your new stuff! It's just a sneak peak of what's going on this week

and for the rest of the year.

We're kicking off on Monday at the school with registration and introductions. You're going to meet your future classmates! Soon after you'll meet your leaders, the Bigs and Huges, who will be with you throughout Orientation week and the fall term. Most of your leaders are second-year students who were in your shoes last year, and are there to answer any and all questions you may have about university life. Later on we'll play games in Victoria Park and race cardboard chariots around the school.

On Tuesday, we're making our way up to Waterloo to join the rest of the Faculty of Engineering. To spot Engineering amongst other faculties' Orientations, look past the brightly colored t-shirts and look for purple-dyed skin. We're going to take part in the Engineering tradition of earning our hardhats.



ArchFOC: Rain Maki & Jason McMillan

You will get your yellow hardhats, and watch your leaders earn their green and red ones.

Wednesday will be focused on acquainting you with Waterloo Architecture and its surrounding neighborhood. You'll meet your 1A professors and Cambridge's mayor before embarking on the Great Galt Adventure scavenger hunt. In the evening, it's time to relive Art Attack with a flurry of glue and paint at Art Night.

On Thursday, we'll jump right back into Waterloo Engineering. You'll have the opportunity to show off your design skills at Junkyard Wars, where you'll help build a series of contraptions to impress ED-COM. When you participate in m.ARCH, you'll see how we plan on leaving your mark on main campus.

Back in Cambridge on Friday, we'll get

you ready for school — school keys and studio set up. Getting your drafting kit is going to feel like the holidays!

Saturday will wrap up the week with the Black & Gold varsity soccer game, our Final Feast, and Toga Party to top it all off.

As the Architecture Federation Orientation Committee (ArchFOC) and your HighArchs on EngFOC, we're here to help make this week as worthwhile as possible. Getting adjusted to life in Cambridge is both exciting and challenging. As you and your classmates begin shuttling around this week, we hope to acclimate you as best — and as quickly — as possible. If you have any questions, feel free to stop us or any yellow jackets.

We hope you're geared up for the adventure that is Orientation Week!

"The combination of my engineering training and the supportive environment at Waterloo is why I'll graduate as a business owner. I will always be an entrepreneur. This is my path."

— **EMILY PEAT**, Founder, EP Organics and Civil Engineering student

THE ENTREPRENEURSHIP OPTION IN ENGINEERING

Emily had an option. Now you do too.

Beginning in fall 2014, Waterloo Engineering students can add electives in Venture Creation and Corporate Entrepreneurship, offered by the Conrad Business, Entrepreneurship and Technology Centre.

Leverage your success at Canada's premiere engineering school, with access to industry mentorship, scholarships for entrepreneurial ventures and a start-up culture that has given rise to over 500 companies including Clearpath Robotics, Desire2Learn, Infusion, Pebble Technologies and Thalmic Labs.



Engineering. Entrepreneurship. Waterloo.

uwaterloo.ca/engineering/entrepreneurship



CANADA'S LARGEST INTERNATIONAL HACKATHON:



HACK THE NORTH

watch for **1,000 students** hacking for **36 hours**

September 19-21 at the University of Waterloo

Check hackthenorth.com for live streaming details.

Venue Partner:
WATERLOO | ENGINEERING




Entrepreneurship and You

VELOCITY UNIVERSITY OF WATERLOO

So you've just finished high school. You've got into the University of Waterloo (congrats!), enrolled in all of your classes, moved in to residence or figured out how you're going to commute from home or off campus, and you're ready to hit Orientation Week head-on. There are so many events happening that you don't even know where to begin!

Take it one day at a time, this week is going to tire you out! You'll meet so many people and go to so many events, from Monte Carlo to Black and Gold Day, that you'll completely lose track of time. But maybe you can handle that. Maybe you'll love the busyness of Orientation Week and want more. You might love the constant rush, meeting people and always being engaged and involved. Have you considered entrepreneurship?

The University of Waterloo and the city of Kitchener-Waterloo are renowned for their constantly growing entrepreneur and startup culture. Day after day, there are startups emerging from the University of Waterloo — startups run by students. They're proving that entrepreneurship is a viable option for students and that now is the perfect time to get involved! People all over this city are coming up with innovative ideas and figuring out ways to start a company however they can. They are tapping into the many local resources available in K-W, like the Accelerator Centre and the Communitech Hub.

If you're interested in learning more about entrepreneurship in Waterloo or have totally been bitten by the startup bug,

here's what you need to do:

Check out the Communitech hub in downtown Kitchener. This is one of the central locations for startups and entrepreneurship in K-W. You can spend some time at the hub, get to know some of the startups working there and take in the atmosphere.

While you're there, stop by the Velocity Garage. The Velocity Garage houses University of Waterloo students and alum who are working on startup companies. Feel free to walk around and get more of a feel for how you could start a business while you're in school and how there's value in it.

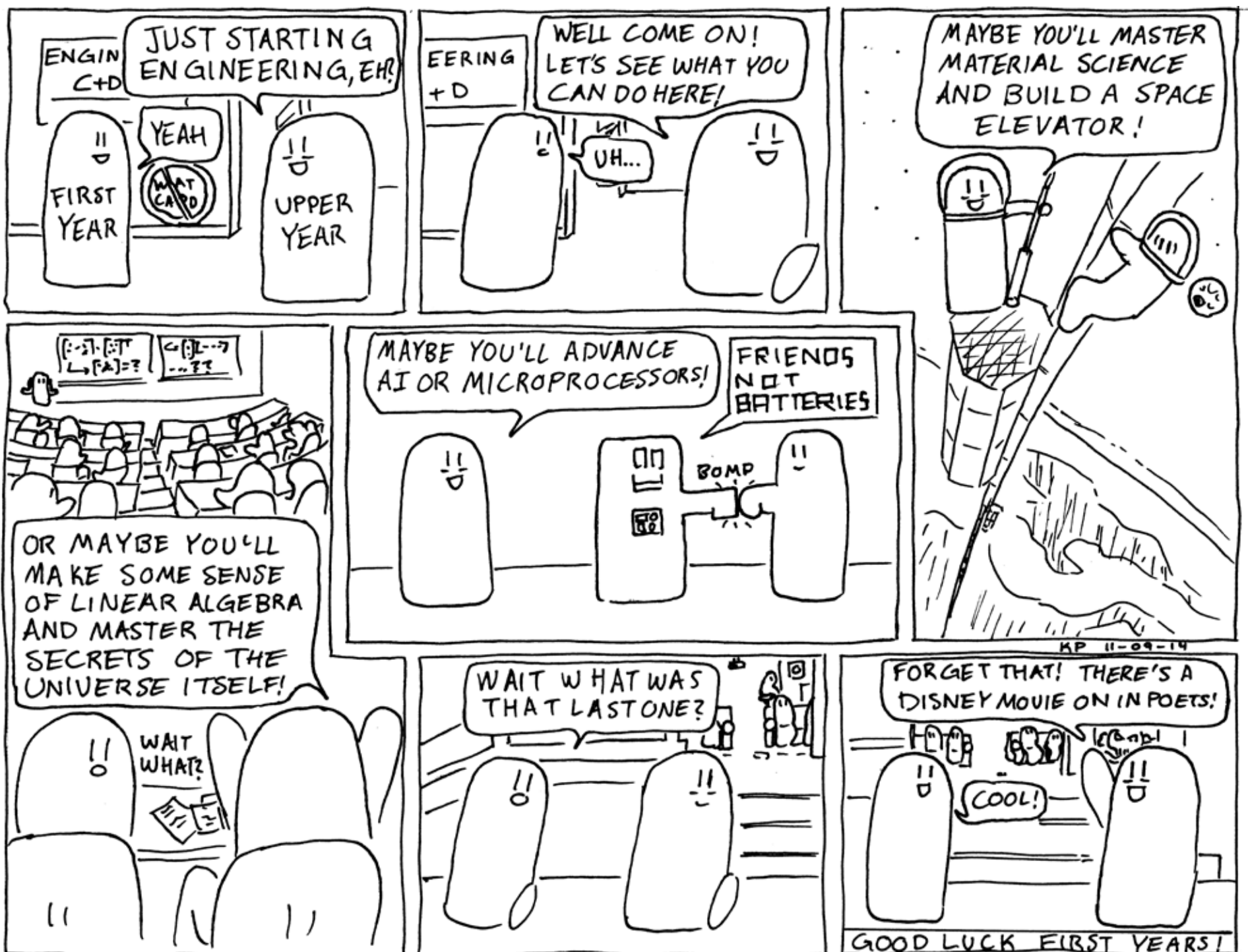
Velocity also has programming for entrepreneurial students right on campus. Check out velocity.uwaterloo.ca for more information on their campus events as well as the Velocity residence, a living space where 70 student entrepreneurs coexist and innovate every term.

The UW Entrepreneurship Society has many events throughout the term as well that will let you see what entrepreneurship is all about. You can check them out at uwesociety.com.

If you're in a program that includes co-op, look into Waterloo's Enterprise Co-op program. It gives students the unique opportunity to earn a co-op credit while figuring out how to start a company.

If you find entrepreneurship compelling, or you've always wanted to work for a startup, or you want to start your own company eventually, you've definitely come to the right university. Take advantage of this awesome space and dip your feet into the entrepreneurial world. Who knows? You could be the next Mark Zuckerberg.

KYLE POHL
MECHANICAL '14



Student Teams and Groups

VARUN JACOB-JOHN UW AQUAPONICS

Interested in helping make food more sustainable? Like gardening? Like fish swimming in an aquarium or on your dinner plate? Want to engineer green technology? Want to make a difference in your community? Then join the University of Waterloo Aquaponics (UWAQ) Student Team!

Aquaponics is a sustainable food production system that combines fish and plants together in a stable symbiotic relationship. The plants and fish are held in two different tanks, with the water cycling

MICHAEL FRANKO BAJA SAE MOTORSPORTS

If you love getting your hands dirty with mud and grease, then UW Baja is for you! Every year the Baja SAE team designs and engineers an off-road racecar to compete in an international design competition.

GRACE LEE UW BRIDGES TO PROSPERITY

UW B2P works to build a footbridge for a community in need from funding, to design, and then construction. We not only provide a valuable piece of infrastructure, but coach and mentor the community on proper construction planning, techniques, and execution, to provide know-how for future independent projects. UW B2P allows students to both create a positive impact, and develop

NICK MULDER UW CLEAN SNOW MOBILE TEAM

Have you ever thought about riding a snowmobile? This is one of the growing power sports in Ontario and throughout Canada.

The Clean Snowmobile Team is committed to making this sport more enjoy-

SCOTT KLINGER CONCRETE TOBOGGAN & CANOE TEAM

Ever dreamed about sliding down a ski hill at 75km/hr on a slab of concrete? Or maybe you've always wanted to paddle a concrete canoe in races against universities from across Canada? As outlandish as these competitions may sound, these concepts form the basis of two of the oldest engineering competitions in the country, the Great Northern Concrete Toboggan

MATT LANG UW ECO MARATHON TEAM

The UW Eco Marathon Team is a new presence on campus. Founded in 2013, we competed in the Shell Eco Marathon of the Americas in Houston, TX in April of this year.

The competition features teams from all over North America competing in different categories to achieve the best possible efficiency around the racetrack.

The two main divisions are the Urban

FILZAH NASIR ENGINEERS WITHOUT BORDERS

Engineers Without Borders (EWB) Canada is a unique organization that has its core the belief that engineers have an important and critical role in solving some of the greatest challenges facing the world today.

Among those is the reality that more than a billion people today live in absolute poverty. While EWB's mission is to tackle

around, so that the fish's waste fertilizes the plants, and the plants clean the fish's water. This creates a highly efficient food production system, which requires no pesticides or artificial fertilizer, and wastes very little water and nutrients.

UW Aquaponics sees itself as a team exploring the technology of Aquaponics, and trying to get others in the community involved with it as well.

We design, build and maintain our own Aquaponics systems, having to consider factors from structural safety, to fluid flow, to water quality, to sensors and controls. We also will run events trying to get others within the university, in other uni-

With focus on performance, reliability, and maneuverability, the car is designed, built, tested, and competed entirely by students. Each team is provided with a 10 HP Briggs and Stratton engine and is left free to design every other component of the vehicle as they desire. The vehicle must be able to handle logs, rocks, jumps, mud, sharp cor-

their technical, leadership, and teamwork skills by presenting a real-world problem to solve. Our latest build was in Bolivia in August 2014!

Building a footbridge from start to finish is not a small feat. For funding the footbridge, we organize fundraisers and sponsorships, as well as account for all of our finances. Our team must also complete a comprehensive design of the footbridge based on our earlier surveyed data handling all aspects, from the anchors to the freeboard calculations. But in order

able, affordable and environmentally friendly for Ontarians and people around the world.

We compete in the clean snowmobile challenge every year in Houghton, Michigan. The objective is to improve fuel efficiency, using alternative biofuels, reduce noise, and lower emissions; all while improving performance.

Race (GNCTR) and the Canadian National Concrete Canoe Competition (CNC-CC). Waterloo's concrete team competes at both of these competitions on an annual basis by designing, building and racing a canoe in the summer and toboggan in the winter.

As a member of our team, you will have the opportunity to partake in concrete mix design and testing; structural analysis of the frame, skis or hull; design of the toboggan mechanical systems; and project management including scheduling and fi-

Concept and Prototype categories, with multiple fuel categories within each division. The UW team competed in the Battery-Electric Prototype category in 2014, and while we didn't get an official score, our unofficial results placed us in 3rd in our category.

The team is looking to improve the vehicle for the 2015 competition and compete for the top spot in the battery-electric prototype category. The car itself is designed to be lightweight, aerodynamic, and as efficient as possible, and it also

global poverty it is with the understanding that poverty is extremely complex and tackling this issue requires a deeper understanding of the issue and ultimately changing many of the systems that structure our society.

EWB was founded at the University of Waterloo and the UW Chapter of EWB is still one of the largest and most active chapters within the EWB network. Currently our work focuses on 3 main areas: Global Engineering (improving engineer-

versities and the outside community into Aquaponics.

As can be expected, we attract people from across all departments and faculties, and so you will have the opportunity to work many different people with many different backgrounds.

Look out for upcoming UW Aquaponics projects, including the building and initialization of our second system, our upcoming competition, and our UWAQ workshop in March!

If you are interested in learning more about us, check out our website at aquaponics.uwaterloo.ca or contact us via email at uwaquaponics@gmail.com.

ners, hills and pretty much everything else. Recently the team placed 32/115 teams at this summer's competition in El Paso, Texas. If you are interested, or have any questions, send me an email (uwaterloobaja@gmail.com) or check us out on Facebook ([facebook.com/uwbaja](https://www.facebook.com/uwbaja)) and on our website (eng.uwaterloo.ca/~baja/)!

for this all to come together, the logistics play a vital role; we must organize the materials needed overseas and deal with the challenges of working in a different country! Lastly, we send a carefully selected travel team to build of the footbridge in the community.

For more information, please visit b2p.uwaterloo.ca.

Any students who wish to join may email b2p.uwaterloo@gmail.com outlining your specific interest in the team (e.g. fundraising) and how best to contact you.

This year our platform consists of a 2012 Polaris Rush chassis with a clean, quiet, and powerful four-stroke turbo engine. We are always looking for help! Check us out during the student teams lunch or stop by our bay in E5 when the lights are on! For more info visit sled.uwaterloo.ca or [facebook.com/uwsled](https://www.facebook.com/uwsled).

See you on the trails!

nance. You'll have the chance to construct formwork, pour concrete, and work as a team as you develop leadership and teamwork skills.

Students from any engineering department, not just civil, are welcome to join the team. If you're worried you've got no clue how to build something out of concrete, don't worry, because we all started in the exact same place. If you're interested, feel free to email us at uwaterlooconcrete@gmail.com or visit us in our bay, E5-1004!

happens to be one of the coolest-looking vehicles on campus.

We are looking for team members with an interest in mechanical and electrical design, racing, efficient technologies, and testing. We are also looking for people interested in joining our business development team, who would help with team finances, sponsorships, and events! If you're interested, please stop by E5-2003, or send an email to uwecomarathon@gmail.com. We are also on Facebook as UW Shell Eco-Marathon.

ing education to include global issues), Fair Trade & Economic Equality and International Development & African Programs. This fall we are holding our annual Gala event in November, Run 2 End Poverty in September.

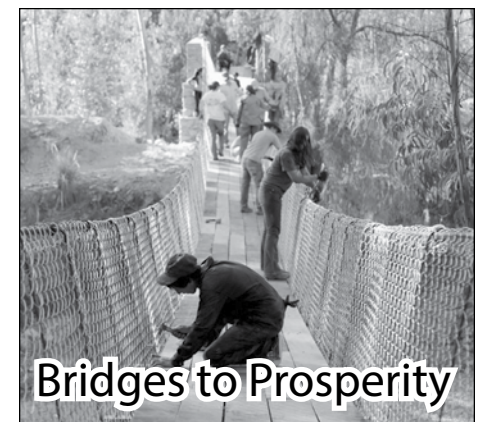
Our first meeting of the term will be held on Tuesday, September 16th and we look forward to meeting the the class of 2019! Check out our website at uwaterloo.ewb.ca and email us with questions at uwaterloo@ewb.ca.



Aquaponics



Baja SAE
Motorsports



Bridges to Prosperity



Clean Snowmobile



Concrete Toboggan
& Canoe Team



Eco Marathon



Engineers
Without Borders

Student Teams and Groups



The Iron Warrior

**LEAH KRISTUFEK
& NINA FENG**
THE IRON WARRIOR

This newspaper was brought to you by the fantastic group of engineering students who make up the staff of The Iron Warrior, your friendly neighborhood Engineer-

ing Newspaper. We strive to educate our peers about campus events, world news, technological advances, social issues, and more! Get published and make your thoughts heard across a wide and diverse audience. Come to our meetings for FREE FOOD and wonderful discussion!

We'd love to have you join our team

of writers, editors and photographers. We can even teach you how to do layout with Adobe InDesign, no experience necessary! It's like tetris, but more painful.

Shoot us an e-mail at iwarrior@uwaterloo.ca or drop by E2-2347. Meetings are Tuesdays at 5:30. Newcomers are always welcome! See you soon!



Midnight Sun

MICHELLE INDYARTA
MIDNIGHT SUN

Have you ever wondered about the car hanging in the Davis Centre? Well, that car is Midnight Sun VII, a World Record breaking solar race car built by The Midnight Sun Solar Race Car Team! Established in 1988, we are one of the top solar racing teams in Canada. We are a student-based design team that designs, builds, and races solar cars to compete around the world. We are committed to

raising awareness for the viability of solar energy through our international races, community events, and educational workshops. We believe in giving the students on our team an opportunity to practically apply theoretical concepts from the classroom, and giving our supporters the opportunity to be a part of an initiative that is both unique and environmentally conscious.

As the largest student team on campus, we recruit from every faculty on campus! No matter where your interests

lie, Midnight Sun has a place for you. Our team consists of three sub-teams, Business, Mechanical and Electrical. We are currently in the process of building our 11th generation car which features a completely new design and will be showcased in an Ontario-wide tour. Be a part of history by letting us know which team you're interested in by emailing us at mail@uwmidson.com or dropping by at E5 1002! You can also visit our website at uwmidson.com and our Facebook at facebook.com/uwmidson.



Rocketry

HILBERT LI
WATERLOO ROCKETRY TEAM

The Waterloo Rocketry Team team consists of undergraduate students from over 5 different disciplines who are committed and eager to learn about rocketry engineering in a competitive hands-on environment. Each June, we compete against over 30 international teams in the Inter-

collegiate Rocket Engineering. For this competition, we design, build, test, and launch rockets to altitudes of 10,000' and 25,000'. The rocket is fully student built, from initial designs down to the nuts and bolts. We also stand out among international competition as one of the few teams who produce hybrid rockets.

As a member of our team, you will be exposed to machine shop practice, funda-

mental aerospace engineering concepts, and experience with combustion systems. You will also gain various soft skills that cannot be acquired in the classroom.

There are always opportunities available for students from all faculties so feel free to drop by our bay in the Student Design Centre, or email us at uwrocketry@gmail.com. To learn more about us, visit waterloorocketry.com.



Steel Bridge Design Team

NOUHA JAVED
UW STEEL BRIDGE DESIGN TEAM

The University of Waterloo Steel Bridge Design Team is a collection of UW students passionate about the engineering design process, and competes in bridge design competitions annually. By being a part of the SBDT, you can gain hands-on experiences with all stages of structural steel design, from the design to the fabrication and construction of the bridge structure.

The management group will give you an idea of how a project is managed, and is great for those who had business experience in high school. The design group is a great way to learn design software like AutoCAD and SolidWorks, which are key additions to your resume! The fabrication group will teach you shop skills like welding and machining, and help you better understand steel. The construction group are the key participants during the steel bridge competition, and assemble all the parts created

by the fabrication group.

We compete in the ASCE Student Steel Bridge Competitions, which are annual events that challenge student teams to design and fabricate a one-tenth scale steel bridge. Judging criteria include stiffness, lightness, construction speed, display, efficiency, and economy. A problem statement is provided by the organizers detailing design constraints and objectives.

So keep an eye out for our general meetings, and visit uwsteelbridgedesign.wix.com/uwsbdt for more info!



UWAF

PATRICK CARROLL
UWAF

The University of Waterloo Alternative Fuels Team (UWAF) is composed of graduate and undergraduate students from UW and Laurier who design and build vehicles that run on alternative fuels. Established in 1996, they have competed in numerous advanced vehicle technology competitions, building cars that run on propane, ethanol, hydrogen fuel cells and more. Located in the Sedra Student Design Centre in E5, UWAF has a reputation for innovation and excellence, particularly in designing environmentally

friendly cars. Starting this fall they will take part in the 4-year long EcoCAR 3 competition where they will be redesigning and rebuilding a Chevrolet Camaro to improve its fuel efficiency, performance, safety and consumer acceptability while reducing its emissions.

UWAF is the only student team on campus that builds full-size road worthy vehicles. They follow modeling and design procedures similar to real-world auto manufacturers making this a great experience for engineering students. UWAF also works with professionals in the industry as well as numerous sponsors, providing an excellent opportunity

to develop networks, get co-op jobs and start your career. Through outreach programs and advanced vehicle technology competitions, UWAF is constantly striving to develop innovative solutions to the world's environmental challenges. This is your chance to get involved, solving hands-on, real world problems in a unique educational environment.

If you'd like to find out more about us, feel free to check out our website (uwaf.com) and Facebook page (facebook.com/uwaf), stop by the bay in E5 or check out our article (The Alternative Future) in The Iron Warrior from July at iwarrior.uwaterloo.ca/pdf/s14i5.pdf.



Waterloo Hybrid

RISHI CHATTERJEE
WATERLOO HYBRID

I'll give you a big hint to landing a great co-op job - become an individual who is not intimidated by challenges and readily accepts what comes his or her way. Now I realize you have probably heard that before and you are probably thinking to yourself how you can break you fears and grab opportunities as they come. Well the best way to start out is by joining a student Design Team. I represent a special team in the Student Design Center who are striving to design and engineer a Hybrid Formula

One car that runs an electric motor and a 250CC Kawasaki Ninja motor in parallel! Why is our team special? Lets go in detail here, our team is composed of a variety of programs, including but not limited to Computer Science, Computer Engineering, Mechatronics Engineering, Electrical Engineering and of course Mechanical Engineering. We are one of the only teams with such an interdisciplinary make up. We are ready to teach you everything you need to know (software, making circuits, designing actual parts and manufacturing them); we'll show you how to build a hybrid Formula One car. The only thing

we expect in return is you have the same passion and interest as us. One important fact about Design teams is that you can only benefit as much as you put in. Time management is a great quality and you'll notice employers will take great notice of that skill. Being in a design team can greatly strengthen time management. It will be difficult, a bit overwhelming at times but it has a lot to give back. In Waterloo Hybrid, our team knows that the first year schedule is hectic, which is why we try to work as best as we can to your availability. Come by our Bay located in the basement of E5 and don't forget to have fun in your first year!



WatSat

PETER KRUZLICS
WATSAT

WatSat is the University of Waterloo Satellite Team that participates in the 2-year Canadian Satellite Design Challenge (CSDC). The main objective of the challenge is to use 3U nano-satellites

(10cm x 10cm x 34cm) for novell missions as well as build the satellites out of mostly commercially available off the shelf components. The next iteration of the CSDC starts in Fall 2014 and will wrap up in Spring 2016 with Environmental Testing of the satellites at the Canadian Space Agency in Ottawa, Ontario. The satellite

team is made up of a wide variety of students from different departments and faculties. These students work on the various satellite systems (Attitude Control, Communications, Command & Data Handling, Payload, Power, and Structures) as well as on the Business (sponsorship and marketing). Check out our website at watsat.ca.

Interested in social and environmental justice? Inspired to take action? Get involved with WPIRG!

The Waterloo Public Interest Research Group (WPIRG) is your campus hub for connecting with students and community members active on issues of social and environmental justice on campus and beyond. Started in 1973, WPIRG provides skills and knowledge to enable students to organize for a more just and sustainable world.

What we offer:

- Volunteer Opportunities
- Project Funding
- Organizer Trainings
- Free Events
- Mentorship and Support

Come visit us!

Engineering 5
Room 2001
University of Waterloo
Mon-Fri 12-3pm

info@wpirg.org
(519) 279 0182



WPIRG

Social Justice & Environmental Action

www.wpirg.org

FROSHWORD

Are you ready?

NANCY HUI
4N CIVIL

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66						67						68			

ACROSS

- 1 Line segment where both ends lie on a circle
- 6 Director Ridley or Engineer Montgomery
- 11 They come in six-packs
- 14 Marconi invention
- 15 A social no-no
- 16 Headcom and Superhuges (abbv.)
- 17 ABSOLUTELY THE BEST STUDENT PAPER IN WATERLOO (2 words)
- 19 ___ Jima
- 20 Floe
- 21 Reign
- 22 Throat malady
- 24 Some legislations
- 25 Stick together
- 26 Young cod
- 30 Untrue
- 32 The average person has 100,000
- 33 A modicum

DOWN

- 1 Pad
- 2 Aesopian runner-up
- 3 Stench
- 4 Engineering graduate's bling
- 5 Market indicator
- 6 Swagger
- 7 Sagan, Marx, or Jung
- 8 Theatre award
- 9 Also
- 10 Chests or trunks?
- 11 IN FLAMES
- 12 Arbor
- 13 Sniper's attachment
- 18 Circle segment
- 23 A VERY SPECIAL 60" CHROME-PLATED PIPE WRENCH (2 words)
- 24 Commercials
- 25 Chowder component
- 26 Ontario theatre festival
- 27 Sugar plant
- 28 Ceremony
- 29 The EngSoc office
- 30 The F in f-stop
- 31 Cyclotron particle
- 33 Indolent
- 35 Vicinity
- 36 Allows
- 37 A British bludgeon
- 39 Locker room shower?
- 43 It used to go with GST but was replaced by HST
- 45 Brego and Saphira, to Aragorn and Eragon
- 47 Metabolic rate at rest
- 48 What a proofreader does
- 49 Showed on TV
- 50 Located on the side of fish or the underside of mushroom caps
- 51 Football chant
- 53 Young beef
- 54 What proofreaders do
- 55 Comparison word
- 56 Member of minor nobility
- 57 ___ mater
- 58 Destroy heroically!
- 61 Epoch
- 62 Downhill or cross-country

- 66 It's dropped for a trip (abbv.)
- 67 Bath or smelling
- 68 Mosaic

DOWN

- 1 Pad
- 2 Aesopian runner-up
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Sudoku

NINA FENG
3N ENVIRONMENTAL

Easy

				6			7
	6					9	8
1			4	2	3		
	4	9		6	7	5	
	1					6	
	3		8	9		4	7
	2		5	1			4
5	8						2
6			3				

Medium

				6			
	7		4	1		6	3
6		1		3			8
8	3			1			6
	1					8	
5			6			3	4
2			1			8	5
4	6			7	2		9
				3			

Hard

3	9		8	7		6		
2				3				
6					5		3	
		3	7				5	
	4		5	8			7	
	5				9	1		
	6		4				8	
				8			5	
		7		5	3		2	6

Next Issue: September 24, 2014

Send your submissions to:
iwarrior@uwaterloo.ca

THE IRON INQUISITION
Leah Kristufek, 3B Chemical

"What would you do differently in first year?"



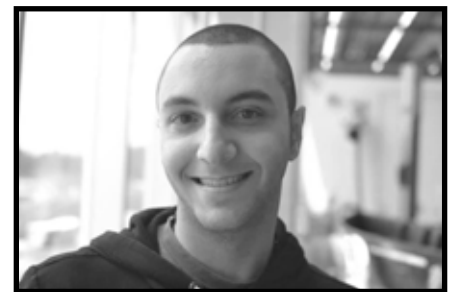
"Not be scared to talk to upper years and ask advice."

Leila Meema-Coleman, 3B Mechanical



"I would have signed up as a frosh leader for the next O-week"

Nicole Foris, 4A Environmental



"I would have gotten my resume ready before jobmine postings started"

Abdullah M Barakat, 2A Mechanical



"Spend more time taking notes."

Josh Kalpin, 3B Software



"Learned that hermitting is not good for your social life and personal psyche sooner"

Levin Lau, 2B Systems Design



"Make better connections with the professors"

Ken Mathekal, 3B Chemical

WPIRG PRESENTS

A welcome back
comedy night
with "Fear of a
Brown Planet"
comedian



Sold out two weeks
in London, UK!

AAMER RAHMAN
THE TRUTH HURTS
WITH THE KW POETRY SLAM

September 10 @ 7pm - Cost: Free

**Humanities Theater, Hagey Hall -
University of Waterloo**

wpirg.org info@wpirg.org