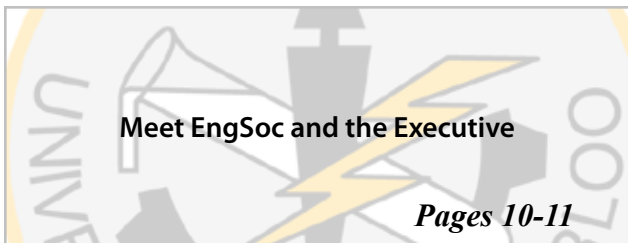


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# THE IRON WARRIOR

THE NEWSPAPER OF THE UNIVERSITY OF WATERLOO ENGINEERING SOCIETY

VOLUME 32 FROSH ISSUE | SUNDAY, SEPTEMBER 4, 2011



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[twitter.com/theironwarrior](http://twitter.com/theironwarrior)

<http://iwarrior.uwaterloo.ca>

## The Battle for the Earth Begins Now

### Engineering Orientation 2011

**ANDREW FISHER & UMESH THILLAIIVASAN**  
SUPERHUGES

Hello Frosh, and welcome to the clash of the Enders and Defenders! Up to this point, you've hopefully received a couple of mail-outs and looked through our website so that you know a little bit more about the University of Waterloo's Engineering Orientation Week. We hope you're just as pumped about the week as we are and that you've come prepared to have one of the greatest weeks of your life!

If you're reading this, you have probably found your colour group's headquarters and have met a couple of your leaders, the Bigs and Huges. We encourage you to talk to your leaders as much as possible because they can give you a wealth of information as they have all been in your shoes. 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 may be a little overwhelmed with the number of new faces you're meeting, but do not worry! We're all in the same position, so go and introduce yourself to another random! There's an 8.33% (repeating, of course) chance that they're in your class! Better yet, they could be your long lost brother from another mother, or sister from another mister!

H'okay, so you're now in your headquarters and you're a little scared, excited, or both! You've been given a sweet bag of loot and a snazzy new t-shirt. Now what, you ask? Tuesday is packed with activities such as meeting the Dean and the infamous Education Committee. You'll also be Earning Your Hardhat with your fellow Frosh and Bigs. Your hard hat is your protection against the foes of Engineering and is a well-established tradition from 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 Hardhat, you'll con-

glomerate in a show of Engineering unity as you pose for an Aerial Photo. Having now earned your hard hat, you'll have to put it to good use on Thursday. At the Junk-

yard Wars competition, you'll have the opportunity to prove your firepower with a limited amount of resources at your disposal. You will also get to meet several of our student-run engineering teams. After the student teams lunch, you'll get to meet our Engineering mascot, the TOOL. It's the ultimate and the all-knowing. It also loves spirit and loud noises. Apart from the cross-campus events of Wednesday Night Mixer, Monte Carlo, and Saturday Night, the final Engineering event is the Hunt of Scavengers. Go forth and compete in events to gain tokens to try to win the week. There can only be one team... So will it be yours?

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. What you put into the week is up to you. If you have any questions, don't be afraid to stop us at any time or just to say hello! We are wearing Gold jackets or vests all week!! May the best team win!



**ENDERS**  
**VS**  
**DEFENDERS**  
**THE FINAL COUNTDOWN**

**SO IT BEGINS...**



Superhuges: Umesh Thillai, Andrew Fisher

**HEADCOM**  
EDUCATION COMMITTEE

**LISTEN UP**  
**FROSH!**

Now that you're here, it's time for you to learn what it takes to be a Waterloo Engineer. 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 hand-picked from the top 3% of each discipline. We are the best and the brightest that Waterloo has to offer. We never make mistakes and are only wrong if wrong is right! We participate actively in the Engineering Society, WEEF, and the many student teams you will learn about on Thursday. We will also be your TAs when classes start. We are not impressed easily.

We are the ones responsible for running all of the awe-inspiring events dur-

ing Orientation Week. We are the ones that will award you your hard hat when, and if, you earn it, meaning that we are the ones who decide whether or not you are a Plummer; a true Waterloo Engineering student. Once you have your hard hats, we will be there to watch your ENGINuity during Junkyard Wars, and oversee all the events of the 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

## Reflections on Lessons Learned



**MIKAYLA  
MICOMONACO**  
OUTGOING  
EDITOR-IN-CHIEF

Welcome to Waterloo Engineering!

Hopefully, you're ready for five years of hard work, but lots of fun too. Your university career will be a life-changing experience, and you should make the most of it while you're here. It can be overwhelming at the beginning, so here are some tips I have for surviving first year.

Make sure you meet people in your class. One of the best things I ever did was agree to meet with a study group one day after classes. I didn't know any of the people, but to this day I still study with some of them. I never liked group work in high school, but I've learned that group studying is vital for engineering. Not only will you have many group labs and projects during your time here, but most people can't do engineering alone. Nobody can be good at everything you're taught here. There's way too much material, and way too little time to learn it. A good study group means that even if you have no idea what's going on, someone else will, and when they're strug-

gling, you might just have the answers.

WEEF TAs are the best thing in existence. I pretty much lived in the WEEF lab in first year, and it's one of the reasons I actually passed calculus (note: university calculus is much harder than your average high school calculus). WEEF TAs are there to help you, and they're upper-year undergraduate engineering students, so they know how it feels to be in your position. The WEEF lab is open in the evenings, so you can get help on your courses and assignments.

Talk to your profs and TAs. Go to their office hours and ask them questions. If you prove that you actually care, they will go out of their way to help you. Don't be afraid to ask "stupid" questions; it's better to ask when you're not sure, than to have problems later on because you didn't ask, in any case a lot of people probably have the same questions; they just don't want to ask them. Most profs don't bite, and they do want you to succeed.

Finally, and possibly most importantly, find something else to do. I'd highly advise finding something else, whether it's a hobby, getting involved with a university activity, or something completely unrelated to the university. Your sanity will thank

you in the long run. The important thing is to find balance. You definitely need to spend a lot of time on school, but if you don't find some kind of balance, you will go crazy.

There are several different ways you can get involved within the university community. Student teams are always looking for new members, and most of them will teach you the skills that you need. They're a great way to apply things you're learning in class, or even learn about things you wouldn't otherwise see until much later in your academic career, if at all. If there's something you want to do, there's probably a club for it. If not, you can start one!

There are other, less academic-related ways to get involved outside of the classroom. I, of course, highly recommend The Iron Warrior.

There is also the Engineering Society. They have many events and services, and are always looking for more people to get involved. See pages 18 to 21 to see what the Engineering Society has to offer.

I hope you have an amazing time this orientation week, and a great first-year experience. Best of luck!

# Letter from the Incoming Editor

## Welcome and Some Advice



**JON  
MARTIN**  
INCOMING  
EDITOR-IN-CHIEF

Hey first years, welcome to the University of Waterloo and the Faculty of Engineering! You are now a member of one of the best engineering faculties in the world, with a great culture surrounding it, and a society to support it and engage everybody. Hi, I'm Jon Martin, Editor-In-Chief of The Iron Warrior for the fall term. I'm in my 3B term of Civil Engineering and I'm always ready to say hi and start a conversation, so come up and say hi.

First off, as you are currently reading an issue of The Iron Warrior, it makes it immensely easier to explain what it is, mainly by getting that whole pesky "It's a newspaper" stuff out of the way. The Iron Warrior is the bi-weekly newspaper of the Engineering Society here at Waterloo. The IW (you'll find we love acronyms at Waterloo) is put together by a dedicated group of engineering students and covers issues on campus and around the world – with a healthy measure of comic relief mixed in there as well. If you want to help out with the paper, there are tons of opportunities, both formal and informal. Want to

contribute ideas and maybe write an article every once in a while? That's great! Come to the meetings and join the conversation. Want to take a more involved role? Come on out and help with layout, proofreading, photography, distribution, advertising and other editor jobs. Or just grab your rollerblades and help us distribute papers across campus; whatever level of involvement you want, we want you to be there. Meetings this term are every Monday at 5:00pm in E2-2349A, so come on out and see what making a newspaper involves. Outside of meetings, feel free to drop by the office and see if somebody is there – chances are there will be – or send us an email at [iwarrior@engmail.uwaterloo.ca](mailto:iwarrior@engmail.uwaterloo.ca).

Throughout Orientation Week, meet all the people you can and try to remember at least some of their names, and maybe find some clubs and groups you want to join – hint, hint, The Iron Warrior is awesome. There are lots of opportunities to get involved across campus, and those same groups can greatly help relieve some pressure during those times when you feel a little overwhelmed. I got involved with the IW after seeing the booth at the Student Teams Lunch after Junkyard Wars, immediately started writing articles, started a regular video game column in my 1B term, and am now editor, so get involved and

you won't believe where you will end up in the coming five years.

Another thing to think about during Orientation Week: All of these events that you get to go to are organized and run by students – with tons of help from the University administration of course – so check as many of them out. Orientation week is one of my favourite weeks every year, and I have never missed the opportunity to be a leader. If there is a leader who has made your week great so far, be sure to thank them and say hi again in the coming term. Never hesitate to talk with upper-year students when you see us. We have all been through what you are going through right now, so say hi and get to know people in other years. Come out to Engineering Society meetings and meet even more people who love getting involved and meeting other people. Upper years are also a wealth of knowledge on the courses you are taking, so I advise you to make friends with upper years in your program as well; it has definitely helped me over the years.

Again, welcome to University of Waterloo and the Faculty of Engineering, work hard, play hard, and enjoy the next five years, they will go by before you even know it. You won't recognize yourself at the end of it, so enjoy every minute.

**THE IRON WARRIOR**  
The Newspaper of the University  
of Waterloo Engineering Society

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Mikayla Micomonaco

### Incoming Editor-in-Chief

Jon Martin

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**Fall Issue #1 Deadline: Friday, September 23**

Send your submissions to [iwarrior@engmail.uwaterloo.ca](mailto:iwarrior@engmail.uwaterloo.ca)

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Want to reach a wide, intelligent audience which includes students, faculty and staff at the University?

We are the official newspaper of the University of Waterloo Engineering Society representing the entire undergraduate engineering student body of over 6000 students.

Our newspaper is distributed all across campus and is the perfect medium to advertise your event, employer information session, service, etc.

For more information, please visit <http://iwarrior.uwaterloo.ca/advertising/> or contact us at [iwarrior@engmail.uwaterloo.ca](mailto:iwarrior@engmail.uwaterloo.ca), 519-888-4567, Ext. 32693

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.

Mail should be addressed to The Iron Warrior, Engineering Society, E2 2349A, University of Waterloo, Waterloo, Ontario, N2L 3G1. Our phone number is (519) 888-4567 x32693. Our fax number is (519) 725-4872. E-mail can be sent to [iwarrior@engmail.uwaterloo.ca](mailto:iwarrior@engmail.uwaterloo.ca)

# Dean of Engineering

**ADEL SEDRA**  
DEAN OF ENGINEERING

Welcome to Waterloo Engineering and to your Orientation Week!

We are very pleased that you have chosen the University of Waterloo to pursue your post-secondary education. Once again we have attracted a bright and talented group of students to our first-year engineering programs. You should take pride in joining this faculty, where you'll be in the company of top researchers and teachers, dedicated staff and motivated undergraduate and graduate students.

As you know, we are widely recognized as the premier engineering faculty in Canada, with an excellent co-operative education program. The success of our students – academically, on co-op terms and in their extracurricular pursuits – is a major contributor to our excellent reputation. The Student Design Centre in the new E5 building was built specifically to support students in pursuing their passions and interests. The result is a vibrant and involved student body, home to active student so-

cieties, award-winning student teams, the founding chapter of Engineers Without Borders and many other service organizations, as well as businesses, newspapers, clubs and bands.

Throughout Orientation Week you will develop a community of friends and classmates, find a place in your academic environment and start to think of Waterloo as home. You'll learn about the many student services the university offers, as well as the abundance of extracurricular activities available.

You may feel overwhelmed at times this year, adjusting to new expectations for aca-



demical and workplace performance, learning the ins and outs of co-op, and choosing among all of the great opportunities available to you. Always remember that there is a strong support system available to you. The First-Year 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 tremendous resources, and senior-year students

can provide great insight. There are many other services and resources available: all

you have to do is choose to tap into them.

We recognize the importance of a vibrant student body and value the contributions our students make to the faculty, the university and the community. We encourage you to get involved with campus life. To help make your time at Waterloo the best possible Waterloo Engineering has a staff member dedicated to enriching your student experience. Meg Bauman is engineering's Student Relations Officer and your contact in the Dean of Engineering Office. Be sure to get in touch with her to find out about activities in your area of interest, to provide feedback on Orientation Week or to share your Waterloo achievements. Meg can be reached at mebauman@uwaterloo.ca, ext.38306, CPH 4361.

Throughout the year please remember that our offices are always open, and we look forward to meeting and helping you. Enjoy your Orientation Week!

Best Wishes,  
Adel S. Sedra  
Dean, Faculty of Engineering

**CECS**  
CO-OPERATIVE EDUCATION  
& CAREER SERVICES

Congratulations! You've made a commendable decision to join the largest co-operative education program in the world. Over the next several years, you'll enrich your classroom learning with intervals of real-world job experience in rewarding and instructive positions.

As you orient yourself to all that uWaterloo has to offer, make sure to familiarize yourself with the co-op process as well. After all, co-op plays an important role in the quality of your overall undergraduate experience.

## Prep for success

Since Waterloo co-op is the biggest and the best, there are many bright, motivated students. In order to distinguish yourself, you'll need to be prepared. The first step is having an effective and up-to-date résumé - a critical element in securing work term employment. Reflect on your volunteer, extra-curricular and work experience to date. Highlight the skills you acquired in a variety of roles. Communicating the experiences and skills developed from all of the activities you have done on your résumé can really make you stand out as a desirable employee.

Keep a close eye on the Important Dates calendar to know when postings, interview dates and rankings go up. This will help you maximize your job opportunities and ensure you don't miss any deadlines.

## Welcome to Waterloo Co-op!

### Staying in the loop

Many first year students feel uncertain about the co-op job hunt. If you have questions, concerns or doubts, you aren't alone. Luckily, you have an entire support system on campus to provide you with the resources and information you need to succeed. Take advantage of all that Co-operative Education and the Centre for Career Action have to offer. You can make an appointment to have your résumé reviewed with suggestions for improvement, or meet with your co-op advisor to discuss your short-term and long-term career goals. The Centre for Career Action in the Tatham Centre hosts many workshops to prepare you for the interview cycle. These sessions enable students to practice for real-life scenarios, examine professional objectives, and learn basic cues for proper business etiquette. To find workshops offered this term, check out the Career Action website at [www.careeraction.uwaterloo.ca](http://www.careeraction.uwaterloo.ca).

### Landing that job

It can be daunting to come into co-op as a first year student competing against intermediate and senior co-ops in your field, but Co-operative Education & Career Services has a very high employment success rate each term. That being said, CECS cannot guarantee that you will find employment. Your actions and preparation will shape your success. Be open to the opportunities presented to you; co-op may take you out of town, out of the country, or into a company you had never envisioned yourself working for. Variety adds value to your

work term experience, so don't be afraid to step out of your comfort zone.

Once you've secured a job, you'll be required to keep up with your duties as a co-op student. Students must submit all mandatory work term reports. Full instructions can be found online on your program website. Make sure to get the details early - the quality of your work will be compromised if you leave it to the last minute. Active reflection throughout the work term is

necessary to write a compelling and sincere report.

Lastly, the Co-op Student Manual is available at [www.cecs.uwaterloo.ca/manual](http://www.cecs.uwaterloo.ca/manual). Here you'll find everything you need to know about the application process, JobMine ranking, and reports. Feel free to also stop by the Tatham Centre with questions for the CECS staff. We're happy to help, and to meet the newest co-op ambassadors of our institution. Welcome and good luck!

## Awards, Grants, and Scholarships Available

# APPLY! for up to \$2,000

The Sandford Fleming Foundation

### SFF Memorial Junior Leadership Award

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

### Fisher and Duxbury Leadership Awards

Applicants must be graduating from the undergraduate program and have shown outstanding leadership throughout their academic career in activities that relate to engineering education.

### Inter-disciplinary Undergraduate Research Assistant (URA) and Co-Op Awards

Applicants must be undergraduates that are co-supervised, as a URA or as part of their co-op work term, by professors in the Faculty of Engineering and professors in another Faculty.

### Undergraduate Travel Grants

This grant is for: Conference Presentations, Conference Registrations, Technical Projects, Academic Professional Conferences.

### Dr. F. Hecker and SFF Student Exchange Scholarships

Applicants must be undergraduates participating in one of the Faculty's student exchange programs globally.

- Professionalism
- Leadership
- Communication
- Design
- Innovation
- Engineering

An organization devoted to the advancement of engineering education.

For more awards, information, and how to apply for the above awards, grants, and scholarships, please visit the SFF website listed below.

[sff@engmail.uwaterloo.ca](mailto:sff@engmail.uwaterloo.ca)  
[www.eng.uwaterloo.ca/~sff](http://www.eng.uwaterloo.ca/~sff)

UNIVERSITY OF  
**WATERLOO**

## Volunteer/Internship Fair

Come and visit the volunteer/internship fair organized by Career Services. You can meet with representatives from a variety of local agencies to find out about volunteer opportunities.

These agencies specialize in many different areas including: working with children, aiding seniors, caring for people with health issues, organizing art events, and many others. You can choose to volunteer in one of the hundreds of opportunities and gain valuable experience, as well as staying connected with the community.

Also, talk with representatives about opportunities that may include: administrative work, event planning/fund-raising, marketing, boards and committees, special events and recreation---just to name a few.

This event takes place in the Student Life Centre in the Great Hall on Wednesday September 21st, 2011 from 11:00a.m. to 2:30p.m.

# First Year Engineering

**AJOY OPAL**

DIRECTOR, FIRST YEAR ENGINEERING

A warm welcome to all students entering their first year of engineering studies at Waterloo. You have entered one of the finest universities in Canada and this is an exciting point of time in your life. Being at university will provide many opportunities for personal and academic growth: to make new friends, to visit new places, to develop critical analysis skills and to develop a career of your choice. The years ahead will be some of the most challenging of your life, as well as some of the best years of your life. Your undergraduate degree will take approximately five years to complete and it is important that you start this process with a little bit of 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 do all of these things 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 approximately 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 that do not work:

- Attend classes. Follow along with what the instructor is teaching in class. Ask questions. During classes do not log on to Facebook, do not watch videos or play games on your computer.
- 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.
- Do not skip lectures and expect to learn everything by yourself from textbooks and notes. The internet is a wonderful creation, however, it does not contain the answers to all your assignments nor solutions to all your problems. Do not work late into the night on a regular basis.

Balance your Life: Your first thought when starting your university career may be at one end of two extremes, either to study-study-study, or possibly, party-party-party. Neither of these extremes is the ideal choice and, as usual, the truth lies somewhere in between. Let me suggest that a complete human being 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 extra-curricular activities. Not only do you have to nurture all three parts, you need to balance the amount of time spent on each activity. And, just to make it clear, balance during your university life means studying is the major activity you are expected to do, but without ignoring other aspects of 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 these activities. Not only should you make a schedule, you must follow it and make adjustments to it as you go along.

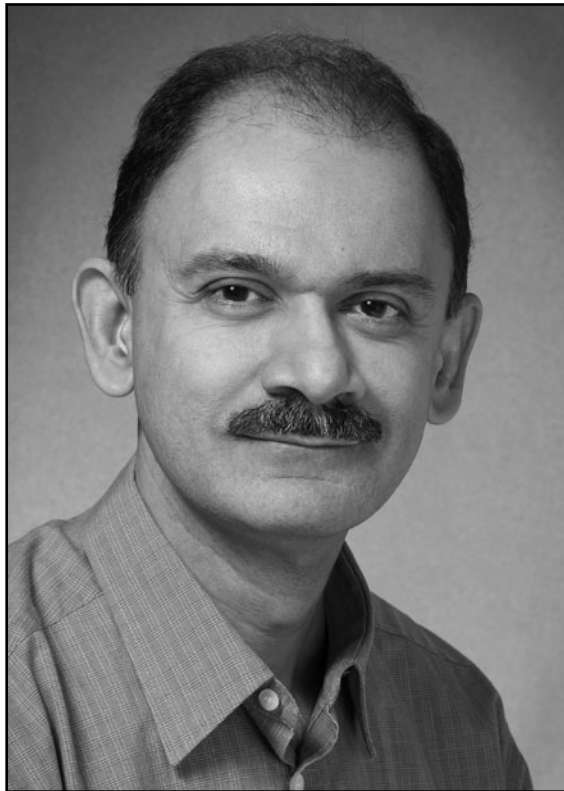
In summary, there are three major things to consider during your undergraduate studies, they are neither study-study, nor party-party-party. Instead, they are mind-body-soul, and the balance between them.

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. This is why it is important to make a time schedule and to use it everyday of your life. 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 under the circumstances, as opposed to doing everything yourself or doing nothing. Also remember there is no shame in asking for help at anytime you feel the need.

There are many sources of academic help available at the university. First will be your classmates and friends studying the same or similar subjects. 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 Office to help you with your courses. The Director and Associate Director of First Year Engineering are also available to provide academic counselling of a more general nature, for example, in case your academic performance is not meeting the standards we expect of all students, or you want to take extra courses during your normal study or work terms, or courses at

another university. 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. It is important that you inform the First Year Office in case you are dealing with significant personal or medical issues during your study term, specially if you are going to miss classes, exams or not complete assignments during

the term.

Information and access to all 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 many 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 person, we expect you to behave in a professional way with your fellow students, teaching assistants, instructors and the entire university staff in general. This includes your jobs during Co-op work terms as well. Any unprofessional behaviour during your university career can have serious consequences and, depending upon the seriousness of the misdeed, it can lead to loss of marks in a course, or 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 yours. Being a professional is all about doing the right thing at the right time. Remember that engineering is a demanding program and you maybe tempted, due to a lack of time, to cut corners. Resist this temptation. If you are ever in doubt about what is professional or not, ask an instructor or teaching assistant to help you decide.

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

## WATERLOO ENGINEERING



A team of experienced **alumni volunteers** are ready to share their vast range of **knowledge**, field **experience** and the secrets of their success with you.

<http://askanengalumni.uwaterloo.ca/>

Ask questions and get **advice**:  
adjusting to University life, planning your **career**, the working world, ethics, **job search** tips and more!

## International Exchange

**PETER H. ROE**  
DIRECTOR OF INTERNATIONAL  
EXCHANGES

Welcome frosh, to UW 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 tourism, 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 some 70 top-tier universities in about 30 countries around the world. You need to evaluate which location 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, [www.eng.uwaterloo.ca/~exchange](http://www.eng.uwaterloo.ca/~exchange) for a wealth of detailed information and all the contacts you need to help you in the process.

You don't need to worry about the money; more and more scholarships and bursaries are becoming available. Normally, exchange students lose no time on exchange and graduate with their class.

Finally, exchange is great for fun, travel and tourism. 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 2005)

*"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 2009-10)

## Engineering Students Societies' Council of Ontario

**MAURICIO CURBELO**  
ESSCO PRESIDENT

### What is ESSCO?

ESSCO is an organization that facilitates communication between all the engineering societies in Ontario. ESSCO represents approximately 24 000 engineering students in 15 universities across the province. ESSCO is the liaison with the PEO (Professional Engineers of Ontario), OSPE (Ontario Society of Professional Engineers), and CODE (Council of Ontario Deans of Engineering), and acts as the student voice to all of these organizations with the purpose of bettering student life in engineering.

### ESSCO Conferences

ESSCO hosts conferences every year where engineering students, like yourself, from across Ontario get together, enjoy stimulating discussion during sessions, and have a lot of fun.

**First Year Integration Conference (FYIC)** is attended by first year students and its goal is to introduce students to ESSCO in a fun and enjoyable way. This year, FYIC is being held at McMaster Univer-

sity in February.

**President's Meeting (PM)** is for the President and Vice President External from each school. They meet and discuss how the year is going. ESSCO PM is being held at the University of Windsor this year in

**PEO Student Conference (PEO-SC)** is run by the PEO and ESSCO to promote engineering to the public and promote the P.Eng licence. This year, PEO-SC is being held at the University of Ottawa in November.



### Engineering Student Societies Council of Ontario

September.

**Annual General Meeting (AGM)** is the meeting to elect the next year's executive and set the direction for the new executive in the coming year. This year, ESSCO AGM is being held at Queen's University in June.

### How to Get Involved

There are many ways that you can get involved with ESSCO and have a great time. **National Engineering Month** is a good opportunity to volunteer and help run the **Rube Goldberg Project** in February or March. There is also **Math and Science**

**Day at Canada's Wonderland**, which takes place in May. At this event, volunteers help teach high school students about physics and engineering concepts through some of Wonderland's attractions.

If you feel you would like to get more involved, there are director positions available:

**NEM Director:** Promote and coordinate the National Engineering Month Rube Goldberg Project

**WIE Director:** Promote Women in Engineering across the province.

**New Initiatives Director:** Explore new ways that ESSCO can expand to help students

**Wonderland Director:** Plan and organize Math and Science Day at Canada's Wonderland

**Promotions Director:** Promote ESSCO activities and initiatives, design posters, advertisements, and swag

**Engineers For the World Director:** Edit and coordinate the publication of the E4TW Article

Find out more at <http://www.essco.ca>.

## Canadian Federation of Engineering Students

**MICHAEL SELISKE**  
CFES IT COMMISSIONER 2010-2011

The Canadian Federation of Engineering Students (CFES) is a student-run, bilingual, national engineering organization which works to represent engineering students, facilitate sharing amongst schools across Canada and provide schools with the opportunity to learn about the diversity we have in our vast nation. The CFES encompasses approximately 65,000 engineering students who attend one of the 47 member schools in one of four regions of Canada. Unlike the Engineering Student Societies' Council of Ontario (ESSCO), which is our regional organization (and typically has a more focused opinion), the CFES strives to represent all of the diverse viewpoints shared amongst students across Canada to the various national engineering organizations. The CFES is a member of the Canadian Engineering Leadership Forum (CELFL) which is a collaborative effort between the six major engineering organizations in Canada; the Canadian Federation of Engineering Students (CFES), Engineers Canada, the Cana-

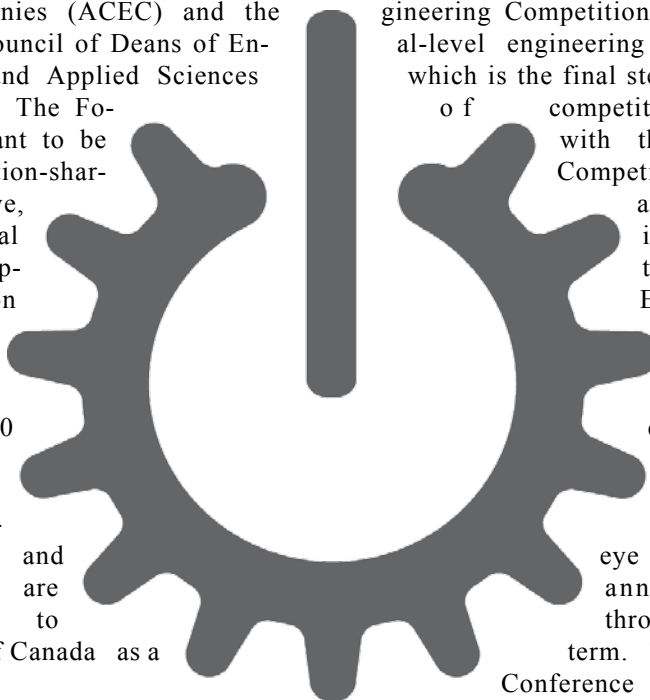
dian Academy of Engineers (CAE), the Engineering Institute of Canada (EIC), the Association of Canadian Engineering Companies (ACEC) and the National Council of Deans of Engineering and Applied Sciences (NCDEAS). The Forum is meant to be an information-sharing initiative, with the goal of developing a vision of the profession for the next 30 years, to help enhance engineering and ensure we are responding to the needs of Canada as a whole.

Beyond this representation, the CFES has a few opportunities which closely affect YOU including the Canadian Engineering Competition (CEC), the National Conference for

Women in Engineering and Congress which is the annual general meeting of the Federation. The Canadian Engineering Competition is a national-level engineering competition which is the final step in a series of competitions starting with the Waterloo Competition (WEC) and continuing through the Ontario Engineering Competition, with qualifiers competing in CEC each March. Keep an eye out for WEC announcements throughout the term. The National Conference for Women in Engineering (NCWIE) is a national conference for members from engineering schools across the country to come together and share ideas and issues which are associated with Wom-

en in Engineering. This year, NCWIE is being held at McMaster University in November, so keep your eyes peeled if you are interested in these types of issues. One of the larger events which is run by the Federation is Congress, a week-long conference in January where schools come together to share ideas with other schools as well as discuss issues facing engineering students in Canada. This is also where participants determine the goals the Federation will have for the year and what types of things might be accomplished. This year the WESST region is collectively hosting Congress in Whitehorse, Yukon with the 2013 edition being held right here in Waterloo. They release a magazine four times a year called "Project Magazine" and can be contributed to by any engineering student in the country, so check the newsstand beside the Orifice for the latest edition.

This was a lot of information and a lot of acronyms, but be aware that there are gears turning outside of Waterloo's walls that are trying to make your Canadian Engineering Education the best as it can be.



# Welcome to Orientation Week 2011 From Your Colour Group Leaders

## Read About Your Team's Theme and Who Will Take you Through the Week

### RED

So you're a first-year engineering student at Waterloo. You are now a "plummer" as one might say. You might be asking yourself, "Why was I considered awesome enough to be part of Red Team for my Orientation Week?" There were many things your Huges looked for while scouting for potential Red Team members for this year's festivities. Maybe it's due to the fact that your preferred method of transportation is via shiny green pipes. Or maybe it's because your mom always makes sure you have a fresh pair of denim overalls and a clean red hat to start your first day of school every year. Heck, maybe you just like stomping goombas, punching bricks, and saving princesses. Whatever it was, we just want to let you know that you belong here. The world of Super Mario and his Mushroom Kingdom have been part of the elite group of the world's Defenders since before you were born and we think you're going to fit in just fine. In the words of our great leader: "Lets-a go!"

*Alessia, Griff, Melissa, Owen, Zack Red Huges*

### LIGHT GREEN

Everyone knows that the world is going to end in 2012. "But how?" you may ask. Well, we have a pretty good idea of how things are going to go down. We are the Light Green team and we are Zombies. Join us as we consume the brains of our adversaries while dodging cricket bats and shovels in an attempt to take over the world! We're not just a bunch of mindless, re-animated corpses; we're an unstoppable plague that will wipe out all of civilization. Horrific thoughts aside, your Bigs and Huges are very excited to meet you all! This week will be full of fun and games, with lots of challenges in which your ingenuity and engineering know-how will be put to the test. So, master your groaning, perfect your zombie limp, and help us prove once and for all the Light Green team is the best team around!

*Aloy, Ashley, Matt, Cristina, Duncan Light Green Huges*

### LIGHT BROWN

Ahoy, mateys! 'Tis the dawn of a new day. The sun be shinin' and the sea beckons ye. There be only one problem: she be big, and we be small. But ye ain't alone! Light Brown be at yer side! When yer on a boat, n' it's goin' fast, and ye be facin' down the Kraken in the middle of the blue, yer crew is yer life, and if we work together, nothin' can stop us! Yer crewmates and yer Bigs are th' bulk o' tha crew, and we know that ye'll become great friends durin' yer adventure. We be yer captains, ruling not with iron fists, but with mugs o' tha finest juice (or in Dom's case, a glorious beard) and hooked hands (and beard) extended in comradery. We be tha best o' tha best, and we know that ye'll fit right in! So hoist the mainsails, secure yer lines, and don yer nautical themed gear -- tha world be ripe fer tha conquerin', n' we always get our booty!

*Erin, Liz, Dominic, Kate, Breanne Light Brown Huges*

### ORANGE

[in the voice of Optimus Prime] From before the dawn of time, the mighty power of Transformers have rocked this world and the next. Decepticons and Autobots have fought for supremacy, each with their own unique but terrible powers. Each of you will be asked to tap into your unique powers and transform yourselves into awesome Waterloo students like our lovely selves.

For the Final Countdown, Autobots and Decepticons must unite to defeat a greater threat: that of the Enders. We will work with our Defender comrades to beat them for the hardhats, on the junkyard and at simply rocking out. Though we come from the land of Cybertron, we will hone our skills to make Waterloo our new home and make ourselves the rulers. At stake are glory, fame and power, and we have the forces to do it.

Transformers, ROLL OUT!

*Angela, Amanda, Alex (dude), Alex (dudette), Matt (yes, he missed the memo on the A-name thing)*

*Orange Huges*

### YELLOW

A long time ago, in a galaxy far, far away...  
DAH! DADAH!! DADA-DADA-  
DA-DADADAHH-DADADA-DADA-  
DAH DADADADAHHHH!!!!

It is a period of great unrest in Waterloo Engineering. Defender colour groups, striking from their hidden bases, have won their first victory against the evil Ender colour groups.

During the battle, the Defenders managed to steal secret plans to the Enders' ultimate weapon, integration of complex functions, a plan with enough power to destroy the spirits of an entire engineering class.

Team Yellow, a group of experienced Jedi masters along with their numerous Padawan apprentices, prepares to join the rest of the Defenders for the final showdown against the evil Enders: Engineering Orientation Week 2011. This will be a battle of epic proportions, in which the Defenders strive to save their people and restore freedom to the galaxy...

*Caitlyn, Corey, Gabriel, Midori, Sarah Yellow Huges*

### PINK

Greetings UW Engineers,

For eons we have been watching from the shadows as your so called "dominant race" became comfortable with the world that you have built on top of our earth and land. Creating buildings, curing ailments, and pushing the boundaries of physics year after year have given your kind a false sense of confidence.

Your scientists have lead you to believe that millions of years ago, a meteorite collided with the earth, causing an ice age which killed off the dinosaurs. What they are soon to find out is, they were very wrong. Many survived and have been breeding and evolving at an exponential

rate, learning how to hide and blend in with this environment. The time has come for the Jurassic race to rise up again and teach you what being a dominant race is all about.

By the end of the week, everyone will be bleeding pink – because the Dinosaurs are back and this time, we are here to stay.

*Cam, Angela, Lisa, Scott, Richard, Pink Huges*

### DARK BROWN

Ever wish you could throw feces at the people you don't like? Now you can! We are Dark Brown, the EVIL MONKEYS, and we are going to take over the Earth! From King Kong to Donkey Kong, from Jack the monkey (named after Jack Sparrow, of course) to the Evil Monkey who lives in Chris' closet, we are going to take the Earth for the monkeys!

We are HAIRY! We are SCARY! We are REALLY REALLY MEAN! We are going to end the world with the help of the rest of the Ender teams!

*Anish, Graeme, AJ, Mads, Andrea Dark Brown Huges*

### DARK PURPLE

A long time ago, in a galaxy far, far away...

There was a group of talented individuals with one goal: to succeed in dominating Orientation Week 2011 and defeating those pesky Earth lovers. In the continuing battle between Enders and Defenders, there can be only one victor!

Space invaders have come from far and wide to heed the call. Martians. Space Robots. Storm Troopers. Travelling from Tatooine and the Negaverse, united, they can END the world. You're probably asking yourself, "What motivates the Purple cause? What makes a space-dwelling creature take on the responsibility of calling itself a space-invading-Earth-destroying Ender?"

Revenge! Colonization! Empire Domination! Regardless...

Resistance is futile, my friends. Space Invaders, using a variety of weapons, will likely destroy your planet, so surrender now! What can measly Earthlings do against our Death Star/photon torpedo/antimatter cannon? Nothing!

Prepare for the journey of a lifetime, dear friends. May the force be with them... They'll need it.

*Akeem, Laurin, Linz, Molly, Sarah Dark Purple Huges*

### LIGHT PURPLE

To most of the world, the carriers of the X-Gene were merely mutants. To Professor Xavier, they were a group of untrained heroes. He gathered young mutants of various powers and trained them to save humanity. Thus, the X-Men were created. Since then, they have been fighting baddies and stopping villains from wreaking havoc all over the world. We hope you brought your superhero powers and X-Genes with you this week. The X-Men are coming together again as Team Light Purple (Lurple) to partake in the final countdown, defending the world for all it's worth. This is our chance to continue what Professor X started. Prepare yourselves for a week of heroism, fun, and adventure. Look forward to working with your fellow Lurple X-Men, getting to know them and their superhero powers, and together, vanquishing the Enders which threaten the world. So bring your skills, powers and enthusiasm, and we can show the world why the X-Men are the super-est of heroes.

*James, Kaelee, Matthew, Michael, Nicole*

*Light Purple Huges*

### DARK BLUE

Who are we you may ask? We are the providers of light in a sea of darkness, a glimmer of hope in a time of need. We offer friendship, comfort and nutrition to lure the Defenders close. Only then do we shut our fangs, engulfing their world. They never even see it coming. Mysterious and seemingly monstrous beasts stalk the gloomy depths of the Atlantic Ocean, the so-called "midnight zone" which virtually no sunlight can reach. Temperatures are near freezing and the space between one creature and another can be vast. We would like to welcome you along for the journey to end the world and overthrow the Defenders. Each dark sea creature, from viperfish to giant squid, will arise from the gloomy depths of the ocean to take part in this feat known as Orientation Week. We are Enders; we are the ocean beasts.

*Caitlin, Christopher, Megan, Logan, Dark Blue Huges*

### DARK GREEN

We are pleased to invite you to join an elite group of first years at the world's most highly guarded training facility. Take heed: this special offer isn't extended to everybody. This offer is only for the best, the brightest, the most dedicated of the engineers: this is only for those who will become the next TEENAGE MUTANT NINJA TURTLES.

With the Dark Green team, you will learn many crucial skills that all shinobi warriors need under their belt. You will learn how to wield the nunchaku, the twin sai, the bo staff, and the ninjaken. You will learn the secret art of COWABUNGA. And most importantly, you will learn how to destroy those pesky Enders. As one of the six teams of Defenders, we're Earth's best hope—we're really Earth's only hope—at saving the world and restoring good fun and good partying all around.

The Dark Green Bigs and Huges have already undergone the training program. We are exceptionally capable ninjas who love welcoming the newest additions into our ranks. Fear not: with us, you shall be in good hands.

And when it comes to saving the world, remember turtles: forgiveness is divine, but never pay the full price for pizza!

*Adhiran, Fiona, Anjali, Myles, Naim Dark Green Huges*

### LIGHT BLUE

Rachel's Journal, September, 2011. Today, new plummers arrived in Waterloo.

Hundreds of first years in RCH this morning, marker points on fresh t-shirts. This city is full of them. I have seen its true face. The streets are extended sidewalks and the sidewalks are full of jaywalkers and when the grass finally recovers, all of Plant Ops will stop harassing us. The accumulated filth from all their mud pits and hard hat earning will foam up about their waists and all the first years will look up and shout "Feed us sandwiches!"... and I'll look down and whisper "After the WEEF presentation."

Once a person has seen society's black underbelly, they can never turn away from it. Never pretend, like some do, that there aren't villains out there, that the Enders don't exist. Feel obligated to fight, to win. Those among us who claim to be leaders want our new recruits to be welcome. We want them to have the same hunger for simple justice. We want to show them the world without Enders!

*Rachel, Lisa, Mark, Kyle Light Blue Huges*

## Engineering Society Academic Services

**SASHA AVRELINE**  
CHEMICAL '10

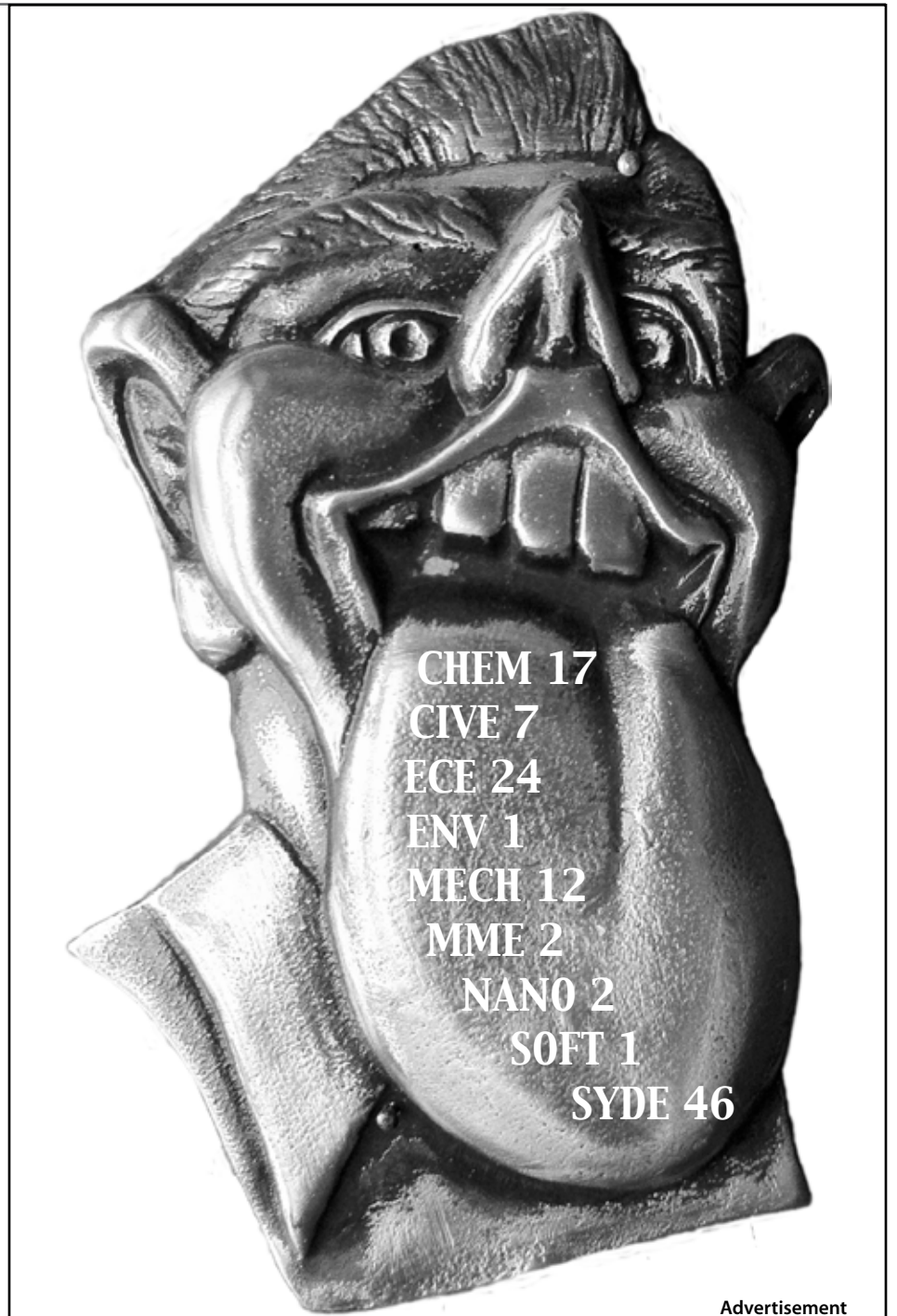
Hello everyone, my name is Sasha and I was the VP Education for Engineering Society "B" in 2008-2009 and completed 4B in winter 2010. In this article I would like to make you a bit more aware of some of the academic-related services EngSoc has to offer.

**Exam Bank:** This service you may find to be very useful come exam time. The exam bank is pretty much a collection of past final and midterm exams for all sorts of courses offered in engineering and outside of engineering. The exam bank is available online and can be used from the convenience of your home / residence. It is as simple going to <http://engsoc.uwaterloo.ca/services/exam-bank>, logging in using a the username and password provided to you by us, the Engineering Society and then searching the course you are looking for. The online exam bank contains scanned PDF files of the most recent exams. Please note that some of the exams that are available in the exam bank have been submitted by students, some by professors. Hence some of the exams will have student solutions, some will have solutions done by a professor and some unfortunately may not have solutions but they are still a valuable study tool! Hopefully you will find the exam banks useful and please remember that those services are made possible by you! So please submit your midterms after you get them back from the professor and we

will scan them, return them to you and add them to the exam bank (your name and all personal information will be removed).

**Work Term Report Centre:** This service will become useful to you further down the road when you will complete your first work term. When you will complete your first work term, you will have to submit a report describing a certain project that you have worked on in your workplace. You shall find more information on this as the time comes to submit a report. But for now just know that the Engineering Society also offers a similar bank of old work terms that have received very high grades, similar to the exam bank. You may find those as valuable examples when preparing your work term report. In order to access the bank, go to <http://engsoc.uwaterloo.ca/services/work-report-centre> and log in using the same username and password as above. On this website you will also find some other useful information related to work term reports and the names of students who can assist you with your work term report.

**Resume Critiques:** Resume critiques are held at least once each term if not more and it is a service where upper year students will have a look at your resume and provide you with feedback on how you can improve it. You will hear more details about resume critiques in your first year concept classes (those that end in "100"). Don't miss those – they will be very helpful for finding great co-op jobs!



## Internationally-Minded Engineer

**JENNY CHAN**  
IW CONTRIBUTOR

The Kitchener-Waterloo Region, with the University of Waterloo in particular, is a hub of professionally aggressive engineering students. The level of competition is high and ability to differentiate oneself is paramount in the industry. Take a page out of Mitul Desai's book and expand your horizon onto the international stage.

A recent 2011 UW graduate of the Masters in Mechanical Engineering program, Mitul joined AIESEC Laurier in January 2010. Taking on a leadership role as Vice President of Communications, he became engaged in local university projects that propelled him to develop his leadership potential and led him to seek a long-term internship abroad. Originally from India where he completed his undergrad, Mitul applied to engineering positions worldwide and was matched with a 52-week placement in 2010.

Mitul, a self-prescribed introvert, attributes his growing confidence and professional development to these various guidance programs. Mitul saw the advantage in connecting his engineering academia with real world business acumen and says of his training, "I used to be very shy and couldn't speak in front of people, but I gained a lot of self-confidence after I challenged myself and became a VP."

A student organization that facilitates international business networking through global internships, AIESEC helped Mitul obtain his technical internship with the Swedish manufacturing and service company, Electrolux. As a student, finding the right connection to the global world has a multitude of tangible values from meeting others from diverse cultures, to supplementing education with a real-world business perspective.

Mitul now works in Australia in Orange, New South Wales with two other interns – one from Colombia and another from Dominican Republic. "It takes a lot of time to solve some of the quality issues here and so we contact

other branches in Europe or Latin America, to learn how the issue was tackled at their plant," the Quality Engineer speaks of his work six months into his internship, "Working for Electrolux has showed me how things are done in multinational companies as they have to have good co-ordination with the other plants too."

It might be surprising how extensive just one student network can be. "When I came to Australia, I already had friends who had helped me with the initial arrangements and visa applications. We had never met personally but we were already good friends." Mitul now knows people working in Sweden, Mali, the Netherlands, France, India and many other countries. "These

student organizations help you to tap into a huge network of highly motivated people. It has not just helped me find an internship, but it has helped me develop myself both professionally and personally."

Students should be reminded to take a broad view of university education and encouraged to take challenges through whatever venue that may facilitate building their leadership potential. Clubs and exchange programs are intended to compliment the university curriculum and are well worth the effort; from international co-op services, to Engineering Exchange Programs, to student organizations like AIESEC, the university community is ripe with venues

that can facilitate the development of the portfolio of a UW student that ultimately translates into a company seeing the student as a valuable investment.

This UW grad now looks forward to finishing his internship with Electrolux on February 6th, 2012. His future is bright and he attributes much of his good fortune and opportunities to finding the right venue through which to direct his ambition and motivation. Through leveraging the right resources, Mitul has since met students from all over the world and urges students to be open to new opportunities as he was, insisting that the doors are right before us.

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# Tapping Your Inner Resources

As you begin your studies here at UW Faculty of Engineering, you will hear much about sources of help available to you. These are resources that are external to you and include TAs, professors, special classes, academic advisors and Engineering Counselling. In Engineering Counselling, we meet many first year students who are often experiencing their

first-ever crisis as a student. Even though you have been told of the many sources of help available to you, many of you will be reluctant to access that help, for a variety of reasons. You may put on a strong facade and suffer in silence. Some of you may phone your parents ... that is only natural and wise. However, you may not be aware of the inner resources you

possess. These you can tap into in the short term until you can make a counselling appointment or get in to see your first year advisor ... or simply to help you manage on your own. But you have to realize you have them and know how to identify them. Most of the students we meet don't realize they have these inner resources.

## 1. Name the Monster

This is simply a catchy phrase for confronting the "worst-case scenario". Many first year students come to see us expecting us to tell them the secrets of how to immediately solve whatever problem they are facing. Most often we start with "naming the monster", i.e. What is the fear underlying your current situation? Usually that is the fear of failure, e.g., Failing a course, failing a term, being required to repeat, being required to withdraw. Before we get into short-term strategies to address the problem, we like to remind students of the importance of naming the ultimate fear. Fear is a powerful emotion.

Too often it leads to panic and unproductive worry. Fear can also be a very strong motivator for action, which is usually what is required to solve the problem at hand. We encourage students to confront the fear, identify the specifics of it ... that might be the dread of disappointing your parents, or the shame of seeing grades beside your name that don't begin with the number 9. By confronting the fear you can then remind yourself that whatever happens, you will deal with it. You won't like it but you will survive it. You might even come out of it as a stronger person, but we will save that for later.

## 2. Take Inventory of your Strengths

Life is difficult. There, we said it. To get to this point in your life and academic career, you have obviously developed a number of inner resources. Some of the common ones might be: (a) performing under pressure, e.g. exams, sports competitions, music recitals or dramatic performances; (b) self-discipline, e.g. when all your friends were out having fun, you were able to delay gratification and focus on your studies, practices or rehearsals. Don't take

self-discipline for granted ... you wouldn't be here without it; (c) adjusting to change and transition, e.g. some of you have moved around a lot in your life, some have emigrated from another country to Canada, some of you have survived a major tragedy at a relatively early age. Think about what strengths you discovered in having reached out for help or having helped someone else through a difficult time. We often discover what we are made of at such times.

## 3. Challenge your Conclusions

A great strategy for managing through difficult times is to pay attention to the conclusions you are drawing from your current situation. If you think about it, events don't have meaning unto themselves. We tend to attach meaning to events. For example, you might do poorly on your first exam. That is clearly not a good thing. However, by more closely examining your conclusions about this event, you will probably recognize some pretty faulty thinking: e.g., I'm failing out of my program; I'm stupid; I'm never going to be successful in university, etc. We try to help students recognize and challenge that think-

ing. Is there any solid evidence to support such thinking? Could you just as easily come up with many other conclusions? In counselling we refer to this strategy as "cognitive reframing", i.e. the process by which we examine the thoughts/conclusions associated with our emotions attached to events. There is usually little evidence to support the drastic conclusions we come up with in a time of stress. By challenging and reframing those conclusions you can more clearly define the problem and then take appropriate action to solve it. Otherwise, you can get bogged down in a lot of negative and inaccurate thinking.

## 4. View Problems as Opportunities

We live in a culture that worships happiness and immediate gratification. When things aren't going well we tend to conclude that there is something "wrong". We see a gap between what is happening and what we think should be happening and take a negative spin on it. Have you ever been going through tough times and actually asked yourself, "What opportunity do I have for growth in this situation?" I know it may sound trite, but many people, especially in conjunction with certain religious traditions, use this strategy. If you think about it, our lives consist of peaks and valleys. The easy times are the peaks

but that is not when we develop our character. We do that in the valleys. Most of the time we, as counsellors, meet students in the valleys. We may not be able to "fix things" for you but we can help you navigate through these valleys. We try to help students recognize their inner resources and also identify strategies for survival in the tough times. You can learn to train yourself to embrace problems (that doesn't mean "liking them") as additional opportunities for growth and learning. You might want to reflect back on a difficult time in your life and assess how you grew as a result.

## 5. Keep Things in Perspective

When you encounter academic difficulties ... especially when academics has always been your strength ... it is easy to lose perspective and panic. Having perspective, in this sense of the word, means the ability to not define yourself strictly in terms of your identity as a student. You are much more than that. You have other significant roles in your life beyond your student role, although for sure, that is probably the biggest part of who you are now. Still, the ability to address the problem at hand, i.e. improving your academic performance, requires gaining

perspective. For some, this may come from religious or spiritual beliefs. For others, it may come from the ability not to isolate oneself but to connect to others socially or through some extra-curricular involvement. It might mean getting away for a weekend to visit friends or supportive family members. A change of scenery can often help you regain perspective. And of course, don't forget all the external resources mentioned above. A conversation with a counsellor or advisor can often help you broaden your view of things.

These are just some suggestions. You do possess internal resources to help you get through difficult times. You wouldn't be reading this now unless you did. At the same time, your greatest internal resource may end up being your willingness to access your external resources ... your willingness to ask for help.

# The Best Side of Waterloo You Didn't Know About An Alumni's Insight into Waterloo Entrepreneurship

**JAY SHAH**

CO-FOUNDER - BUFFERBOX.  
COM - ALUMNI '11

Entrepreneurship. It's a magical word, it shows up in rap songs (aka hustlin'), it's impossible to spell; people talk about it without exactly knowing what it is, but for some, entrepreneurship is the spark that makes you tick (and you might not even know it yet!). I'm going to let you in on a secret that took me a few years to learn, uWaterloo is the best place to be if you want to start or at least see what being an entrepreneur is all about. If I had to guess, you're saying to yourself right now, I'm in engineering; this en-tre-preneur thing doesn't apply to me. To put it bluntly, you're wrong. Hands down 100% wrong. Every single tech company that we admire today had its humble beginnings as just a couple guys and gals trying to do something impossible. Even if you don't want to BE an entrepreneur, you'd at the very least want to understand them!

**Okay, so why is uWaterloo so great?  
I like lists, so I'll put it in list form:**

1

We have Prof. Larry Smith, he's a champ, take ECON102 with him – trust me, just take it. It counts as a CSE, just do it.

2

We have this thing called the "Accelerator Centre" (it's a 2 minute walk north of CIF). In it are ~30 companies (start-ups) busy at work doing things big tech companies probably couldn't even dream off. It's the beehive of all things interesting, there's even a waitlist to get in!

3

We have this thing called the "Communitech Hub" in Kitchener, it's got cool companies like Google, RIM, Clearpath Robotics, and another slew of start-ups.

4

#2 and #3 are extremely relevant to YOU because all these start-ups and cool tech companies are often hiring! You're smart and lucky enough to be in uWaterloo Eng so you have to do co-op! Seriously consider, at least for one term trying the start-up job experience. It's worth trying; it might change your world. (pst, we're

hiring a co-op for the Winter term ;)).

5

The networking potential is enormous! There are a tremendous amount of really intelligent people here who also happen to have a lot of real world experience (thanks co-op :!). Talk to them! Ask questions! (check out <http://watcamp.com/calendar>)

Okay, so you have a bunch of tips, secrets and inside information, but that might not help build a picture of why any of this matters, so let me briefly tell you my story through UW Eng, if it excites you, then you know why this all matters. I started in 1st year wanting to "be an engineer", but I didn't quite know what that meant. I went with the flow for a bit, until my third co-op term, and got a job at a start-up. My world was turned upside down. I had responsibility, creative freedom, I made product shaping decisions, and I got to meet with investors, management, customers etc! Then a classmate and I said, let's make our own start-up. So we did, we wrote a business plan, we entered some competitions, got some

feedback and we started doing business (it was a Custom Apparel company). We learned a lot, made some money, and kept it running on the side. Then we started thinking, you know what, we've got this "Fourth Year Design Project" thing, why don't we do something radical with that and make it a real product and form a company around it? And so we did, we started this thing called BufferBox (shameless plug: check out BufferBox.com), we entered some competitions, won a few thousand to help us build the prototype, got on Gizmodo, CNET, The Waterloo Record and more! And guess where we are now? We have offices in the Accelerator Centre, 2 minutes north of campus and we're working on changing the world in our own way. It's not what you might imagine coming into Waterloo Engineering, but what you're doing right is a great spring board into what I think is the most fulfilling and rewarding careers. It's not for everyone, but at least give it a try, that's what co-op is for!

If you have any questions, comments or want to talk to an engineering alum drop me an email – [jshah.uw@gmail.com](mailto:jshah.uw@gmail.com).

# EngSoc: Services, Representation, and Events

A Comprehensive Introduction to the World of EngSoc, By: EngSoc Exec

## What is EngSoc?

EngSoc, short for Engineering Society, is your undergraduate student society. It's like a student council for engineering students, that takes on a wider variety of initiatives. EngSoc tries to provide social and academic betterment of your undergraduate engineering experience through events, services and representation.

## Why is There an A-Soc and a B-Soc?

As the co-operative education program is mandatory for all engineering students, the Engineering Society has an "A-Society" (A-Soc) and "B-Society" (B-Soc) so that there is always an executive team on campus while the other is on co-op. The on-stream (on campus) society this term is B-Soc.

## What kind of social events do you run?

EngSoc hosts lots of social events. We recognize that engineering students are a diverse group of people who work hard, but like to have fun as well. There's an event for everyone throughout the term, so check out the calendar at <http://engsoc.uwaterloo.ca/events> or see below for a sneak peak at what's in store for the month of September!

## What kinds of services does EngSoc offer?

EngSoc has a TON of services, and many of them will make your transition from high school to university much smoother.

Some of our services available online are:

Exam Bank  
Work Report Centre  
Course Critiques

We also provide skills development through:

Resume Critiques  
Interview Critiques

EngSoc also runs the swag store "Novelties" and the "CnD" which is the coffee and donut shot, both located in the CPH foyer. There is also cheap photocopying, binding, laminating, faxes available to students in the EngSoc Office. The front desk staffed 8:30 am - 4:30 pm to answer miscellaneous student questions and help you with any services offered by the engineering society.



## What's POETS?

POETS, named after the British form for "TGIF" is the engineering student lounge space located just off the main foyer in CPH. EngSoc maintains it, and the POETS managers play movies and TV shows there during the day. EngSoc also provides games and activities to play in POETS just by signing them out in the EngSoc office with your WatCard.

POETS is also a venue for student group events. You can rent out POETS for the evening to have a class party, or meet with a club. You should also check out some of the cool programming that goes on Thursdays and Fridays when POETS is a licensed venue, such as Open Mic and Rock Band.

## How does EngSoc Represent Me Internally and Externally?

Internally, EngSoc is officially your voice to the faculty and the rest of the University. The Executives sit on countless committees, councils, groups, and even tribunals. Yes, EngSoc fights for your rights as well! For more details on where and how EngSoc represents you, check the link <http://engsoc.uwaterloo.ca/executive/representation>.

Externally from the campus, our student society is a member of ES-SCO (Engineering Student Societies Council of Ontario) and CFES (Canadian Federation of Engineering Students), and interacts with students from other parts of the world as well. Waterloo attends several conferences each year and brings along student delegates, of which you could be one if you apply! For more info on conferences check the link <http://engsoc.uwaterloo.ca/events/conferences>. POETS is also a venue for student group events.

## To keep up with EngSoc throughout your undergraduate career:

See our various public outlets to keep up on events, services, representation and getting involved yourself!

Facebook:	UW Engineering Society
Twitter:	@EngSoc
Mailing List Sign-Up:	<a href="http://tiny.cc/engsocmail">http://tiny.cc/engsocmail</a>
Website:	<a href="http://www.engsoc.uwaterloo.ca">www.engsoc.uwaterloo.ca</a>
YouTube:	<a href="http://www.youtube.com/user/UWEngsoc">http://www.youtube.com/user/UWEngsoc</a>

## You've Got a Friend in Me

**KRISTEN ROBERTS**  
AWESOME-AT-LARGE

So classes have started on campus and there are thousands of new faces; some of them know where to go and some of them appear just as lost and confused as you. You recognize a passerby but you just can't remember from where. Was he/she in your frosh group? Or class? Rez maybe? Or did you meet them at toga? And you were never good with names.

There is just so much new stuff happening. So many clubs to join, teams to sign up, hours of class to attend, assignments to complete, friends to meet, etc. The list goes on forever. You've heard over and over that university is the best time of your life and you want to do so much while you are at UW. So where to start?

Well, that's why we are here. For this Fall term, we are your EngSoc frosh mentoring directors. The events we organize throughout the term will be designed to target your needs, whether that's making friends, getting advice on how to study, relaxing or getting involved on campus. But the three most important things you need to know about these events are 1) they will be all ages and attended by both frosh and upper years, 2) they will generally be free and 3) they will be UBER fun!

For the month of September there is a bunch to look forward to including a tour of Uptown Waterloo, some fun pre-beginning of term part activities, the first EngSoc meeting followed by a surprise small mini event, and a trip to St. Jacobs market for fresh food and pastries. During the first week of class we will be coming around to all the first year classes to introduce ourselves and to tell you more. You can al-

ways check bulletin boards around campus for more information on what events are coming up.

We understand that this is your first term and there is a lot you want to do and get involved with but at the end of the day, school is the number one priority. For this reason, the events we have this fall will be fairly low in terms of commitment. Come out to the things you can, for as long as you want, even if it is just to drop by and say hi.

For us, first year and our experiences were engraved deeply into our memories and we have some advice to help you make a smooth transition and succeed.

### Tip 1

University is a time to step out of your little bubble, and meet new people! There are a million people flying by you every which way on your way to class, at events or even just when you are hanging out in poets. My advice is to really connect with the upper years, especially ones who are in your same program! Upper years always know the little tricks to assignments, they advice on how to study for certain exams and may even provide you with old lecture notes and assignments that will help you understand course topics! Upper years are a great resources when you want to know your prof's teaching style and how to do well in the that class! I know that I made friends with some upper years, and ended up studying with them at the library for exams. Whenever I had a question, they knew exactly what course I was talking about, and understood the topic well enough to explain it to me to make studying easy! Lastly, they are very good resources for any questions about your resumes for co-op! But how to find these upper year stu-

dents? Come to EngSoc events, chill in POETS and participate in frosh mentoring events! I promise you, most of the upper years don't bite! (You will get the odd one that does...)

### Tip 2

EngSoc, that is, the engineering society, is your friend. It provides tons of services to engineering students, but you'll only benefit from many of them if you come to the events and meetings. While each bi-weekly meeting focuses on serious business, it is also filled to the brim with shenanigans and laughs. These meeting are also open to all engineering students and are followed by free dinner for everyone. That's right. A free show, and a free dinner. If you're too nervous to come all by yourself and hang out with the scary upper years (we've all been there), bring a friend or a classmate. At the meetings, you'll get to learn all about upcoming engineering events, far away conferences you can apply to attend, as well as many issues that affect all engineering students. My advice for you is to come to an EngSoc meeting. Just try one out, and I'm positive you'll learn about an event you'd like to attend, an issue you care about, or at the very least, meet a ridiculously cool person. And if you love it, run for EngSoc class elections, where class representatives (the people who vote their class' opinion's at EngSoc) are elected.

### Tip 3

For heavens sake, bite the bullet and WALK INTO POETS! First of all, talk about most comfortable seating on campus. What better way to wind down over a lunch break, or after that tutorial with that

really horrendous quiz or after the seemingly longest lecture ever! Second of all, you will be immersed in a new culture of TV and movies that you may have never thought of watching until you saw it on the big screen (if you didn't already know, POETS has it's own sound system + 1 crazy awesome projection screen). Thirdly, why hear about shenanigans when you can see it LIVE! Past events put on by the NEAC (Nonexistent Action Committee) include sodding the entirety of POETS, leaving out "treats" for Easter, and filling the room with balloons. Finally, it's a way to meet the coolest people on campus! The majority of my closest friends come from lunches in POETS, and I can't wait to return to this routine this fall!

### Tip 4

And finally, although it's sort of expected: Become familiar with the campus. Explore everything (that isn't locked). Don't just stick to the engineering quads. Find the underground tunnels and the overpasses, the great places on campus to eat or study, the awkward staircases in RCH or the good vending machines. Find the Spirit of Waterloo (hint check the Rock Gardens). Not only will it impress your friends when you can get from MC all the way to DWE without going outside in the winter, but it is a lot of fun. If you have the time, grab a friend or two and travel outside of Ring Road. Maybe visit the animals in Waterloo Park on a study break or go on a bike ride north of the campus. Sure it will be trial and error, but only by exploring will you get to know about the campus, the services and all the UW has to offer.

Later days

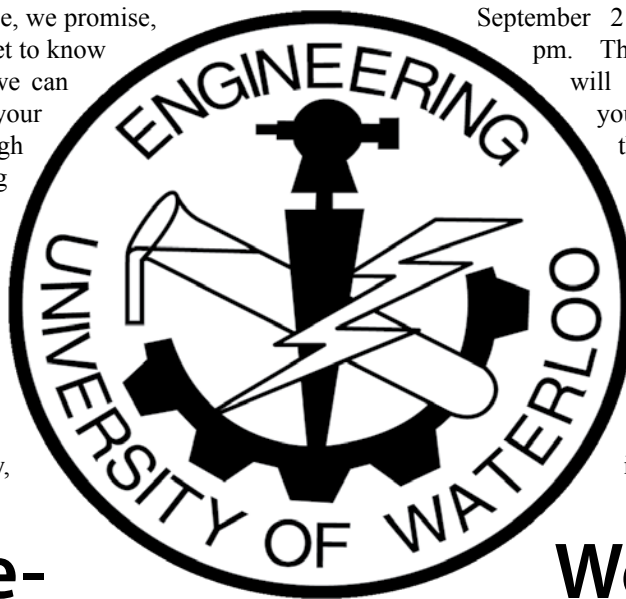
# Welcome from the Engineering Society Presidents

**LEAH ALLEN &  
ALESSIA DANELON**  
PRESIDENTS

Welcome Class of 2016! We are your Engineering Society Presidents: Leah Allen (A-Society) and Alessia Danelon (B-Society).

As a student this fall term, you will likely see a lot of Alessia, as the on-stream society in the fall term is the B-Society. Whichever of us you encounter, we want to encourage you to come up and talk to us about school, social events, the society or yourself whenever you get the chance. We

are friendly people, we promise, and we want to get to know each of you so we can best represent your opinions through the Engineering Society. Not really sure where you'll run into us? Try coming to an Engineering Society Council Meeting - the first one will be on Wednesday,



September 21<sup>st</sup> at 5:30 pm. The meeting will introduce you to council, the doings of the Engineering Society, and also, give you free dinner! If the meeting isn't an easy

enough way to meet your presidents, not to worry! The presidents hold office hours in the Engineering Society office, CPH 1237, and we also make an effort to attend events. Check [www.engsoc.uwaterloo.ca/events](http://www.engsoc.uwaterloo.ca/events) to see what events we offer! Stop by and talk to us at any of these events. Shy? Pick up a First Year BINGO Card in the EngSoc Office and then you have an excuse to talk to us, as well as the chance to win an awesome prize!

We're looking forward to working with you and we wish you all the best in your time here at Waterloo!

## Welcome from Vice-Presidents Internal

**ANDREW FISHER &  
ANGELA STERART**  
VICE PRESIDENTS INTERNAL

Welcome class of 2016!

You have five great years ahead of you and must be wondering what potential these years have. Well it's all about what you make of it, and a component of that can be with the Engineering Society! As the Vice-Presidents Internal for the Engineering Society, we, Angela Stewart (Society A) and Andrew Fisher (Society B), are here to help make this possible.

Our role is to represent you on matters of student development within the Engineering Society. What does this mean, you ask? Well we will be overseeing the student services and communications of the Engineering Society. This includes resume critiques, course critiques, the exam bank, mental health, scholarships, and workshops. Resume Critiques will be one of the first services offered in the term. Upper-years will critique your resume in order to get it ready for co-op interviews later in the term if you are in a 4-stream program or in the winter if you are in an 8-stream program. Under communications, we will be making sure you are informed about all of the events, activities, initiatives, and spending of the Engineering Society. We hope to use new media of communication to make sure the word gets out, one being Facebook! That said, "like" UW Engineering Society to get updates on all the exciting things planned for the upcoming terms. For more detailed messages, join our mailing lists! ([engsoc\\_a\\_general@googlegroups.com](mailto:engsoc_a_general@googlegroups.com) and [andengsoc\\_b\\_general@googlegroups.com](mailto:andengsoc_b_general@googlegroups.com))

During the first week of the term, the Engineering Society B Executive will be travelling to all the first-year classes to elect your class representatives for the

Engineering Society. While all students can attend EngSoc meetings, the role of the EngSoc Rep is to attend and vote on issues on behalf of your class. These reps will collect feedback from their classes prior to the meeting and give updates on recent news and upcoming events after the meetings. This position is a great way to become involved in the Engineering Society in your first year, so if this position interests you, be sure to raise your hand when the B-Soc Exec come to your class during the first two weeks of the term!

If you have any questions for us or just want to say hi, shoot us an email at [asoc\\_vpint@engmail.uwaterloo.ca](mailto:asoc_vpint@engmail.uwaterloo.ca) and

**ALEXANDRA COLLINS  
& DAVID BIRNBAUM**  
VICE PRESIDENTS FINANCE

Hi everyone.

We are the Vice Presidents of Finance (VP-Fin) for the Engineering Society A and B. We are responsible for the allocation of the refundable \$14.72 fee each student pays each term to use the Engineering Society's services. Everyone will get to know Alexandra Collins this fall as the VP-Finance for Society B. Those of you in 8-stream will get to meet David Birnbaum as VP-Finance for Society A. The primary role of the VP-Finance is to manage the Engineer-

meeting of the term, directors submit their individual budget proposals to us. We then use these proposals and the known operating costs of the Society to prepare a budget to be presented and approved at the second meeting of the term. The VP-Finance is also in charge of allocating a predetermined amount of money for sponsoring various student teams and clubs. Groups submit an application and make a brief presentation at the budget meeting (fourth meeting of the term) after which council will vote on the proposed sponsorships. The VP-Finances also are in charge of the newly formed Engineering Capital Improvement Fund, which is a fund to provide lasting improvements to the school, and Engineering Society Services. Anyone can submit ideas for the Fund, so if you have any, be sure to submit them online or just come talk to one of us.

The VP-Finance also manages the Engineering Novelties shop as well, where you can purchase UW Engineering clothes, mugs, tools, apparel and much more. There will be a lot of new inventory in the next few terms, so be sure to check it out. It is open 11:30am to 1:30pm each day of the school week and is located right next to POETS in the CPH Foyer. Again, if you have any ideas for items you want to see in the store, just let us know! Finally, if you are considering getting your Engineering Society fee refunded, we really encourage you to check out all our great services first. Come out to POETS, head over to the CnD shop, come to the Beginning of Term party, and check out the services in the Engineering Society office, or at [engsoc.ca](http://engsoc.ca). We also always welcome new ideas and it is our goal to serve every engineering student as effectively as possible. To contact us, just email [vpfinance.b@engsoc.uwaterloo.ca](mailto:vpfinance.b@engsoc.uwaterloo.ca) or [vpfinance.a@engsoc.uwaterloo.ca](mailto:vpfinance.a@engsoc.uwaterloo.ca). Have a great Orientation Week and we hope to see you all at the first EngSoc meeting!



Engineering Society "B" Executives (Left to Right): Yasser Al-Khder, Owen Coutts, Andrew Fisher, Alexandra Collins, and Alessia Danelon

[bsoc\\_vpint@engmail.uwaterloo.ca](mailto:bsoc_vpint@engmail.uwaterloo.ca). We wish you all good luck and hope to see you more in these first few months!

ing Society's budget by way of effectively dispersing funds to the society directors who run the events and services you will surely enjoy. Before the second council

## Welcome from Vice-Presidents Education

**DEREK THOMPSON  
& OWEN COUTTS**  
VICE PRESIDENTS EDUCATION

Hello Class of 2016! Our names are Derek Thompson (A-Soc) and Owen Coutts (B-Soc). We will be your Vice Presidents - Education for your first year of your studies!

As your new journey into the depths of

the engineering program begins, we, your Engineering Society's Vice Presidents - Education, will be working side by side with a number of committees with the ultimate goal of bettering your education. At the core of our responsibilities as VP-Ed is the representation of the engineering student body to these committees. As such, do not be afraid to speak to us about academic concerns, be they about Co-op, your cur-

riculum, or academic policies. We will act as liaison between you and the pertinent committee.

Keep an eye out in future issues of the Iron Warrior for updates on what we are working on. If you can find us in person (and we will be easily found - just stop into the Engineering Society Office), you can have a chat face to face. We would love to talk to you and hear what you have to

say! We also have email addresses which can be found on the EngSoc website, <http://engsoc.uwaterloo.ca> under the "executive" section. We will be sure to keep you up to date on any changes or works in progress that either we or the school has in mind.

Congratulations on your first steps into being a University of Waterloo Engineering Student! Best wishes and good luck!

## Welcome from Vice-Presidents External

**MICHAEL SELISKE, LISA BELBECK & YASSER AL-KHDER**  
VICE PRESIDENTS EXTERNAL

Orientation Week is an endless stream of information, and as you can probably tell already, this issue of The Iron Warrior is no exception. The University of Waterloo Engineering Society exists to serve you as an undergraduate engineering student, providing opportunities in the school, the community and the rest of Canada. The VP-External tries to assist with the final two items on that list by providing outreach opportunities in the community as well as representing Waterloo to various organizations both provincially and nationally.

For approximately the next 16 months, the people tasked with this position are Yasser Al-Khder (2014 Mechatronics) representing B-Soc which is on stream in the Fall Term and Lisa Belbeck (2014 Nanotechnology) and Michael Seliske (2013 Computer) representing A-Soc who will be representing all of the 8-stream classes in the Winter.

So what will the three of us be doing for you? Beyond helping the rest of the Executive team run the Society, the VP-External is hard at work helping directors organize outreach events which allow Engineering students the opportunity give back to the community. We also have a representation section to our portfolio which has us traveling to various conferences around the country sharing ideas with other societies, while voicing the Waterloo perspective on national and provincial issues pertaining to Engineering.

The VP-Externals are not the only people who attend these conferences; some of the larger ones have room for additional students to attend in order to develop their leadership skills and share ideas with other schools. This means that you have the opportunity to attend an awesome engineering conference, so keep your eyes and ears peeled for various conference opportunities over the course of your undergraduate career at Waterloo. Pay close attention to your Inboxes in January when we will be opening applications for the First Year Integration Conference (FYIC) being held in February at McMaster University in Hamilton. This conference is specifically for first years and is meant to give you an in-

roduction to the world of external organizations including the provincial (ESSCO) and National (CFES) level student run organizations as well as the professional organizations you will need to interact with such as Professional Engineers Ontario (PEO) and the Ontario Society of Professional Engineers (OSPE). We would encourage you to visit our website if you are curious about these organizations or read about ESSCO and CFES on page (insert page number).

The VP-Externals are also in charge of assisting their commissioner with the Waterloo Engineering Competition (WEC). WEC is a design/consulting engineering competition that serves as the school level qualifiers for the Ontario Engineering Competition (OEC). There is a junior design category for first and second year students so keep an eye out for that in November. For more information about WEC, check out [www.wec.uwaterloo.ca](http://www.wec.uwaterloo.ca).

The VP-Externals and the rest of the executive would always like to hear your feedback, thoughts, questions or even a joke you think is funny. Just email us at [vpexternal.a@engsoc.uwaterloo.ca](mailto:vpexternal.a@engsoc.uwaterloo.ca) and [vpexternal.b@engsoc.uwaterloo.ca](mailto:vpexternal.b@engsoc.uwaterloo.ca).



Engineering Society "A" Executives (Left to Right): Lisa Belbeck, Michael Seliske, Derek Thompson, Angela Stewart, David Birnbaum, and Leah Allen

## Welcome from Your WEEF Directors

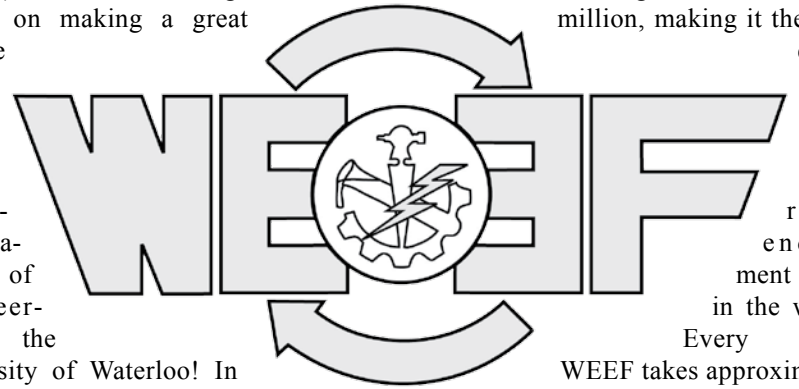
**LAURIN BENSON & BROCK KOPP**  
WEEF DIRECTORS

Hello and welcome from your Waterloo Engineering Endowment Foundation (WEEF) Directors! Congratulations on making a great choice and joining the incredible tradition of Engineering at the University of Waterloo! In your time here, you will meet fantastic people, learn from cutting-edge professors and become some of the most coveted graduates in Canada! You will also be taking classes with the best and brightest students that Canada has to offer (including you!).

Waterloo prides itself on innovation and resourcefulness, and a prime example of this attitude came in 1990 when a group of Waterloo students created WEEF. They were frustrated with aging lab equipment and a lack of support for student teams and departmental upgrades so they decided to do something about it! The fund started out with \$1 million and has since grown to nearly \$10 million, making it the largest student-run endowment fund in the world! Every term, WEEF takes approximately \$60,000 of interest earned on this principal and puts it towards enhancing the Engineering Undergraduate experience. Each term, the Funding Council, made up of elected representatives from each class, evaluates proposals and determines where the WEEF funding will have the most impact.

In a few days, most of you will be introduced to the WEEF lab in Carl Pollock Hall. While this lab is the most obvious example of WEEF's contribution to first years, WEEF is proud to have funded many students teams like Midnight Sun Solar Race Team and Clean Snowmobile and helped purchase 3D printers and distillation columns for various departments. WEEF also made a donation of \$1 million for the Student Design Centre in the Engineering 5 building. As of WEEF's 20th birthday in 2010, WEEF has contributed a total of \$4,365,883 to Engineering Undergraduates.

So now, it's time to get involved. If you think that you would like to help manage part of \$10 million by deciding who and what gets funding, then you should run in your class election for WEEF Representative. If the WEEF Rep position isn't for you, but you see somewhere WEEF can make UW Engineering better, then submit a proposal for funding and get it fixed! Wondering how? Check out [www.weef.uwaterloo.ca](http://www.weef.uwaterloo.ca) or email us at [atweef@eng.uwaterloo.ca](mailto:atweef@eng.uwaterloo.ca).



## POETS CPH 1337 Your Student Lounge

Located beside the C&D in the CPH Foyer.  
**FIRST YEAR STUDENTS WELCOME**

POETS is the heart of engineering student life; it is the official engineering student lounge.

Typically open between 9 AM - 5 PM (ish) however there are several events running throughout the term in the evenings like BOT.

POETS is a great place to be in between classes and during lunch breaks.

You can book your own events in POETS for FREE. Whether you want to watch the game on the big screen with some buddies or you are planning a class party, all you need to do is fill out a one page form from the Engineering Office (AKA the Orifice).

### FEATURES

COMFY LEATHER COUCHES

LARGE PROJECTION SCREEN  
(FEAT. THE PRICE IS RIGHT 11 AM - 12 PM)

FREE FOOSEBALL TABLE

FREE POOL TABLE

ONLY FACUTLY PUB ON CAMPUS  
(ON THURSDAYS AND FRIDAYS FROM 12 - 4 PM)

BOT (BEGINNING OF TERM PARTY) FRIDAY,  
SEPTEMBER 16 @ 9 - 11 PM

# An Overview of Frosh Week Events

## MEET THE DEAN

Your week will begin with a quick introduction to what the University of Waterloo can do for you from the Dean of Engineering. An introductory video will highlight Orientation Week and what it has to offer you. The theme of the week and the respective colour groups will be officially announced which marks the start of the week's competitions. EngFOC, the organizers of the week, and your colour group leaders will also introduce themselves at this time. You definitely do not want to miss this event!



Chris Gilson

## DEPARTMENT LUNCH

This is a great opportunity to meet upper-year students, faculty and staff in your department who you will be working with during your academic career. This event is run by the Faculty of Engineering and is always a great venue to answer questions you may have about your department of choice. You can also pick up several tips to help you succeed at the University from the get go!

## EARN YOUR HARDHAT

Earning your Hardhat is one of the longest running traditions in Engineering Orientation. Dating back to the 1980's, the Hardhat is a prestigious item awarded to incoming Engineering students and is worn with pride by all. At this event, as a team, you will complete several challenges that represent: communication, leadership, integrity, teamwork, creativity, adversity, and organization. Again, you definitely don't want to miss your opportunity to collect the coveted Yellow Hardhat.



Chris Gilson

## AERIAL PHOTO

Taking place immediately after earning your Hardhat, this is a time honoured tradition which portrays the theme of your Orientation Week: "The Final Countdown: Enders vs. Defenders." This will be the only time until graduation that your class of 2016 will be in the same location at the same time, so take it all in! You can find this photo mounted on the wall of POETS, the engineering student lounge.



Chris Gilson

## SINGLE AND 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 crucial information about how to receive help in the listed topics above.

## HOW TO SAVE/END THE WORLD 101

This amazing event brings together the six 'Ender' or 'Defender' colour groups to help construct an elaborate device to help take over or protect the world. In the process, learn about the buildings and services which are available to you at Waterloo and upgrade your resume by earning sidekicks, gadgets, 'the master plan' and more!

## VARIETY NIGHT

Sports, dance lessons, inflatables, comedy, a hypnotist, a haunted house, and more. If you want it, Variety Night has it! This is a great way to spend some time with faces from other University Faculties.

## O IN THE DARK

What would it be like to have everything glow in the dark? Well this is the perfect time to find out! As a joint event with Arts and Math, this is a great chance to meet people from those faculties. There is an activity for everyone and, with rumours of a giant glow in the dark graffiti area, you can't go wrong!

## JUNKYARD WARS

Our flagship event, Junkyard Wars, is exactly what the name implies. Colour groups are challenged to solve problems using only recycled materials and scrap parts. Though not everything can be won with a hammer and saw, it'll take creativity, wit, ingenuity and plain old smarts to win this competition.



Michael Salske

# Schedule of Events

	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
9:00 AM						
9:30 AM	Meet the Dean (HQ)	ELPE (Last Name A-L) (PAC)				
10:00 AM			Junk Yard Wars (V1 Green)			
10:30 AM	Department Lunches					
11:00 AM		ELPE (Last Name M-Z) (PAC)	Student Teams' Lunch (V1 Green)			
11:30 AM				Cornerstones (AL)	Black & Gold Day (Warrior Field, CIF)	
12:00 PM	Earn Your Hardhat (Grad House Green)					
12:30 PM			Meet the Tool (FED Hall) & Eng 101 (ML)			
1:00 PM						
1:30 PM	Aerial Photo (St. Paul's Green)		Single and Sexy (HH) & How To Save the World 101 (Grad House Green)			
2:00 PM						
2:30 PM						
3:00 PM						EngSoc Day (CPH Courtyard)
3:30 PM						
4:00 PM						
4:30 PM						
5:00 PM						
5:30 PM						
6:00 PM						
6:30 PM						
7:00 PM						
7:30 PM						
8:00 PM	Variety Night (SLC)	O in the Dark (Eng, Arts, Math) (SLC)	Monte Carlo (SLC)	Scavenger Hunt (HQ)	Saturday Night (SLC)	ComEng (FED Hall)
8:30 PM						
9:00 PM						
9:30 PM						
10:00 PM						
10:30 PM						
11:00 PM						
11:30 PM						
12:00 AM						
12:30 AM						

Engineering

Cross Campus

If you are in **Software Engineering** your schedule looks slightly different to ensure you receive your Math identity as well! You will be attending the following events instead for the times outlined below:

- 'SE 101' on Tuesday (6th) at 10:00am followed by the SE Departmental Lunch
- 'Earn Your Tie' on Thursday (8th) at 2:30pm with Math!
- Math Desserts followed by Math Scavenger Hunt on Friday (9th) at 6:30pm.

*You will be part of the super:mario() team during Math Orientation!*

**STUDENT TEAMS LUNCH**

Following immediately after Junkyard Wars, the Student Teams' Lunch is your opportunity to meet with upper year students who are working on one of Waterloo's many student teams. This also gives the opportunity to see what extracurricular activities are available to you and how to take part. Some corporate sponsors of the week are also present, several of which hire co-op students. This is a great chance to see what you can offer as a co-op student. To top it off, a delicious barbeque is served!

**MEET THE TOOL**

This is the oldest and most sacred traditions of Waterloo Engineering. It is a must see event where you get to see the engineering mascot: "The TOOL."  
Live it. Love it.

**ENG 101**

This is your introduction to the academic world of Engineering at the University of Waterloo. The faculty and students will work together to answer your questions about academics, co-op education, counselling, and balancing school and fun.

**CORNERSTONES**

Experience the Four Cornerstones of the First Year Experience: academics, social interaction, health and well-being, and personal finances. These topics will provide overarching information on the main aspects of the first year experience.

**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.



**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!



**BLACK & GOLD DAY**

Come decked out in Black and Gold to enjoy the pre-game carnival and first football game of the season! Cheer our Warriors Football team to victory and watch the amazing half-time show at the University's Columbia Ice Fields athletics facility.



**SATURDAY NIGHT**

This is the final night of Orientation programming! A giant Toga dance party, coffee house, a bonfire, improv and magic will help close the week with a bang!



**ENG SOC DAY / COMENG**

The Waterloo Engineering Society will play host to a fun afternoon of low-key activities. Come to POETS, the engineering student lounge, and see what the Engineering Society can do for you! Later in the evening, 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 destroyed or defended? Stop by to find out!



# A THINKING APE

## Memoirs of a Mobile Developer

Monday, September 19th 2011  
5pm - 7pm at University Club  
Main Dining Room

**Paul Collier**, UW alumnus and frontend dev at social games startup A Thinking Ape, codes iPhone apps by day and keeps up with the latest tech fads at night. He'll talk about the subtle arts of refactoring hacks, dealing with unruly users, and living on a technological fault line, among others. Feel free to bring questions about mobile, startups, and technical tidbits.

### Topics:

- Lessons learned in the iOS ecosystem.
- The state of mobile. (Now with more HTML5.)
- Life at a high-growth startup.

**Food and refreshments will be provided.  
Bring your hunger and questions.**

[www.athinkingape.com](http://www.athinkingape.com)



# The History of Orientation Week at UW

**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 still happens today).

The September 27, 1963 edition of *The Coryphaeus* gives even more details on "initiation" with an article discussing 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.

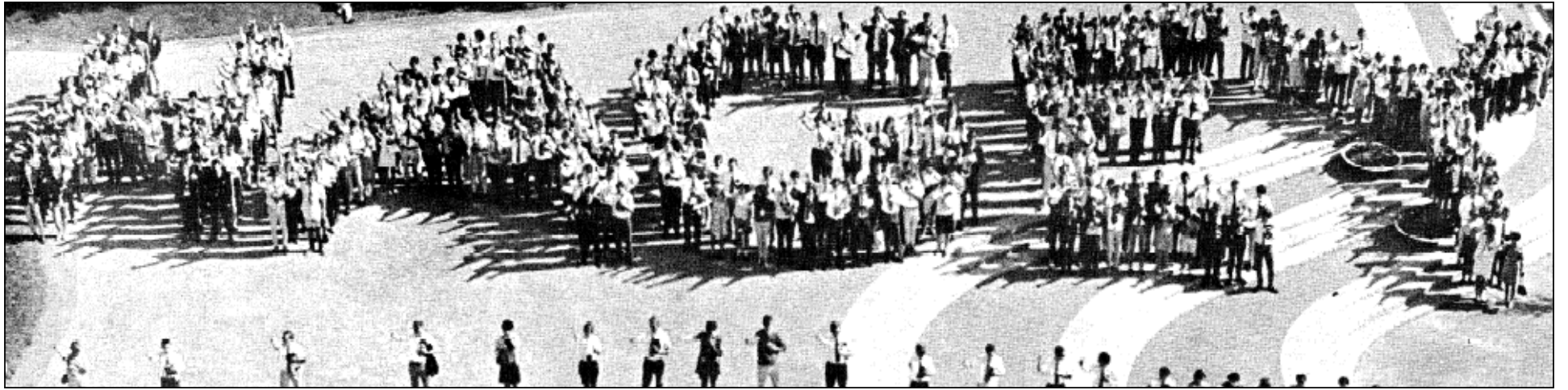
While the much expanded programming offered more choices for incoming students, it was during this time that student apathy and low attendance began to take its toll. Concerts lost money (the Ike and Tina

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.

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

'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



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 con-

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

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.

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 2009 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 2009 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.



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

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



# Engineering Programs at Waterloo

## Nanotechnology

**MINA LABIB & ANJALI GOPAL**  
3B & 2T NANOTECHNOLOGY

Congratulations on choosing Nanotechnology Engineering at the University of Waterloo. Your next 5 years in the program will prove to be challenging, but as long as you keep an open mind and take as much as you can from the diverse range of courses, you will find the experience very rewarding.

In your first year, you will be taking a set of courses that will give you an important base of knowledge onto which the rest of the program builds. Courses like Linear Algebra, Computation, Calculus, Materials, Chemistry and Physics are some of the courses you will be taking. Although the courses will seem somewhat disjointed at first, trust me when I say that it all comes together down the road. Think of this as learning a new “language” which can be used to describe the world around you, and you will definitely surprise yourself when you realize that you can actually “speak” it only a year or two later.

## Software

**KEVIN VELOSO**  
4N SOFTWARE

Hello first-year Software students! One of the most frequent questions asked by incoming students is, “What’s the difference between Software Engineering (SE), Computer Engineering, and Computer Science?” Software Engineering focuses more on programming software systems from an engineering standpoint. Computer Engineering is directed towards digital hardware design, while Computer Science (CS) examines programming from a more theoretical standpoint. In first year, your courses will mostly resemble the same courses that Computer Engineering students take, with a couple from CS. As you trek through Software, you’ll understand the differences between these three programs.

Software Engineering has some useful resources located in the Davis Centre (DC). The SE office is located on the second floor. You can find and talk to your

## Architecture

**SARA RADCLIFFE**  
3B ARCHITECTURE

Greetings Archies! You will quickly discover (hopefully already), that we do not reside in Waterloo, but in Galt, a historic city on the Grand River. Before you are tossed headfirst into the beautiful beast, known as Studio, I have a few pointers for you.

You’re going to feel like you’re sleeping, breathing and bleeding Architecture, which is true, but if you learn to manage your time, and use an OLFA knife safely, you’ll get some shuteye, and keep your blood.

Before starting any Studio project, hit the books before Google. Our library is gorgeous, and filled to the brim with all things Architecture.

Attend all the Guest Lectures you can. Nothing compares to getting inspired.

Final Reviews:

There are a variety of resources available on-campus to initiate you into the field of “Nano-Engineering.” The Waterloo Institute of Nanotechnology is your number one resource for information on the field of nanotechnology. WIN hosts a multitude of “Distinguished Lecturer” seminars in which professors from around the world are invited to discuss their cutting-edge nanotechnology research. Many upper year students have also found that participating in an Undergraduate Research Assistantship (URA), pursuing specialized “options” in a field of interest (including options in Physics and Biology), or joining student clubs or teams can be very useful supplements to their academic careers.

At the end of the day, what you need to remember is that Nanotechnology is not the narrow field it appears to be. It has applications in all fields of engineering and science, and it’s up to you to figure out how to make the magic happen.

Nanotechnology isn’t just the future. Nanotechnology is NOW.

Academic Advisor (Andrew Morton) or the Assistant to the Director (Shaz) in this room in case you need any help. The Director of Software (Charlie) can also be found in his office inside the SE office. Also on the same floor are the Software rooms. The computer lab, located right next to the office, is where you can find tables, chairs, and computers, and is generally a good place to study. The lounge, located right across the hall from the lab, is for quiet study or lounging. I suggest finding these three places and taking advantage of these resources while on campus!

Wondering what kind of co-op jobs you’ll be getting in Software? Or do you have any additional questions? You’ll be able to find some upper year Software students in the lab and lounge, and they’ll be happy to answer any questions you may have! Hopefully this is enough to get you started with your journey through Software Engineering. Have fun!

1) Sleep beforehand. Deadline is over, and you made it out alive! Relax and enjoy!

2) Listen and absorb - The Profs and Guest Critics will feed you heaps of references and insight.

3) Have a peer take notes for you during your crit. You think you will remember everything, but trust me, you won’t.

4) Crits can be intimidating - Don’t take anything said personally. They are criticizing your imaginary building, not you.

On a lighter note, be sure to have fun and stay healthy! Although mini, our campus has many extracurriculars to offer, including yoga, gym nights, hockey, soccer, and WASA, along with Engineering events such as Semi-Formal, Bus Push and Curling, to name a few. Getting involved and allowing yourself downtime will relieve stress and keep you happy.

Best of luck, and much love from your new peers at UWSA!

## Chemical

**ANISH BHUTANI**  
4A CHEMICAL

Want to climb a 200 ft distillation column? How about being on the production floor of a beverage factory? Maybe you want to help create a new energy source to help save the world. This is what chemical engineering is all about.

The first question you might ask is “What is the difference between Chemical Engineering and Chemistry?”. In short, Chemistry is the science of developing theories behind the production of individual compounds. Chemical Engineering is focused on taking that understanding and using it to design and maintain large-scale chemical processes for mass-production. The analogy I have heard is that a chemist is someone who will isolate a revolutionary compound. It will be the chemical en-

gineer who finds a way to make lots of it in a cost-effective way.

In the first few years of your program, your courses will build on your math, physics, and chemistry knowledge that you learned in high school, and extending it to real world applications. You will also have three concepts courses (CHE 100, 101, 200). In these courses, you will learn how to solve simple processes without having to worry about the details (i.e. reactants -> “magic” -> products). As you get to third year, your courses will focus on understanding the “magic,” and using computers to solve real-world problems.

Not everything about chemical engineering could be covered in this article. Your best source of information would be to talk to leaders about their school and co-op experiences, and hopefully, you *Enjoy Chem Eng.*

## Geological

**CAILIN HILLIER**  
4A GEOLIGICAL

Geological Engineering is one awesome, rock-loving family. The Geo class sizes are typically smaller than other engineering programs, which allows for you to get to know everyone very well. It’s a close-knit group of students that will become your close friends over the course of your degree - you will study with, work with, and celebrate your successes with them.

Geological Engineering itself is a combination of Earth Sciences and Civil Engineering. This program can lead you on several different paths. From subsurface structures like tunnelling or mine design in a more rock mechanics focused branch, all of the way to river mechanics in the hydrogeology discipline, there is a wide variety to be discovered within this field.

One of the best parts of being in Geological Engineering is the many co-op opportunities. The chance to travel is abundant. Geo Eng students have travelled from Vancouver to Nova Scotia, as far north as the Northwest Territories, and even internationally for their co-op terms.

But now something a bit more relevant: your 1A term! Look forward to taking Chemistry, Linear Algebra, Physics, Calculus and the Engineering Concepts course, all of which will help to get you all onto the same page by the time 1B rolls around. This Engineering Concepts course will introduce you to the basics of AutoCAD, surveying and writing technical reports. These are all very important skills for the rest of your university and professional career – not to mention that they will help you land your first few co-op placements. Some of the best courses that you will encounter in your first few terms are Earth Engineering, Geochemistry, Structural Geology, and Stratigraphy and Earth History. In later years, you have field trips to look forward to as well – Bancroft in 2B for Mineralogy, field mapping around the Sudbury area in 3B and travelling internationally at the end of 4B. In the past, classes have gone all the way to Peru to explore mines!

So welcome to Geological Engineering at the University of Waterloo, your home away from home for the next five years. Geo Rocks!

## Electrical

**LOGAN FULLER**  
2B ELECTRICAL

So you were accepted to the University of Waterloo for Electrical Engineering – congratulations! You’ll be joining many of the top students from across Canada and the world for five years of hard work, real world experience through co-op, and, hopefully, some fun!

You may be asking yourself what exactly you’ve gotten into by choosing electrical engineering. How is this program different from Computer Engineering? What kinds of courses can I expect? Do I have any flexibility in my program? To answer the first question, you can expect to share courses with the Computer Engineering class up to and including your 2A term. Due to a decision last year by the administration to merge the Electrical Engineering and Computer Engineering classes into a blended ECE class, you will be sharing a classroom with the Computers Engineers as well.

In terms of your course material, your first term will consist of a wide variety of courses to provide a strong knowledge base. These courses include Physics, Chemistry, Linear Circuits (in which you learn basic circuit design and analysis), Programming (using C#), and Calculus. Many of these courses will serve as a re-

view of things you’ve already learned in high school, though that’s not to say you won’t be seeing brand new material.

Moving ahead from your first term, your courses will begin to specialize further. You will be studying Digital Circuits and Embedded System Design in 1B, and Algorithms and Data Structures, Digital Computers, and Electronic Circuits in 2A. Starting in 2B, your program begins to branch away from the Computer Engineers – you will be taking courses in electromagnetics and power systems, whereas the Comps will be branching into compilers and digital computing.

2B also marks the point at which you can shape your own program through electives; Electrical Engineering requires that you take four complementary studies electives, two natural sciences electives, and five technical electives. Once you enter your fourth year, your program will consist almost entirely of electives, an opportunity many students take to specialize in the area of electrical engineering they find most interesting.

Hopefully this answers some of the questions you may have about your program, and clears up any misconceptions. Enjoy your Orientation Week – and welcome to Electrical Engineering at the University of Waterloo!

## Management

**YOUSIF AL-KHDER**  
4A MANAGEMENT

Hello Class of 2016, and welcome to Waterloo Engineering! For those of you who are joining Management Engineering, the next few lines will describe what you will be doing for the next few years of your life. And for those of you who aren't joining Management Engineering, I hope this article will help clarify any confusion you might have about Management Engineering.

Management Engineering, classically known as Industrial Engineering, is an engineering discipline that is concerned with reducing waste (extra costs, time, inefficiencies...etc) and finding optimal solutions using mathematical techniques. The problems that Management Engineers tackle are vast, including cancer therapy using radiation, bus route scheduling, printed circuit board design, and telecommunication networking problems.

In addition, Management Engineers also design and implement information systems that assist businesses in performing their work more easily and efficiently. These information systems are also used as infrastructure and tools to solve the complex mathematical problems that Management Engineers take on.

To be capable of solving such questions and designing the tools required to solve them, Management Engineers study Statistics, Algebra, Programming and Software Design and some Business-related concepts.

I hope you now understand the reason behind the name of the program; it is not because we are going to manage engineers or because we take business courses (in fact we only take a few of them), but it is because we provide solutions to problems that are critical to the management level of many companies.

Enjoy your Orientation Week!

**AMER ABU-KHAJIL**  
3B CIVIL

Welcome! You have just made your first big step into the world of civil engineering. The undergraduate Civil Engineering program at the University of Waterloo will provide you with a well-rounded, holistic learning experience that you will get to develop with the various classes and labs (and sometimes even outdoors!) that you will be taking. Not only will the program challenge you to develop your knowledge in physics, calculus, and chemistry, you will also get to apply your knowledge within numerous aspects of civil engineering: structural analysis, geotechnical engineering, sustainability, earth sciences, hydraulics, water quality, material sciences, transportation, pavement design, airport planning, economics, programming, etc.

In your first year, expect to develop the knowledge you learned in high school even further, especially when it comes to phys-

ics and calculus. Expect to be introduced to some exciting work such as surveying in the fields along Columbia Lake and testing rocks in the Earth Sciences Lab. Keep in mind what kinds of things you enjoy because in later terms, you start choosing "technical electives" to shape your degree towards the field you are most interested in. By the time you reach fourth year almost all of your courses are technical electives based on what you decide you want to do.

All in all, be sure to get help from your TAs or professors when you need it, build strong relationships within your class, and never hesitate to talk with upper year classes – we have all gone through what you are experiencing now, and we'd be happy to lend a hand. Outside of class, participate in extracurricular activities that interest you, and manage your time so that you can have an enjoyable and successful first year. And remember, Civils Always Win!

## Mechatronics

**BROCK KOPP**  
3A MECHATRONICS

If you watch Transformers and spend more time thinking about Megatron or Bumble Bee than Megan Fox, you might be a TRON. Mechatronics is a program that combines Mechanical, Electrical, Software and Systems Design Engineering into one of the most applicable programs in Waterloo Engineering. Because we have so much to cover, Mechatronics tends to focus more on the high-level concepts rather than the nitty-gritty of exactly how something works. A good example of this is in 2B: while electrical engineers focus on how transistors work, we use them to build an autonomous line following robot from scratch (right from soldering each resistor). Pay attention to all your courses because believe it or not, they all matter. You will

use concepts from every course for your 4<sup>th</sup> year design project, which can range from guitar-playing robots to autopilot systems to CMM Milling Machines. This is what you came to Waterloo for.

If you're in TRON, your 1A term will be a good one. MTE 100 will help you figure out exactly what TRON is. Professor Sanjeev Bedi (Director of Mechatronics) is, in my opinion, one of the best professors on campus and he will be there for you throughout your five years here whenever you need him. If you haven't done much programming before, pay attention to GENE 121! It will sneak up on you and, if you aren't keeping up, you will be left behind before you know it.

These are going to be amazing years, so put yourself out there, get involved, and enjoy! If you have any questions, feel free to email me at [brock.kopp@uwaterloo.ca](mailto:brock.kopp@uwaterloo.ca).

**STEPHANIE BURGESS**  
3A ENVIRONMENTAL

Do you like water? Do you really like water? Learning chemistry, biology and physics? How about building things? Playing with rocks? Having a small class? Being friends with geos? Then you are in for a real treat. If you don't find yourself loving these things, don't worry you will soon enough.

During first year you will realize that a lot of the courses are not specific (except for Bob's class, listen to Bob's advice and study the way he tells you to). You'll realize you have no idea what is going on in most of your classes; however, classes become more and more alike and concepts covered in one class are covered again in another. The profs are there to help you; use your TAs/CAs and prof hours if you

don't understand a concept.

Don't worry if you find a bad job the first two terms, it will set you up for your future awesome opportunities. Even if you don't find a job, keep an open mind to volunteering positions at the university. Also because we're in such a diverse field you can snag interviews from chemies, civs and geos. The great thing about enviro is that you have so much opportunity to be flexible with whatever suits your fancy.

Amazingly enough you may find time for friends! The friends you make in first year (whether it's from rez, student groups, or from class) will be your closest family. Always remember you'll be with your classmates for the rest of your 5 years here... treat them well.

Good luck in first year and I'll see you soon,. Good Luck!

## Mechanical

**CASSANDRA COLE**  
3B MECHANICAL

Hello fellow Mechies! What makes Mechanical Engineering so awesome you ask? Well for one, there is something extremely fascinating about how things work. The internal combustion engine, for example, converts energy into mechanical motion, and there is nothing like the feel and sound of an engine spinning at 10,000 rpm to get your heart racing! Secondly, it's such a broad field; you could end up designing, analyzing or manufacturing anything from transportation systems, to aircraft, to robotics, and to so much more!

Options are great and all, but the real feat is narrowing down your field of interests. Luckily for you, there is this amazing co-op program to help you out with that, so take advantage of it! Work in as many different fields as possible; it's only four months out of your life, and so even if you

hate it, at least you can say you tried.

In terms of academics, you will find it to be a lot of work just to get by, which will likely be a shock for many. Don't worry though; hard work and determination can take you much further than you think. You may find that some of your first year courses are not related to mechanical, but do pay attention to everything you learn, because it all comes back! As far as the big picture goes, 1<sup>st</sup> and 2<sup>nd</sup> year is general engineering knowledge like calculus, materials, and mechanics of deformable solids, but 3<sup>rd</sup> and 4<sup>th</sup> year is when everything comes together and intertwines for fluids, manufacturing, and kinematics and dynamics of machines.

Although grades are important, so is being a well rounded person, especially in the working world, so be sure to get out there and try new things like student teams, the engineering society's activities, intramural sports and whatever else will get you out and meeting new people.

## Systems Design

**MEGAN MCNEIL**  
2B SYSTEMS DESIGN

In your first week of school, you will be taught to memorize the "definition" of systems design engineering (SYDE). This definition involves key words like holistic, multidisciplinary and global approach, but at the end of the day, the definition of system design engineering is what you decide it to be.

SYDE is similar to a "choose your own adventure" story with the most options of electives within the engineering faculty. With a solid technical background, Systems gives you the freedom to become the engineer that you want to be. Welcome to the adventure of a lifetime!

For your first year, you will be learning the traditional engineering basics, but you will also have two specialty design courses. Be aware that all core courses are SYDE specific, which means that most outside

sources of tutoring won't be applicable to your course load.

With that being said, your best resource for help is your classmates. You will meet the most amazing people in your class from different backgrounds and interests with whom you will be spending the next five years together on the sixth floor of E5. Systems is known as a tight-knit program for a reason!

With a wide selection of co-op jobs, SYDE students have worked in ergonomics, project management, software development, user interface design and even abroad with fellowships within EWB.

All in all, the engineering is tough and Systems Design presents its own challenges. If you don't know what you want to do, don't worry. You will figure it out through your co-op jobs, your courses, and your experiences over the next five years. Good Luck!

## Computer

**DOMINIC ACUILINA**  
2B COMPUTER

Computer Engineering at UW is a highly prestigious program, and it has earned such a reputation for good reason. Expect to be challenged. Many of your professors will do their best to help you out, but the onus is on you to make sure that you attend class and get your work done. For many of you, this will be your

first time living away from home, so with the extra freedom, it might be hard to focus on your responsibilities, but dedication is key to success.

As for course content, Comp is a pretty healthy mix of electrical engineering and computer science. You'll be working with a number of programming languages (including C#, C++, and Assembly) and software concepts, and you'll be exposed to a wide variety of circuitry and hardware concepts (Op-Amps, latches,

hardware architectures, etc). You will also learn quite a lot of math via courses like calculus, physics, and discrete math, but these are taught with a practical engineering focus, and so many topics that would take months in a pure math course are taught in a week or two. This means a tremendously large volume of information without a solid background in the material, so you'll have to do some work outside of class if you want to really understand what's being

taught.

My best tips would probably be to use the resources around you. EngSoc provides some great services like the exam bank to help you out, your professors have office hours when you can go in and get extra help or ask questions, and of course, you'll make a bunch of friends in exactly the same position as you. Your class is your family, so get to know them and build a support network so that you can all work together.

## Waterloo Rocketry Team

**WILLIAM DUROCHER**  
ROCKETRY TEAM

The Waterloo Rocketry Team is one of the many student engineering teams located in the Student Design Centre in Engineering 5. What makes us special is that we are actually doing rocket science, or rather rocket engineering. We attend a competition in Utah each year where the objective is to fly a student built rocket and ten pound payload to 10,000 feet in the basic category and 25,000 feet in the advanced category. For the 2011 competition, our team built a complete rocket system which included a structure, skin, nosecone, parachutes, and a student-designed hybrid rocket engine which uses nitrous oxide similar to race-cars. We also flew an experiment which was built for us by WATSAT, the school satellite team. Videos of our engine tests and launch are available on our website: [uwrocketry.uwaterloo.ca](http://uwrocketry.uwaterloo.ca).

For the upcoming competition in 2012 we are building two rockets, each with brand new student designed engines. Our Venture rocket for the 10,000 feet competition is again using a hybrid engine but with some special upgrades and innovative concepts, including an aerospike nozzle. The Eridani rocket for the 25,000 feet competition uses liquid oxygen at cryogenic temperatures and rocket grade kerosene. It will also have a thrust vector control system to help guide the rocket straight up in flight. We fire all of our engines on campus around the Engineering 5 building, which is certainly a sight to see. We are looking for people interested in working with the team in areas of controls, micro-controllers, rocket propulsion, cryogenic fluids, pressure vessel design and manufacture, composite manufacture, payload development, rocket structure design, and recovery systems. If you would like to join, contact us at [uwrocketry@gmail.com](mailto:uwrocketry@gmail.com).

## Concrete Toboggan

**RAMI MANSOUR**  
CONCRETE TOBOGGAN

Over the past 37 years, engineering students across Canada have been gathering to do one thing: ride down a large hill with nothing between you and the snow but a large piece of concrete! The tradition that began in 1974 brings engineering schools from across Canada together every year where they participate in the Great Northern Concrete Toboggan Race. The basis of the competition is to design and build a maximum 300lb toboggan where all surfaces in contact with the snow are made of concrete.

The University of Waterloo has a proud tradition in the competition, having won the top prize four times! (The last being in 2008) Currently we have two teams building separate toboggans for the different streams: A-Soc (on co-op in the fall) and B-Soc (school term in the fall). The A-Soc team is preparing for their race in January 2012 in Calgary, Alberta. The B-Soc team is currently going through their preliminary design process for their competition in January 2013 in Vancouver, British Columbia.

Both teams are in need of eager students



to help with the following:

- Designing the overall concept of the sled
- Designing a working braking system
- Designing a steering system
- Helping fundraise by buying boggan burgers every Thursday rain or shine outside Carl Pollock Hall
- Helping cook and serve boggan burgers
- Helping design and update the team website
- Creating various dances, costumes, props and signs for our team's theme

All students from any engineering program are more than welcome to join the team and contribute. The B-Soc concrete toboggan team will be on Campus in Fall 2011. Since we are still in the early stages of the

design process, it is a great time for first year students to come and be a part of the entire process. Our first meeting of the term will be Tuesday, September 13th. If you have any questions or want any more information on the 2013 race, please email us at [gncr.bsoc.uwaterloo@gmail.com](mailto:gncr.bsoc.uwaterloo@gmail.com). If you want to be a part of the 2012 racing team, please contact Ann Sychterz at [uw-gncr-2012@googlegroups.com](mailto:uw-gncr-2012@googlegroups.com). Also visit our team website at <http://www.eng.uwaterloo.ca/gncr/>.

## UW Robotics Team

**CRAIG MACKENZIE**  
UWRT

Did you cringe during Transformers every time a Decepticon was blown up? Do you secretly (or not-so-secretly) wish that you were Iron Man? Did you shed a single tear when WALL-E and EVE held hands? If so, the University of Waterloo Robotics



Team is for you! We compete internationally in a variety of projects capable of everything from autonomous outdoor naviga-

tion to tele-operated Mars exploration. We have even been known to design the occasional multi-axis robotic manipulator.

First-year members are also invited to participate in our Mini-sumo Competition. Teams of three or four will work together to build a small robot capable of detecting other robots and pushing them out of a ring. No prior experience is required - we'll give you everything you need (including lots of help and encouragement) to get started with basic electronics, embedded software and mechanical design. Did we mention there is a cash prize?

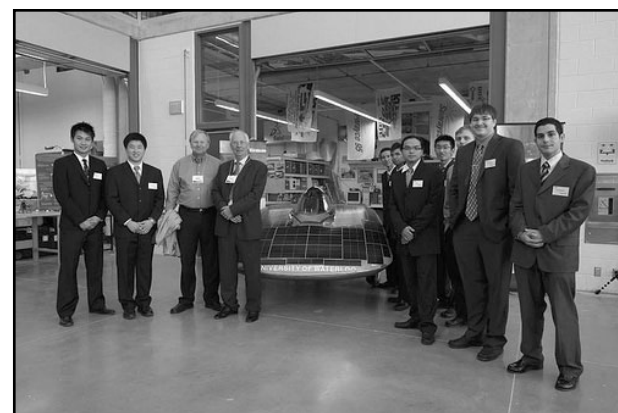
So how do you get started? Our lab is located on the second floor of the E5 Student Design Center, just past the student team offices. Feel free to drop by, and keep your eyes open for posters advertising our recruitment meeting. You can check out our website for more information ([robotics.uwaterloo.ca](http://robotics.uwaterloo.ca)), or drop us an email at [robotics@engmail.uwaterloo.ca](mailto:robotics@engmail.uwaterloo.ca). We look forward to meeting you all!

## Midnight Sun

**KAMAL RAI**  
MIDNIGHT SUN

The Midnight Sun Solar Race Car Team is an internationally competitive solar race team. As a Student Design Team, we have built 10 cars since 1988. Midnight Sun designs, builds, and races a new solar car every two years, with over 200 students contributing to building each car. We compete in two major international solar car competitions: the World Solar Challenge, held in Australia, and the North American Solar Challenge. Our next competition is the World Solar Challenge 2011, which runs from October 16<sup>th</sup>-23<sup>rd</sup>. This is a 3,000 km race from Darwin to Adelaide, across the Australian desert.

The Midnight Sun Solar Race Car team consists of three core groups - electrical, mechanical and business. Midnight Sun offers students an opportunity to receive hands-on experience, which is not offered in class. With over 200 students contributing to each generation of the car, there is lots of opportunity to network with other students. The students dedicate time as they can, with the ability to take on small 1 or 2 day tasks, or larger projects as



their free time allows. There are also social events: we occasionally go to dinners together and celebrate birthdays.

The Midnight Sun Solar Race Car Team has been featured on television several times. We have been featured on the Discovery Channel, TSN, and many other news programs. We are one of Canada's premier solar race car teams. Our team also holds a Guinness World Record. In 2004, our 7<sup>th</sup> generation Midnight Sun Solar Race Car set the world record for longest travelled distance by a solar car. The car travelled a distance of 15,070 km (9,364 miles) through Canada and the United States.

We would like to thank our sponsors, coordinators, advisers and all the students involved for making our 10<sup>th</sup> generation of Midnight Sun Solar Race Car a possibility.

## Waterloo Space Society

**STEPHEN LEWCHUK**  
WSS

The Waterloo Space Society (WSS) is a student run organization on campus dedicated to students with an interest in any aspect of aerospace. The society offers an opportunity for students to meet similarly interested individuals and participate in space related teams. Throughout the year, the society hosts events such as guest speakers, movie nights, astronomy sessions, facility tours, sky diving and much more. In addition to society-wide events there are number of sub-teams with specific purposes that any student can be involved in.

- Mars Rover Team: This team designs and builds a Mars Rover for the annual University Rover Challenge in Utah.

- Stargazers: Members of this team use telescopes owned by the society to run stargazing sessions, to help bring the wonder

of the night sky to all students.

- University of Waterloo Space Transport Advanced Research Team (UWSTART): This team is working on various prototypes for the technology needed to develop a space elevator for the Spaceward Foundation's Climber Competition.

- Waterloo Astronaut Training Corp (WATC): WATC members train to maintain and develop the skills and knowledge required to become astronauts.

- Waterloo Rocketry Team (WRT): The rocketry team constructs sounding rockets to compete in the Intercollegiate Rocket Engineering Competition in Utah.

- WatSat: The WatSat team is currently designing a nano-satellite for the Canadian Satellite Design Challenge.

The WSS is a place for space enthusiasts to gather and pursue their interests. We would be glad to have you join us in the quest for space. For more information visit [www.spacesoc.uwaterloo.ca](http://www.spacesoc.uwaterloo.ca).

## Chemical Engineering Student Society

### Nanos Welcome Too

**NICK HOLROYD**  
CESS VPF

It was the red t-shirts that got me. The cool logo telling me to "Enjoy ChemEng" in an awesomely familiar font that, depending on who you ask, looks like a popular cola logo. Yes, Chemical Engineering has a student society. It's in DWE 2514 and has been there since the 80s.

Unlike many clubs, we've got a permanent headquarters on campus. We also have a website you should check out ([www.cess.uwaterloo.ca](http://www.cess.uwaterloo.ca)). The club is a place to study and meet others in Chem Eng. It's a place to buy lab coats, cool shirts and pop. It's a place for students to microwave their food, staple their assignments together and sit on a couch no one knows the origins of. We also know some people who know

some people who have a karaoke machine.

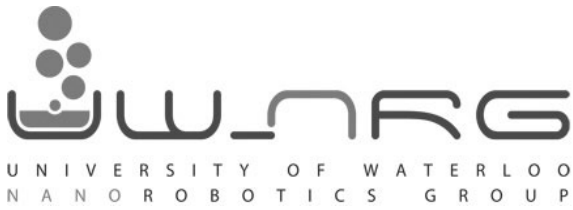
While we officially exist to support the Chemical and Nanotechnology Engineering students, a lot of our events are open to all students. Our office is near a pretty heavily used walkway, so it's always full of junior and senior engineering students, which makes it a perfect place for frosh to chat about the department, program, or university life in general. We provide services like resume critiques, co-op job information, interview assistance and general knowledge of the UW Chem Eng and nano programs. We do BBQs during the summer, coffeehouse nights, and Meet The Profs (19+, sorry), where you can drink with your profs and hear some interesting stories from them. And, if none of that entices you, there's also a lot of bacon in the fridge, and it's poorly guarded.

## UW Nanorobotics Group

**DUSHANTH SEEVARATNAM**  
UW\_NRG

The University of Waterloo Nanorobotics Group (UW\_NRG) is an undergraduate research and design group. The goal of this group is to represent the University of Waterloo and Canada at the Mobile Microrobotics Challenge, hosted at the International Conference on Robotics and Automation, while promoting ourselves in the community.

Currently UW\_NRG are the world champions in Microassembly and we are aiming to defend that title for future competitions. We currently have four ongoing technical projects focusing on various MEMS applications. Another important aspect of UW\_NRG is marketing and business. Marketing is responsible for hosting nanotechnology



outreach programs in our community by planning events and seminars, while business development promotes our group to sponsors in a bid to fund the group's endeavors.

UW\_NRG is looking for a group of bright, talented students who love to learn and would be willing to put in the time and effort to help with designing and producing future projects. This is a very unique student group providing students with vast amounts of knowledge and valuable experience in the design and fabrication of MEMS devices and project management. This type of experience is often only available through graduate level studies.

If you're interested in joining UW\_NRG, please visit our website [uwnrg.org](http://uwnrg.org) or our Facebook page [www.facebook.com/uwnrg](http://www.facebook.com/uwnrg).

## Sustainable Technology Education Project

**HUSSEIN EL-KOTOB**  
STEP

Hey froshies, have you heard of the STEP Engineering club on campus? No? Well not to worry; I am here to tell you all about it.

Brief history about us: Founded in 2002, STEP, which stands for Sustainable Technology Education Project, is a subgroup of the larger University of Waterloo Sustainability Project (UWSP). It is led by student leaders and supported by several faculty advisors. Our mission is to educate students and the general public about sustainable design and technologies through the demonstration of projects managed, designed, and built by students.

The cool thing about STEP is that we work towards making our campus greener

or more self-sustaining. In 2004, STEP installed a 1.95 kW solar system on Fed Hall. We have also studied the possibilities of installing wind turbines on campus. We arrange social and educational events for students and the public like wind farm tours and green Bomber Nights.

But you might be wandering what is

happening now with STEP, so let me fill you in. We are currently in the process of installing a 15-panel solar thermal system on Village 1. Students fully designed the system that will be installed, spec'ing pumps, heat exchangers and the kinds of insulation that will be used for the piping, which is everything a consultant engineering firm would normally provide. In addition to this, we are building a monitoring system using an Arduino board and thermal and flow sensors. This system will let us document and monitor the solar thermal energy we produce.

In addition to the big project (solar thermal), we have built a bike generator, and a mobile solar system that we get to take around and use for playing music and making smoothies using 100% renewable energy.

If you are interested in sustainable technology, we have it all; nothing is too big. We have raised \$40,000 for the solar system on Fed Hall and \$17,000 for the solar thermal system on Village 1.

If you want to learn more about us go to our website, [www.STEP.uwaterloo.ca](http://www.STEP.uwaterloo.ca), or search us on Facebook under STEP.

We are excited to hear from you.



## UW Alternative Fuels Team

**ERIC EVENCHICK**  
UWAFT

The University of Waterloo Alternative Fuels Team (UWAFT) builds full-sized vehicles which are powered by alternative fuels. In the past we've built fuel cell plug-in hybrid vehicles, and this year we're beginning development of a bio-diesel or ethanol-powered plug-in hybrid. We compete in competitions across North America. Our team has every pro-



gram imaginable involved in all aspects of the vehicle. Mechanical, Electrical, Mechatronics, Chemical, Nano and more all come together to build sweet rides! Come join us by visiting our website ([uwaft.com](http://uwaft.com)).

## Iron Warrior

**KATE HEYMANS**  
IW STAFF

You're currently holding a copy of The Iron Warrior in your hands. \*Insert shameless plug warning\* This is a newspaper put together by engineering students (like you!) for engineering students (like you!). How can you get involved in The Iron Warrior?

It's easy. Whether you're a budding photographer, a starting writer or you think you can manipulate the intricacies of layout, we're always looking for new members for our staff. We have a variety of positions available, so no matter what your interests are, you will probably find something that would interest you. If you like writing, become a writer! If you can come up with inspiring and ingenious ideas, come to our meetings (we don't bite and food is generally available)! If you

tear your hair out whenever a comma is misplaced, join our team of copy editors! If you think you can market and promote The Iron Warrior, you might want to become our newest advertising manager! If you think you're great at Tetris and would be able to fit odd shapes into nice boxes, you should be a layout editor! If you like walking around our beautiful campus, help out on our circulation days! Of course if you just want to come and help brainstorm ideas or join in the conversation we want you to come out to meetings too!

We usually hold meetings on Mondays at 5:00 pm in the IW Office located in E2 3249A. Come join our meetings if any of the above positions interest you or if you're interested in the general process of producing a newspaper! If you have any questions, feel free to talk to any of our friendly staff, or give us an email at [iwarrior@engmail.uwaterloo.ca](mailto:iwarrior@engmail.uwaterloo.ca).

## UW Clean Snowmobile

**ALEC ESPIE**  
TEAM CAPTAIN

The UW Clean Snowmobile Team is an engineering student team which competes annually in the SAE Clean Snowmobile Challenge. Our objective in this competition is to modify a stock snowmobile in order to reduce emissions, improve fuel economy, and reduce noise without negatively impacting performance. In other words, our goal is to build a snowmobile

that is environmentally friendly, but is still fast, agile and (most importantly) *awesome!*

We are a rather small team with a close, friendly atmosphere, and we welcome students from all faculties/departments. Whether you are an avid snowmobiler or have no idea what snowmobiling is, if you are willing to learn, we are happy to have you!

Joining a student team is an immensely fun and rewarding experience in which

students can apply classroom concepts to practical situations with real-world implications. Also, it's a great opportunity to work with students from other programs in a collaborative, interdisciplinary environment.

Look out for an open meeting and Team Recruitment Day to be announced. For more info see our website: <http://sled.uwaterloo.ca>.



## CSCE UW: Overview of a Student Chapter

**PHIL KARIAM**  
CSCE CHAIR

For students interested in the practice of civil, environmental, or geological engineering, the Canadian Society for Civil Engineering (CSCE) UW Student Chapter is a campus club you must consider. CSCE UW is nearing its first anniversary of on-campus activity at the University of Waterloo and is looking to expand its membership base. Members of CSCE UW gain exposure to practical engineering through participation in field trips, competitions, workshops, guest lectures, conferences, and social events. Through these activities, members are able to expand their resumes and range of knowledge alongside their peers.

The essential benefits of a CSCE UW membership are as follow: CSCE provides opportunities to market your skills and abilities among potential employers, participate in (and potentially win) engineering competitions, meet fellow classmates in a fun, social environment, and participate in the discussion and dissemination of civil, environmental, and

geological engineering-related topics and knowledge. Ensuring student members realize these benefits is the objective of CSCE UW, an objective that is accomplished through subsidizing an assortment of events and sponsoring student teams.

In the past year, CSCE UW members have toured the RWDI consulting office in Guelph, competed in the Troitsky Bridge Building Competition in Montreal, and participated in a barbecue social at POETS. Looking forward, CSCE UW plans to broaden its range of activity (ie. through conferences, workshops, and guest lectures) while continuing to engage in the activities listed above. The Troitsky Bridge Building Competition 2012, a concrete mix plant tour, and the CSCE national conference in Edmonton next June are some of the events on the horizon.

To find out how you can become a member or for answers to any other questions you may have, contact CSCE UW at [uwcsce@uwaterloo.ca](mailto:uwcsce@uwaterloo.ca). Any question or comments are highly encouraged. Please note: due to scheduling, CSCE UW activity will resume in the Winter 2012 term.

## Women in Engineering

**YASSER AL-KHDER**  
VP-EXTERNAL

The Women in Engineering (WiE) Committee on campus strives to keep the members of the UW community aware of issues surrounding WiE on campus and around the world. Their mission is to give all women equal opportunity to pursue engineering as a career and to develop an environment where women can choose scientific work. We believe all students of any race, creed or gender should feel safe and at home at UW.

The WiE committee provides a great network to support you personally throughout your time at Waterloo and beyond. Events such as student lunches, forums and speakers from the industry can give you an opportunity to learn more about Women in Engineering and their achievements. You can also get to know WiE members from

all levels within the university. To find out more about events and activities, sign up for the mailing list through <http://engmail.uwaterloo.ca/mailman/listinfo>.

Some of the upcoming events being put on by WiE include a welcome barbecue and games on Saturday, September 17<sup>th</sup> between noon and 3pm. If you are looking for more ways to get involved, consider looking at [wie.uwaterloo.ca](http://wie.uwaterloo.ca). Volunteer opportunities are also available for the yearly GoEngGirl event. This event invites girls from grade 7 to 10 to campus to learn more about science and engineering. Also keep an eye out for the National Conference for Women in Engineering, a three-day event to discuss past and present issues that arise for women in the field of engineering. The conference is going to be from September 18<sup>th</sup> to September 20<sup>th</sup> at McMaster University. If you have any questions, talk to your EngSoc WiE directors.

## Music Directorship

**COLIN MACPHERSON  
& AJ ROSEWARNE**  
MUSIC DIRECTORS

**Did you know that studies have shown that listening to music for an hour a day can significantly reduce stress and anxiety?** Good news! Your friendly neighbourhood Music Directors are here to wash all your cares away! Our goal as music directors is to bring you as much music as we can fit into the term. Here's what you can look forward to for the next four months...

**Coffee Houses!** These are informal musical events held every month. All are welcome to come out, bring a musical instrument or just your voice, and show your fellow engineering students what you've got. Don't miss the first coffee house happening on September 28<sup>th</sup>.

**Open Mic!** All acts are welcome! These will happen on the first stop of every pub-crawl in POETS (Carl Pollock Hall 1337) starting on September 23<sup>rd</sup>. Look forward to an afternoon of musical talent and other shenanigans in POETS!

**Battle of the Bands!** This will be the major musical event of the term. You can sign up your band (as long as at least one member is an engineering student), or start a band just for this event. Each band will battle it out against the rest to be named Waterloo Engineering's Best Band. Grand Prize is a spotlight performance at the Middle of Term (MOT) party. If there is one music event to go to this term, this is IT! Don't miss the Battle of the Bands October 7<sup>th</sup>. Sign up for this event will happen in the Orifice (Carl Pollock Hall 1327) during the first week of classes in September.

New this fall, we will be featuring up-and-

coming Canadian artists in the Carl Pollock Hall (CPH) Foyer. Find a new favourite artist and learn about fresh Canadian talent! As well, we will be organizing trips to see the Waterloo Symphony perform for the 2011-2012 season. More details to come later in the term. As always, we will be informing you every month of the concerts around the city to enrich your musical experience. Keep your eyes open for the music posters around the engineering buildings.

**How can YOU get involved in music at Waterloo?** Simple. There are many music groups on campus that are open to students. With Respect To Time is the engineering jazz band. It is open to students from other faculties, so bring your friends! Sign-up will happen at the start of the term. The UW A Cappella club represents 4 A Cappella groups on campus, and can be found at [www.uwacc.com](http://www.uwacc.com). The UW concert band club is open to all students and sign-ups begin online in the fall at [www.uwcbc.uwaterloo.ca](http://www.uwcbc.uwaterloo.ca). The UW orchestra also holds auditions every term, sign up at [www.orchestra.uwaterloo.ca](http://www.orchestra.uwaterloo.ca). The music department at Conrad Grebel College hosts a plethora of music ensembles for every skill and commitment level. They also host a vocal technique class for anyone who wants to learn to sing.

## P\*\*5 Points

**IRON WARRIOR STAFF**

Throughout Orientation Week you might hear about P\*\*5 points - pronounced "P to the Fifth" or "P to the Five" points. The name full name is actually "Paul and Paula Plummer Participation Points" but that's a little long. Points are awarded to each class as part of an ongoing competition between all programs and years of engineering. Throughout the term you can earn points for volunteering, participating in EngSoc events, running class parties, and just generally showing school spirit. Class reps submit their class point list, and everyone can monitor the running competition on the EngSoc website as well as the the standings presented at the Middle and End Of Term Parties.

Of course bragging rights are awesome, but cash is even better. Prizes are given to the top classes, so throw a party or anything the class decides to put the money towards. Check out the P\*\*5 page on the EngSoc website; [www.engsoc.uwaterloo.ca/classes/p5So](http://www.engsoc.uwaterloo.ca/classes/p5So) where you can view the standings as well as the full list of ways to earn points. Good luck!!

## Representing Your Class

**ANISH BHUTANI**  
ENGSOC REP DIRECTOR

Getting involved at UW Engineering doesn't only mean joining design teams. If you are the type of person who wants to be involved with the behind-the-scenes aspect of your education, or if you want to have a bigger involvement within your class and faculty, then maybe becoming a class representative is for you. At Waterloo, each class and year (i.e. Chemical 2012, Electrical 2014, etc.) has their own class reps. There are three main types of class reps: EngSoc Reps, Academic Reps, and WEEF Reps.

**Engineering Society Representatives:** also known as the EngSoc Reps, these are the students who represent you at Engineering Society Council Meetings and are the link between the Engineering Society and their classes. Some of the representation will involve constitution changes and what stance the Society will take on certain issues. After meetings, EngSoc reps are tasked with making announcements to their class about what they learned, such as what the Society is up to and the dates of big events like the Engineering Semi-

formal, TalEng (Talent Show), etc.

**Academic Representatives:** As an Academic Rep, you are the mediator between your class, your department, and the VP-Education. The Academic Rep is the main person who addresses problems in the classroom and passes along changes to your program to your class and collects feedback. When a professor has an issue, the first person they will talk to is the academic rep.

**WEEF Representatives:** WEEF is the student run endowment fund that gives \$65,000-\$85,000 per term to departments and student teams. Each class will have one representative attend meetings of funding proposals and vote in the committee that decides how the money should be spent.

In the first few weeks of school, someone will come to your class to ask if anyone wants to be a class rep. If the idea of being the frontline person for your class interests you, consider running in the election. If the above information interests you, talk to some of your Bigs and Huges, as many of them are EngSoc, Academic, or WEEF Reps, and can give you more information on what the roles entail.

## Ingenuity

**DOMINIC AQUILINA**  
INGENUITY DIRECTOR

These days, it's not enough to just be smart. You have to be clever. You have to think outside the box to come up with creative solutions to age-old problems. You must innovate and revolutionize. That's what engineering is all about. But I'm sure you've got what it takes, right?

Well I've got two words for you:

Prove it.

Ingenuity is a test of all of your engi-

neering knowledge. Compete with the best and the brightest for recognition and ultimate glory in a series of exciting engineering tasks and challenges, pushing your innovation and ingenuity to the limit. Like the MacGuyver challenge, you're given materials and a time limit and then all bets are off. That's right! Now you can use a paper clip and elastic band to create a thermonuclear reactor like you've always wanted! Ingenuity makes it happen.

We make your dreams come true. Keep an eye out for more information!

## Engineering Jazz Band

**AJ ROSENWARE**  
JAZZ BAND

The Engineering Jazz Band, also known as With Respect to Time, is a collection of engineering and non-engineering students who love to play jazz, funk, rock, swing and anything in between. From the Brian Stetzer Orchestra swing standard As Long as I'm Singing, to the funky back beat of Herbie Hancock's Chameleon, WRTT has something for every one.

With Respect to Time is student run, student directed, and student played. All students are welcome. There are typically some graduate students and some students from other faculties who play in the band every term. There are no auditions; everyone is welcome. We are a laid back group of musicians who just want to have fun and blow our horns.

Stop by and say hi to us; we will be playing at Monte Carlo during Orientation week. We will have a sign up list there for anyone interested, or you can sign up during the first week of classes at [www.eng-jazzband.ca](http://www.eng-jazzband.ca).

What if you don't play a "jazz band" instrument? THAT'S OK! We have regular flute players, and we have had clarinet players, tuba players, violin players, and someone even played bassoon in the band once. If you want to play, we will work together and make it work.

We play many gigs throughout the term. We always host a charity concert at the end of the term to raise money for a different charity each term. We are also known to play at grad balls in the graduation season, events for incoming students such as U @ Waterloo day, Canada Day, and many others.



## Running Club

**ADAM KLETT**  
RUNNING CLUB DIRECTOR

Hello all, and welcome to UW!

The UW Engineering Running Club is meeting this fall. Everyone, regardless of experience level, is welcome. We have Beginner, Intermediate and Advanced groups, each with their own distances and paces.

We run every Tuesday and Thursday at 5:00 pm starting from the POETS Patio. POETS Patio is located in the area between E2 and CPH. Feel free to ask around if you have trouble finding it.

Keep fit this term and join us!

# EngSoc Charities

**BREANNE O'GRADY, MINA LABIB, MEGAN MCNEIL, LISA VAN WATERSCHOOT**  
CHARITIES DIRECTORS

Hi 2016! First off, welcome to Waterloo. Your EngSoc Charity Directors have a lot of amazing things planned for you this term. One of the big initiatives that we have been working on is raising funds to help build a school for Free the Children! We are getting closer and closer to our goal each term, and we need your help to make this possible. First off on our list is Grillfest! Come out on September 22nd to eat delicious food and learn more about Free the Children and what you can do to help!

Next on our list, and continuing with our theme of eating, is our weekly pancake breakfast. Grab a stack and head off to class to make everyone jealous. For all you guys out there who like their facial hair, Movember is for you! All things mustache-related will be going on in November to raise money for prostate cancer. Also, we will be participating in Halloween for Hunger where, instead of going door to door for candy, we will be collecting canned foods for Waterloo's food bank. We also will have a special guest(s) at the end of November, so keep your eyes peeled and ears open!

Love,  
Your Charity Directors!

# International Exchange

**ZHANG-YAO CHENG**  
EXCHANGE DIRECTOR

Are you on exchange at UWaterloo? Or are you an UWaterloo student interested in exchange? I am here to help! My name is Zhang-Yao Cheng. I am the exchange director for this term. I help the students on exchange at UW to get used to Canadian culture and get involved with EngSoc (Engineering Society), and I also work with the Exchange Office to publicize the AWESOME exchange opportunities to UW students who want to go somewhere new and have an unforgettable experience abroad.

For this term, I have planned two events: Exchange Meetup on Thursday September 22nd, and Exchange Potluck on Thursday October 6th. In the Exchange Meetup, both students on exchange at UW and UW students interested in Exchange are welcome. I will introduce EngSoc and fun events you can go to, and then try my best to answer

questions you might have after first week of classes on exchange at UW, and questions for students interested in exchange. I will ask your opinions as to the events you want to have. Then we can all talk and have fun. Some refreshments will be provided at this event. For Exchange Potluck, everyone is invited to come. Potluck is where everyone brings food of their own nationality/culture. It is a lot of fun and you get to sample a bunch of random food. Also we might go to a Rangers game in November, stay tuned.

If any of you AWESOME people on exchange or EQUALLY-AWESOME people interested in exchange have questions, feel free to send me an email at [zycheng@uwaterloo.ca](mailto:zycheng@uwaterloo.ca). Also, please come to ComEng (stand-up comedy night held by EngSoc) on Sunday September 11th at night, in Fed Hall, and definitely come to BOT (Beginning of Term party) in POETS on Friday September 16th at 9pm.

**MINA LABIB, MATT KERWIN, TOM SUN & KEVIN LIANG**  
POETS MANAGERS

Have you ever wanted a second home away from home? For a lot of people, POETS is that place. Whether you want to relax in between classes, or to spend an afternoon far away from your worldly woes, POETS is the place for you.

POETS is a lounge run by the Engineering Society, and is located in the Carl Pollock Hall (CPH) Foyer. It is open on weekdays from 9am to 5pm (ish). It has a comfy couches, a foosball table, a pool table, and a projector for playing movies. Most of the time, POETS is just a lounge where people can get together, catch a movie and relax. On Thursdays and Fridays, from 12-4pm, POETS becomes the only faculty pub on campus, where you can have a few brews with friends at the end of the week. We even have our own, locally brewed, beer: POETS Warrior Lager

POETS is also used to host a bunch of awesome events. Three nights a term, POETS holds pub nights, called "of-term" parties, or OTs - The first of which is going to be BOT (Beginning Of Term), on Friday the 16th of September. OTs always

have a fun theme, so hone your arts and crafts skills, and be as creative and witty as you want. POETS also hosts events such as: Open Mics, Trivia Nights, Band Wars, Rockband Competitions, and loads more. You can even book POETS for class events. These events are always all-ages, so come out whether you drink or not! Basically, POETS is yours to use and enjoy.

POETS also showcases a ton of Waterloo Engineering history and spirit. If you look to your right as you walk in, you will see engineering frosh week t-shirts and aerial photos dating back to the 80s. Look at another wall you'll see some interesting photos of past engineering shenanigans, such as cars mounted on poles, hallways filled with balloons and a dunk-tank with the dean. Sitting in POETS, you can't help but feel connected to the spirit of Waterloo Engineering.

The last thing I want to say is: Don't be intimidated. When you walk in, it looks as if the people inside are staring at you, but they are actually just watching the screen that's right above the door. Just walk in, sit back, enjoy the decor and, most importantly, make some new friends.

Hope to see you all very soon,  
POETS Managers



# Engineering Genius Bowl

**JOSH FENNING**  
GENIUS BOWL DIRECTOR

Hey first years do you know the capital of New Zealand? Are you a Sudoku master? Can you dougie better than your friends? Are you sometimes tempted to write a funny answer rather than a right one? Would you like to be doing all this while being fed a constant supply of candy? If any of this interests you then Genius Bowl is the way to go.

Genius Bowl consists of trivia, puzzles and interactive games. Trivia can be anything from naming songs and artists based off of a tune to geographic knowledge to guessing how many pieces of candy are in the giant candy bowl, which will steadily be fed to all the hungry participants throughout the night. While answering questions you will also be given puzzles to complete. These will be plentiful and can consist of mazes, Sudoku, drawing games, and riddles. A competition of this scale wouldn't be complete without some head to head games. For this purpose a variety of interactive games will go on throughout the competition. These could be games such as

a spelling bee, an origami contest and a dance-off. Whatever your interest is, the huge variety will ensure that everyone has a spot to shine.

As you answer questions correctly and participate in the interactive games you will be rewarded points. The top three teams will be rewarded with a prize and bragging rights. If you aren't sure of an answer make sure to write something funny down to make the judges laugh as this will also bring you points and your hilarious comments will be read out loud.

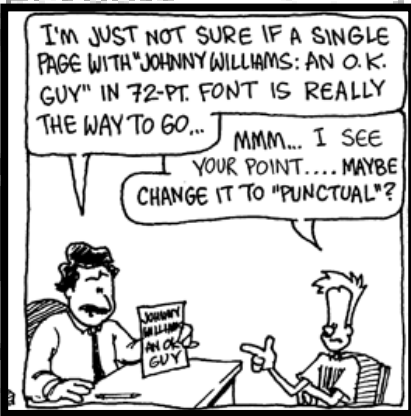
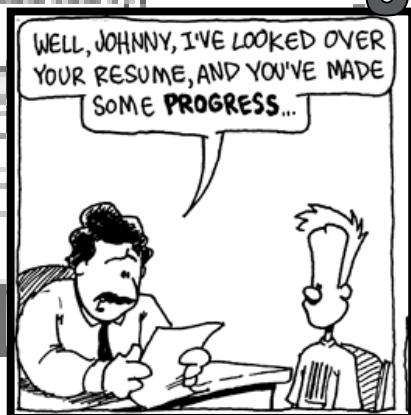
Team sizes can be as large as six people and teams are encouraged to fill all their spots as Genius Bowl is packed with activities. Make sure to come up with a creative name so that the competition will remember you as your score flies past theirs.

So get on Wikipedia while listening to the top 40 and watching movie after movie filling your head with more facts than you thought could possibly fit up there. Genius Bowl is closer than you think and you'll want to be a trivia guru to beat all the other bright minded Waterloo students who will be aiming as high as you are.

# Worried about Finding a Job?

Come to  
**Resume Critiques**

**Sept. 19 - 23**  
**4:30 pm**  
**@POETS**  
(Next to CPH Foyer and the CnD)



## EngPlay

**ANNAMARIA REDA &  
LOGAN FULLER**  
FALL 2011 ENGPLAY DIRECTORS

You walk into the audition room, the directors' eyes seemingly watching your every move. Did one of them just yawn? Wait... what's my line again? Before you can even open your mouth, one of them yells "NEXT!" Though this may be the idea many students have of auditioning for a play, don't worry... EngPlay isn't like that at all! Before we go on any further, let's first answer the question "what is EngPlay?". Well, it's just as it sounds; every term the Engineering Society puts on a play consisting of between 8 and 20 engineering students. After weeks of preparation and set building, we put on three performances – two on campus, and one at the uWaterloo Architecture satellite campus in Cambridge.

Interested, but nervous about auditioning? No need to worry, the directors are stu-

dents just like you, and have been in your shoes before. We are simply looking for funny, committed actors who love putting on a show. Rehearsals will typically take place 2-3 times a week at times that work with the actors' schedules. This isn't boot camp, kids! Though EngPlay is a commitment, we're here to have fun. Once we begin to approach the November show dates, crew will be needed to assist with sound, lighting, stage changes, etc - this is a great way to get involved with EngPlay if you're not the acting type. Keep your eyes peeled for more information about EngPlay; there will be posters up during the first week of classes advertising auditions – we hope to see you there! You can also find out more information about EngPlay by visiting our website at [www.engplay.ca](http://www.engplay.ca).

Even if acting isn't for you, that's okay with us as well! Come on out, bring some friends, and enjoy the show instead. We guarantee you won't be disappointed!

## Shadow Day

**CHRISTINA SHUM, TONY  
DU & MATTHEW KERWIN**  
SHADOW DAY DIRECTORS

Welcome new graduating class of 2016! Do you remember, 10 months ago, when you were struggling to decide just which engineering program you wanted to go into, and you thought "Gee, I sure wished there was someone who could show me what his/her program was like?" Well, now there's a chance for YOU to show the Plummerts of tomorrow what your program is like! Shadow Day Fall 2011 is looking for volunteers to take on a Shadow (AKA: prospective engineering student) on Wednesday, November 2<sup>nd</sup>. The role involves you taking your Shadow through a whirlwind day of classes and lab to get a taste of the Waterloo experience! A free pizza lunch will be provided for you and your Shadow. More details and contact information for volunteers will be available later in the term.

## Etiquette Workshops

**DOMINIC AQUILINA**  
WORKSHOPS DIRECTOR

Dear sirs and madams,

You are hereby cordially invited to Sir Reginald III's Etiquette Symposium. Therein ye shall learn the secrets to being a true gentleman or lady of the highest class. The series will show you various facets of etiquette and cultured mannerisms, such as proper composure while dining and other titillating morsels of high society. I do implore you to explore the next step, and thus be trained to benefit even the Queen's own table. Details will be conveniently posted outside of the Orifice at the earliest possibility.

Tally forth, sirs and madams. High society awaits.

## Things That Every Undergrad Should Know

**ANN-MARIE WINKLER**  
MECHANICAL '08

In 4 and 2/3 years, you seem to come up with a lot of things that you wish you had learned earlier. So here's a shortened list of advice compiled from the upper years to help you out. Hopefully it teaches you a thing or two that you can find useful.

### On Matters of Fun:

-“Work hard, play harder” is more than just a motto. It's a way of life.

-An awkward morning beats a boring night.

-Every other faculty except Math has girls. If you get invited to an Arts party, GO!

-Engineering boys from Ryerson love Engineering girls from Waterloo.

-When the doors of POETS are open, you can go in! You might just enjoy it.

-After you graduate, you're not going to remember the tests that you take or the grades that you make. You're going to remember everything else.

-You will never have a better opportunity to meet new people, make new friends, and define who you are and will be for the rest of your life than you do in university. Take advantage of this opportunity while you still can.

-Always be a good wingman. You never know when you might need one yourself.

### On Alcohol:

-If you don't drink, you can still have fun at events where other people are drinking.

-If a friend chooses not to consume alcohol, respect their decision, whether it's one time or always.

-Never lose your friends and make sure they get home.

-Always have a Sharpie on hand when drinking.

-Always beware the guy with the Sharpie when drinking.

-Just because you CAN drink or eat something, doesn't mean you should.

-The drunk tank may not be comfy, but it's a safe place to spend the night if you've got nothing else.

### On Academics:

-It's okay to ask for help!

-When you're looking for help, don't always look within your year, and don't always look within your discipline.

-Find something to do other than school, or you WILL lose your mind!

-Your TAs are getting paid to help you! Don't ever let them forget that!

-The point of an engineering education is not to learn physics, calculus, chemistry, or circuits. The point of an engineering education is to learn how to learn.

-If something happens to you that may affect your performance, document it, even if you don't think it will matter in the end.

### On Housing:

-When you're looking for housing, if it looks like a hell-hole, it probably is!

-Your landlord must give you at least 24 hours notice prior to entering your home, except in the case of an extreme emergen-

cy or if you call him/her.

-The Waterloo Tenant's Act can be found at <http://www.ontariotenants.ca/law/act01.phtml>. Familiarize yourself with it and it will save you a lot of grief.

-Always check inside cupboards and under the sink for things such as mouse droppings before committing to a house.

-One roach in the hand is worth a thousand in the wall.

-You can default on a lease if there is a problem such as vermin.

-A nice house is never worth a bad landlord.

### On Saving Money:

-Volunteering for events can get you both free food and free clothing. Don't ever underestimate this. A well-informed student can eat for free for up to a week at a time.

-Bulk pasta and tomato sauce is both cheaper and healthier than Kraft Dinner. Lentils and rice also beat KD.

-Learning to cook will save you money.

-The CnD is the cheapest place to eat on campus, possibly even in Waterloo.

-Dinner at East Side Mario's should ALWAYS last you at least 2 meals, 3 if you do it right.

-Never bring a debit or credit card with you when you go drinking. Only bring the amount of cash you want to spend and no more.

-Having a party at home is cheaper than going to the bar. Having a "movie" night at home is even cheaper.

-Just because a fee is refundable, doesn't mean you should get it back. Always take

the time to learn what the money is for before you get a refund.

### On general survival skills:

-Never go anywhere without your Wat-Card. You never know when you may need to catch a bus, get a student discount, etc.

-Mary Bland is the source of all knowledge. Do not piss her off, and show her the respect she deserves.

-It's cash only and no backpacks in the CnD

-Don't stir your coffee like a maniac when you're in the CnD.

-If you can't see all of the dishes in the sink, it's time to wash them.

-Growing mold in your kitchen/dining room/bedroom is not a science experiment that will help you get places in engineering.

-You have plenty of free time. Learn to recognize it by getting your act together.

-If you try to touch the TOOL before you get your ring, expect to get beat up.

-Conferences are a great way to meet new people, make new friends and make industry contacts.

-Volunteering is a perfectly legitimate way of getting volunteers.

-Make friends with upper-year students.

-Everybody needs at least one really good friend. If you are that friend to someone, don't ever let him or her down.

-The only time in your life where people will beg you to take on a leadership role is when you are in university. Take advantage of that.

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**\$2 BUCK TUESDAYS - EVERY TUESDAY**

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#02

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# What To Do During O-Week

**KEVIN JOSEPH  
& AMMAR MASUD**  
2B NANOTECHNOLOGY

Hey guys and girls and engineers! Welcome to Waterloo! We know you are super-excited to be here and cannot wait to experience the university life you have heard so much about. Just keep in mind that fun will only fall onto your lap so many times. To really get the most out of your time in university, you need to take some initiative. Here's a list of things for you to do during Frosh Week to help you get started:

- [ ] 1. Earn your hardhat
- [ ] 2. Wear protection (hardhat)
- [ ] 3. Wear protection (not hardhat (condom (like, for sex)))
- [ ] 4. Meet someone from each faculty
- [ ] 5. Meet upper-years
- [ ] 6. P.O.E.T.S.
- [ ] 7. Impress EDCOM
- [ ] 8. Don't piss off EDCOM
- [ ] 9. Go from DWE to MC without stepping outside
- [ ] 10. Find the Chamber of Secrets
- [ ] 11. Don't lose the game
- [ ] 12. Visit the petting zoo
- [ ] 13. Explore the trails around campus

- [ ] 14. Find the swimming pool in PAC
- [ ] 15. Find the art gallery at ECH
- [ ] 16. Try food from the CnD
- [ ] 17. Find a window in MC
- [ ] 18. Find a windowless room in E5
- [ ] 19. Meet an international student
- [ ] 20. Find out what your program actually is about
- [ ] 21. Learn what it means to be PURPLE
- [ ] 22. Find the First Year Office
- [ ] 23. Find all the engineering computer labs (Fulcrum, Helix, Lever, Multi-Media, Pulley, Wedge, WEEF, Wheel, Gear)
- [ ] 24. Get to know your don
- [ ] 25. Find out how many days until IRS
- [ ] 26. Find CPH 1337
- [ ] 27. Update your resume in HTML
- [ ] 28. Don't get dehydrated
- [ ] 29. Explore the Waterloo Area (including Uptown and Conestoga)
- [ ] 30. Get your Watcard
- [ ] 31. Have a pillow fight

So what do you get for completing the list? Nothing! How about satisfaction? Why are you so greedy? Jeez, kids these days.

# Iron Chef: Purple Noms

**ALISON LEE**  
2T NANOTECHNOLOGY

So you may have noticed a few purple people around campus during O-Week. Even if you're not into being purple on the outside, be purple on the inside by eating purple food! Purple foods are often high in flavonoids, which are good for your cardiovascular system, although don't expect too many flavonoids in a purple Slurpee. This is a list of foods you can consume to get your purple on.

**Jell-O:** You bought a jumbo box of grape Jell-O that failed to dye your skin? You can still eat it; at least it'll dye your tongue purple.

**Popsicles:** Surefire way to turn your entire mouth purple, not just your tongue.

**Blueberries:** Frozen in a smoothie, or mmmblueberryice creamfromMarbleSlab.

**Red Cabbage:** Purple in neutral solutions, pink in acid, and blue in base. It's nature's pH indicator!

**Eggplant:** You can call it aubergine if you want to sound fancy and French. Mais oui, j'aime manger les aubergines et tout ce qui est en mauve!

**Beets:** But don't eat too many at once—they can turn your urine red because not everyone can digest the colour pigment. No joke, the

condition is called beeturia.

**Plums:** Get these fresh at the UW Farmers Market every Thursday.

**Grape Drink:** I think "purple" is actually on the ingredients label...

**Freezies:** One of the infamously unpopular Freezie flavours... take pity on the Purple!

**Erythrosine and Indigotine:** Blue and red food colourings that give your freezie that natural purple colour.

**Slurpees:** Try not to drink 2L at once, but these are high in erythrosine and indigotine.

**Blue Corn Chips:** Purple enough!

**Taro:** In the land of purple bubble tea, taro reigns supreme (over grape... it's a two-flavour kingdom)

**Cadbury Chocolate:** What? The wrapper is purple.

**Prunes:** Fiber to keep you regular.

**Violets:** Yes you can eat them! They are often candied and put on fancy cakes, so go to a fancy cake shop.

**Purple Cow:** Blend vanilla ice cream with grape soda, milk, and ice cubes, and voila!

**Jelly Bellies:** The purple flavours are wild blackberry, grape crush, mixed berry smoothie, plum, sour grape, and island punch.

**Smarties:** Eat the purple ones last :)

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 <b>Wasabi</b> SUSHI BAR	 <b>FEDERATION XPRESS</b> CONVENIENCE STORE	 <b>FedsUsedBooks</b> USED BOOK STORE

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 CAMPUS RESPONSE TEAM	 FOOD BANK	

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**WatSUP**  
WATERLOO STUDENT UNIVERSITY PLANNER

PICK UP YOUR FREE COPY OF WATSUP - WATERLOO STUDENT PLANNER AT THE FEDS OFFICE, SLC

OR SCAN HERE TO DOWNLOAD IT RIGHT TO YOUR SMART PHONE!

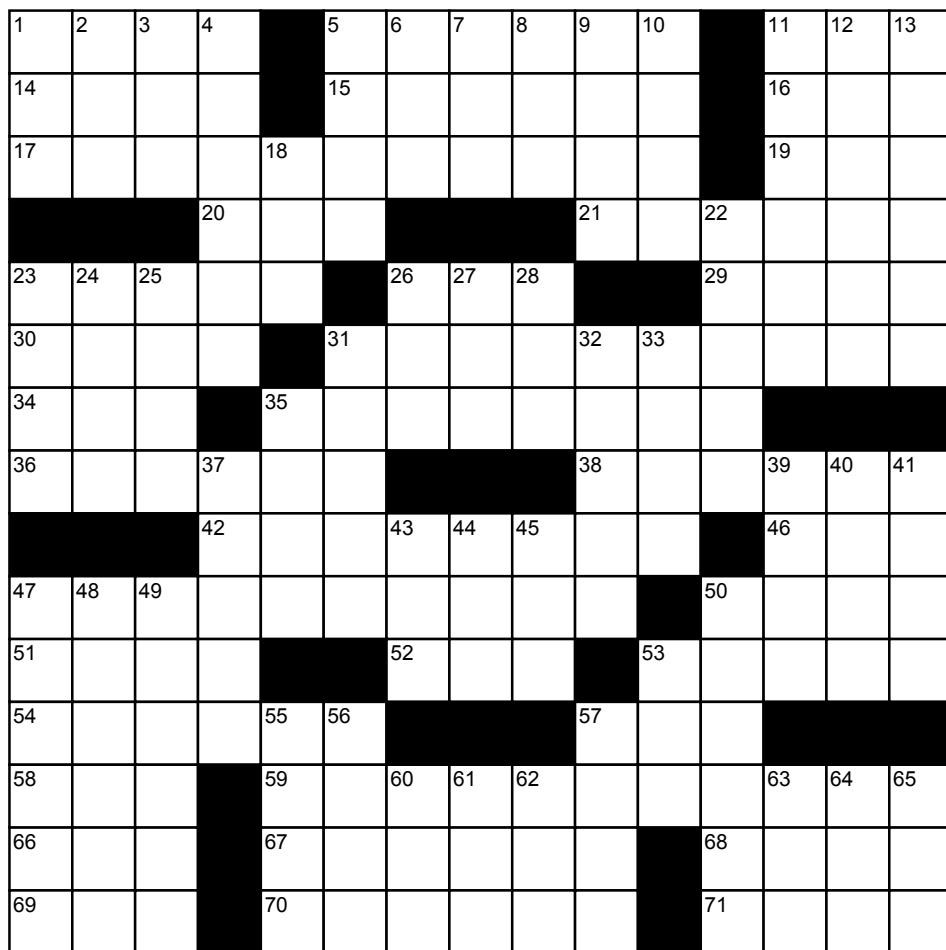


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# Welcome to Campus!

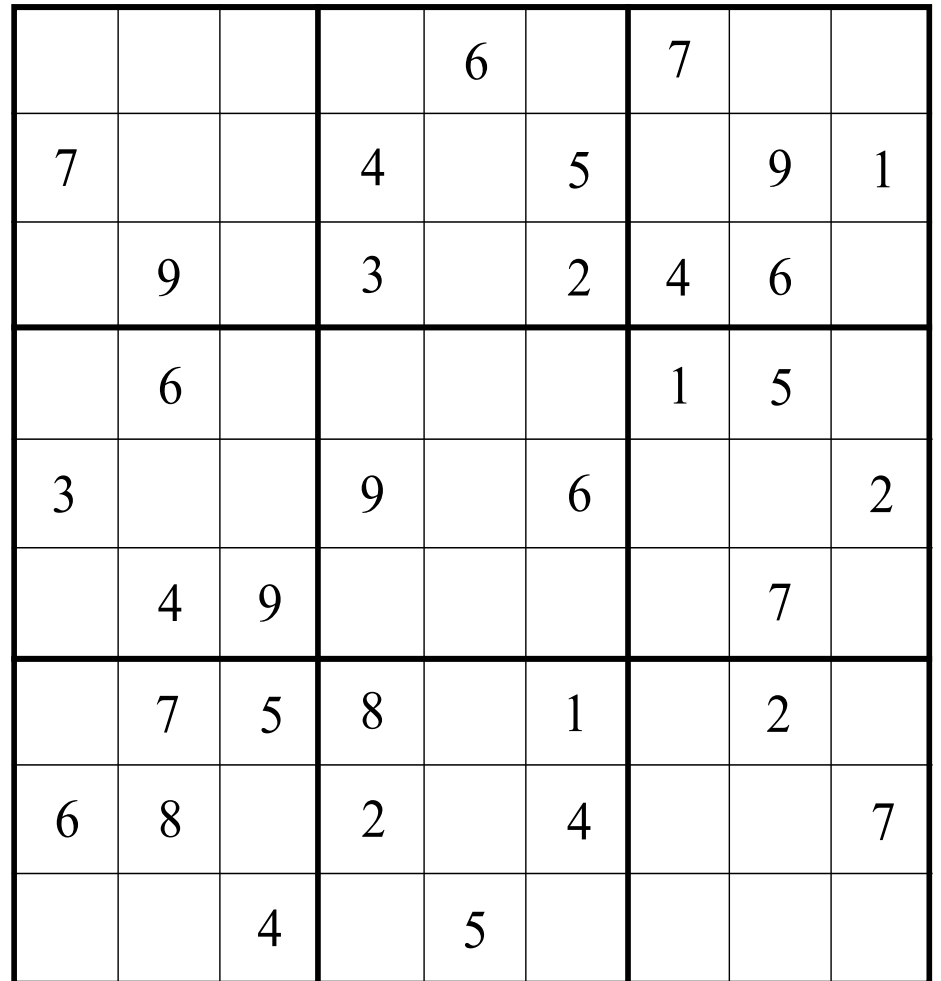
By Stuart Linley



www.CrosswordWeaver.com

# Sudoku

By Jacob Terry



**ACROSS**

- 1 Crazy go-with
- 5 Harm
- 11 Swimsuit piece
- 14 Dynamic or smith prefix
- 15 Open
- 16 Propeller, of a sort
- 17 Registrar locale?
- 19 Hook up
- 20 Crazy
- 21 Itty-bitty
- 23 Split, as legs
- 26 Steal
- 29 Bride's accessory
- 30 Liability
- 31 Primary residence?
- 34 King in the ring
- 35 Widening
- 36 Abut
- 38 Intense dislike
- 42 Cash repository
- 46 Cattle rebuke

- 47 Sugar Cube?
- 50 Caulk
- 51 Romantic couple
- 52 Barbie beau
- 53 Was human
- 54 Meet
- 57 WWII battle site: \_\_\_ Jima
- 58 Mining site
- 59 Silica Basilica?
- 66 Before, poetically
- 67 Purposeless
- 68 Pre-weigh
- 69 Embarrassed
- 70 Lent
- 71 Thailand, once

**DOWN**

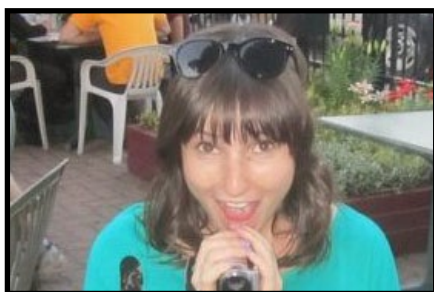
- 1 Diego or Antonio go-with
- 2 Start a game: \_\_\_-off
- 3 Fury
- 4 Angler
- 5 Took to court

- 6 High speed network?
- 7 Fire remnant
- 8 Homonym of 2-Down
- 9 Cease
- 10 She, to Pierre
- 11 Indonesian island
- 12 Sultana
- 13 Country club pattern
- 18 Set
- 22 Happening
- 23 Thick cut
- 24 Country club wear
- 25 Hideout
- 26 Zip
- 27 In the style of
- 28 Sandwich type
- 31 September sign
- 32 Assistant
- 33 Wanderer
- 35 Type of end
- 37 Fine art
- 39 Arab top-dog

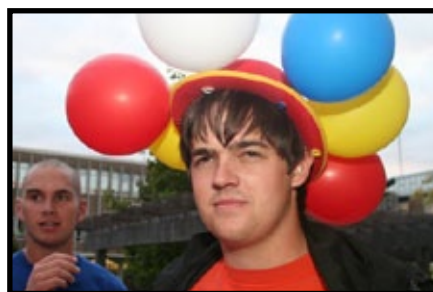
- 40 Foot part
- 41 Informed
- 43 Frustrate
- 44 Saint: Fr.
- 45 X
- 47 Nappy
- 48 Dress
- 49 Caught
- 50 Battlefields
- 53 Ovine female
- 55 Billy \_\_\_
- 56 Northern alliance
- 57 Killed
- 60 Through
- 61 Salt component
- 62 Compass dir.
- 63 \_\_\_-Chi
- 64 Period
- 65 Deep sleep

**THE IRON INQUISITION**  
Ammar Masud, 2B Nanotechnology

## "What are you most looking forward from your University Experience?"



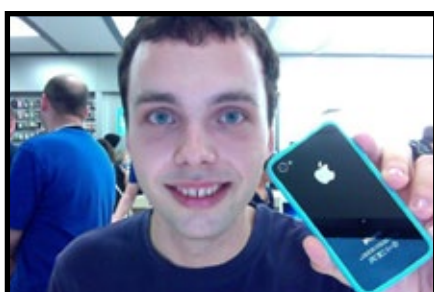
*"All my friends, and the shiny ring"*  
Melissa Deziel, 3B Management



*"Putting a ring on it (my pinky)"*  
Graeme Scott, 2T Chemical



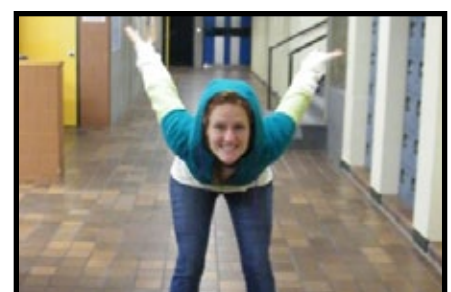
*"Mad Cheddah"*  
Krishna Kris, 2T Nano



*"Reaching the point where I can comfortably balance grades and non-academic activities"*  
Jacob Terry, 2A Nano



*"It just gets better and better as the years roll on"*  
Steve Jobs, Former Apple CEO



*"I want my ring, and I like froshweek"*  
Stephanie Burgess, 3N Environment