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THE IRON WARRIOR

THE NEWSPAPER OF THE UNIVERSITY OF WATERLOO ENGINEERING SOCIETY

VOLUME 37 ISSUE 10 | WEDNESDAY, JULY 23, 2014



The Gaza Strip: Recent Developments

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How our Co-op Fee is Spent

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3D Printed Prosthetic Limbs

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The Alternative Future

A Look at a Student Design Team that is Making Eco-friendly Cars a Reality



UWAFT

UWAFT designs and builds vehicles aimed for the future.

PATRICK CARROLL & BEN GAFFNEY UWAFT TEAM MEMBERS

This past June, the University of Waterloo Alternative Fuels Team (UWAFT) was at the GM proving grounds in Milford, Michigan to take part in the final evaluation of the EcoCAR 2 competition: a North American engineering collegiate competition sponsored by the US Department of Energy and General Motors. Competing against 14 other schools from across North America, UWAFT looked to make a car that was innovative, eco-friendly and performance driven while maintaining consumer acceptability. This vision was realized through a 2013 Chevrolet Malibu, converted into a Series Plug-in Hybrid Electric Vehicle. The car can run on pure electricity as well as E85, a biofuel that burns cleaner than regular gasoline and can be made from corn or sugar cane. The idea is that one day, eco-cars such as UWAFT's will become a standard design in the automotive industry.

The competition, of course, started long

before the final events in June. Three years ago, UWAFT selected its vehicle architecture and looked at different areas where the stock car could be improved. Since then, the technical team has put many hours and all-nighters into making this design work. Advanced tools such as Hardware-in-the-loop simulation and CAD allowed the team to design their vehicle without the car in front of them. UWAFT and the EcoCAR competition follow an advanced model-based design process, which is developed from GM's own vehicle design process, made up of specific design milestones and objectives during vehicle development.

On top of technical work, a recently developed partnership with Wilfrid Laurier University allowed UWAFT to expand the business and communications areas of the team. On the outreach side, the team has continued to attend numerous events such as EcoFest and Waterloo Earth Day. These events have been great opportunities to reach out to the public and educate people about alternative fuels, and the EcoCAR 2 competition. The business team has also

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UWAFT

The modified Chevy Malibu can run on both pure electricity and E85 biofuel.

Thanks for a Wonderfully Average Term!



NINA FENG
EDITOR-IN-CHIEF

Hello there, fellow human (or whatever you are). Thanks for picking up the last issue of *The Iron Warrior* in Spring 2014!

Exams are coming up, good luck studying for them. Please try to eat and sleep meanwhile.

You can always distract yourself by doing the crossword. Hope you're successful in completing at least the easy Sudoku puzzle (if you can't, blame the puzzle generator, it seems to overestimate our abilities).

This term's gone by fairly quickly. I don't feel like I've done anything remotely interesting these past four months, but at least I've got newspapers to keep me warm. Aside: a classic hobo trick for keeping warm outdoors (especially when sleeping) is stuffing your clothing with crumpled newspaper.

I want to thank anyone and everyone who contributed and helped out with the paper this term, because things wouldn't have gone remotely smoothly without you. Special thanks to the fantastic staff who help to write, edit, and lay out the paper every issue. As always, acknowledgements need to go to Alex Lee and Nancy Hui for coming in every production weekend. Also joining us on production weekends is Jessica Keung, inquirer extraordinaire who writes hilarious articles, and who will sadly be going off term now. You will be missed.

Thanks to our copy editors, including Elizabeth Salsberg who always writes several articles as well as directing distribution every other Tuesday. Badass. Props to Nachiket Sherlekar, who is probably the first person in a while to come and learn layout (but who will unfortunately go off term). Krishna Iyer, you've got a potential successor now so you don't have to worry about being a sketchy grad (you should still drop by though, even if only to play us some Action Bronson).

This term had a lovely influx of more investigative journalism pertaining to the university, thanks to Matt McLean who somehow always knew who to talk to in order to get detailed information. Very impressive indeed. Shout out also to Sung Eun Kim, a Masters student who finds time to volunteer for several articles per issue.

They've started playing the elevator music now and that means this speech must be accelerated, so thanks to Alex Toth for always consistently submitting articles in good time, to Meagan Cardno for accepting random articles and for her Game of Thrones rants, and to Brian Chan for his tips on how to live that I will fail at following. /end speech

Moving on... for those of you who'll be around for the Fall term, you're in fantastic hands with incoming Editor-in-Chief Leah Kristufek, who's also helped out so much this term. She's sure to run this show a hell of a lot better than I did. Heading into Winter term, the EIC will be Nancy Hui, for what I feel are obvious reasons. Just read the paper sometime, Nancy dominates this thing. It'll be pretty bomb.

As for my thoughts on my own performance this term, I feel comfortable saying that it went fairly well, and I didn't colossally mess up. I finished up the switch into the new work station by doing the final set-up stuff. We can now work pretty much work exclusively off of the new monster computer. An attempt was made to upgrade Wordpress but the password didn't work, for unknown reasons. Will attempt again later. Also the website seemed to need some tweaking, but man oh man did it prove to be a bigger job than originally expected. As of right now, our website looks super weird though I can't fathom what's gone wrong. It's just done interesting things without any of us having done anything. I hope to properly have a look at it after exams. Maybe I'll fix something. No scandals occurred this term, and our budget looks pretty darn good for a summer term. Exciting stuff, that is.

There are many "goals" and objectives that I hope to help with in future terms. We still haven't gotten those new racks put up (ex. in E5), and it's been like two years now... we'll see how this plays out. I also hope to see a door code system finally implemented, or at the very least the creation of some new keys for this room. It's a miracle I didn't lose the only copy (knock on wood). As mentioned above, the website needs major upgrades. I think that a dedicated web designer needs to focus on it for a bit in order to either fix the current problems, or revamp it entirely. The room needs to also be cleaned up, and I plan on doing so in the days after my exams. Major organizing and trash-tossing is in store.

We're also in dire need of new members. Hoping to snag some first-years this fall. This is thanks to the Bi-Socsual nature of the Nanos who make up so much of our staff. Dammit guys. Everybody's leaving on an 8-month co-op. For anyone interested in writing, editing, taking photos, drawings comics, ANYTHING, we'd love to see you, so come out next term!

This has really been quite the term. Definitely the busiest academically, even without the paper going on. A lot was learned in terms of life skills. A lot to say to interviewers, really. Guess I can say the pain was worth it.

So here they are: lessons learned from being EIC (hopefully you can find them transferable).

The big thing (covered previously) is that time is really tight when you have multiple things to contend with. School by itself is supposed to take up nearly all of our time. Should you choose to take on other responsibilities, some sacrifices will have to be made. The sad truth is that many social gatherings, be it going out Friday night or even joining an intramural sports team, will be nearly impossible to fit in whilst still fulfilling all responsibilities. Among these are those nights that you decide to "take off". Maybe you don't have something due the next day for once and you think it's okay to watch a movie or colour in a colouring book. I can guarantee that that'll come back to bite you in the ass. Structure your time and try to stick to a schedule.

A strangely lucky thing is that once you reach this level of business, you'll automatically be more productive when doing tasks. I thought I had the worst procrastination problem coming into this term, but I can honestly say that I've wasted much less time knowing how much needs to be done. That being said, if you're still prone to time-wasting, figure out why. Why do you feel the compulsion to avoid work? If you've talked yourself into believing that you'll be fine putting things off, you must stand up to yourself and start trying to let logic take over. What's the point in waiting? After a time, you'll eventually enjoy putting the work in, and will be able to treat every task done ahead of time as a victory. Sweet, sweet victory.

Another few skills picked up this term include leadership and management. This isn't my strongest of suits as I've grown up to be the biggest pushover, despite having been much better at younger ages. In this case I still have a long ways to go, but I've learned that if you're not assertive, shit won't get done. Pester people (not too much though!). Voluntell people to do things. Don't be afraid to boss up. You got this. You have shit to oversee, and goals to achieve. If politeness doesn't do it, switch gears. Make eye contact. Ask specific people to do things, rather than asking the whole room. The bystander effect is real, and it totally happens in meetings as well. You know that awkward moment in class when the prof asks a questions and nobody says anything? Yeah. You understand really quickly why they then decide to just pick on people.

That being said, courtesy and respect goes a really long way, so never ever treat the people you're working with like they're inferior in some way. Don't be an asshole. Find a balance.

Well then, that's it for me. There's so much that I'd wish I'd done, but so much that I feel I've accomplished. Thanks again to everyone who helped make this happen. Good luck on your exams, see you next term (Leafy Thoughts might be coming back)!

THE IRON WARRIOR

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of Waterloo Engineering Society

Editor-in-Chief

Nina Feng

Assistant Editor

Alex Lee
Nancy Hui

Layout Editors

Alex Lee
Krishna Iyer

Copy Editors

Alex Lee
Elizabeth Salsberg
Leah Kristufek
Nachiket Sherlekar
Nancy Hui

Advertising Manager

Alex Toth

Circulation Manager

Elizabeth Salsberg

Web Editor

TBA

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Alex Lee
Alex Toth
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Next Issue: September 2014. See you next term!

Send your submissions to iwarrior@uwaterloo.ca

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

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

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

Mail should be addressed to The Iron Warrior, Engineering Society, E2 2347, University of Waterloo, Waterloo, Ontario, N2L 3G1. Our phone number is (519) 888-4567 x32693. E-mail can be sent to iwarrior@uwaterloo.ca

The Fight for Gaza Has No Winners



**NACHIKET
SHERLEKAR**
3A NANOTECHNOLOGY

The Israeli-Palestinian conflict is one of the most long-drawn and tragic periods of history, with an untold number of casualties and victims. Yet the core reason behind this seemingly endless stand-off is simple – it is a case of occupation of land. Of course, with this fight over land has come countless other problems, including the displacement of countless families on both sides of the border, accompanied by their loss of home and livelihood. The tales of civilians in Gaza and other affected areas nearby are indeed terribly sad and depressing, and sometimes shocking and atrocious.

There are multiple players in the Gaza

Strip conflict. The Israeli government and the Palestine Liberation Organization are two parties that are engaged in direct negotiation. Within Palestine, there are two major factions: Fatah and Hamas, which represent two political parties in the region. There are also several international players, including the United States, Russia, and the European Union, that operate with their own vested interests and influence the situation through the supply of aid, etc. Of course, the United Nations has played a big role in attempting relief efforts in the region, and has Gaza high on the list of human rights violations. After the 2006 elections, the Hamas came to power, causing the US and EU to drop much of their funding to Palestine. In 2007, Hamas forces occupied the Gaza Strip, causing a rift in the area, with the Gaza Strip occupied by the Hamas and the West Bank occupied by the Fatah.

While there have been attempts at peace talks on several occasions, these attempts have generally resulted in extending the conflict, and with the violence carrying on unchecked, there are an increasing number of delays to the possibility of resolution.

The last two weeks saw the escalation of attacks and some of the deadliest conflicts that have happened in Gaza, with the death toll rising to an unprecedented number over the weekend. With Israel expanding their offensive against the Hamas militants, scenes of families ripped apart and parents and children suffering alike have flooded the media and social networks. The violence continues unabated, causing relief efforts and medical treatment of the victims to only get harder. As usual, people on both sides of the issue have strong opinions on the whole matter. This is not to say that these debates and discussions are bad, they are in fact a

healthy way to inform more people about the situation at hand.

The unfortunate truth, however, is that there is no black and white in this situation; both sides have reasons to feel that they have been wronged. It goes without saying that killing of innocent civilians, including women, children, and the elderly, is unquestionably immoral. It is also clear that both sides have participated in these acts, sometimes even to their own people. Individuals choose to fight for their side not because they wish to cause harm to the enemy, but because they wish to protect their own families. This has created a vicious cycle, where people who have lost dear ones to the conflict help to escalate it even further. As long as hard-liners are in charge on either side, it does not seem that the Gaza conflict will be resolved anytime soon.

Worst Ebola Outbreak is Still Out of Control



NANCY HUI
4A CIVIL

The most severe Ebola outbreak in recorded history has been plaguing West Africa since February 2014.

Ebola is a viral disease. Its symptoms include fever, throat and muscle pain, and headaches. This is followed by nausea, vomiting, diarrhea, and organ failure. At this point, hemorrhaging begins in the mucous membranes, including the gastrointestinal tract, nose, and lungs.

Ebola is spread by direct contact with the bodily fluids of infected humans and animals, including fruit bats and monkeys. Ebola can also be sexually transmitted.

There are no treatments for the virus apart from oral or intravenous re-hydration, thus Ebola has a fatality rate between 50% and 90%.

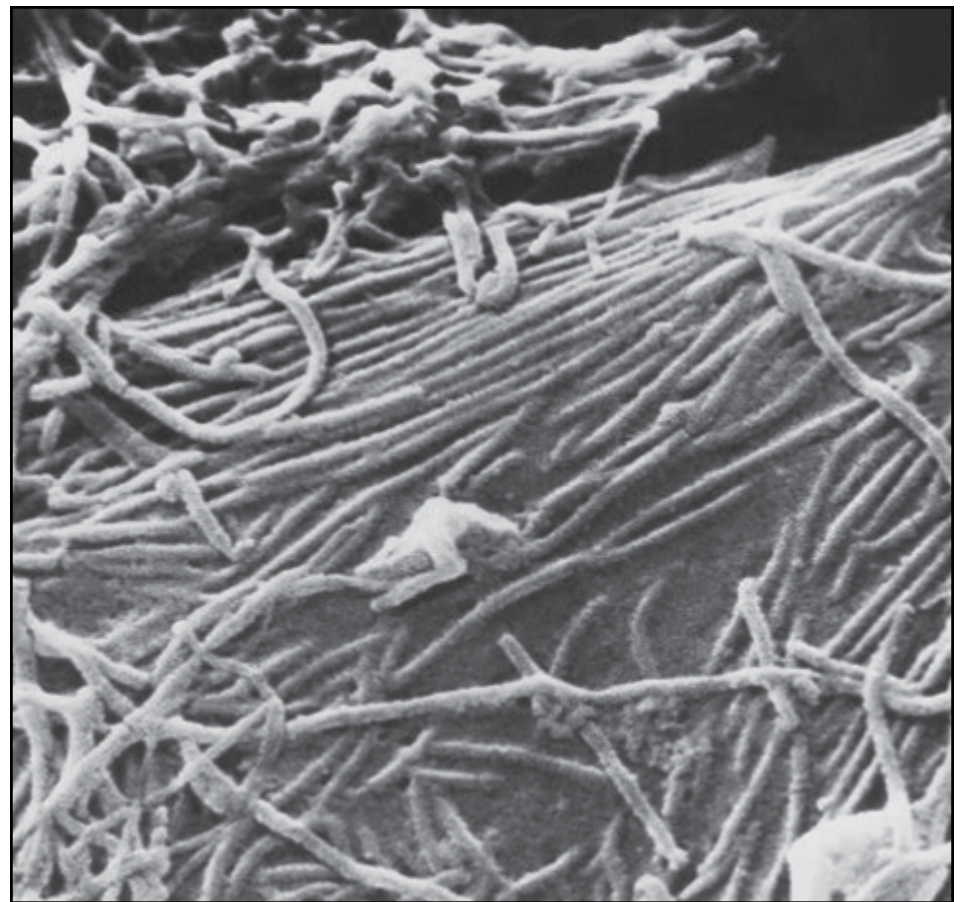
The outbreak originated in Guinea, and spread to Sierra Leone and Liberia. To date, there have been at least 1048 infections and 632 deaths, translating to a mortality rate of 60%.

Guinea, Sierra Leone, and Liberia

have activated their national emergency committees. International travel restrictions have also been placed. Doctors Without Borders described the situation as “totally out of control”, due in part to insufficient personal protective equipment, widespread unhygienic funeral practices, poor existing health infrastructure, and public belief that the disease is caused by witchcraft and that the doctors are killing the patients. There are currently 300 Médecins Sans Frontières staff in Guinea, Sierra Leone, and Liberia.

Should we worry about the outbreak spreading to Waterloo? Ebola is typically only found in tropical regions of Sub-Saharan Africa, with the exception of the Reston ebolavirus, which was discovered in 1990 in macaques in a Virginia laboratory. The potential for a global Ebola epidemic is considered low due to the high fatality rate and short incubation period. Furthermore, Ebola is only transmitted through direct contact with infected bodily fluids, thus it has a fairly low transmission rate if proper precautions are taken. Passengers ill with Ebola during previous outbreaks have taken flights to seek medical treatment abroad without infecting other passengers.

Thus, avoid touching any bodily fluids and you’ll be good to go.



Public Library of Science

The Ebola virus has been a major issue in West Africa of late.

University of Waterloo Alternative Fuels Team

Continued from Front Page

been helpful in securing sponsorships, managing human resources and budget tracking. Although these may seem like nominal tasks compared to building a car, these two sub-teams have been key to keeping work on track throughout the competition.

The second and third years of the competition saw UWAFST implement the design into the car and refine it for optimal performance. As the competition approached, there was a lot of time and energy devoted to make the EcoCAR a reality. The controls, electrical and mechanical teams had to work closely together to integrate all of the intended components into the car; a challenging process considering that UWAFST’s Malibu has three electric motors, an engine, and a Lithium-Ion battery pack!

At General Motors’ Milford Proving Ground for the year three competition, UWAFST had worked alongside a dedicated GM technician fixing any last minute issues which arose during vehicle testing and refinement. A lot of work was put in in only a few short days! However, during one event, the car’s belted generator system suffered a catastrophic failure when the idler pulley broke. The team pushed on to

complete as many events as possible, and performed well during the accompanying design presentations by impressing many high ranking engineers and executives. The team ended up placing 11th out of 15 teams. A lot of lessons were learned from the EcoCAR 2 competition, and the team is eager to draw on these for years to come.

Today, UWAFST is looking forward to the beginning of EcoCAR 3 in September where the team will have four years to redesign and rebuild the first ever hybrid Chevrolet Camaro. The team is always looking for new members and there are plenty of places to help out. Through the development of a road-worthy, full-size passenger vehicle, UWAFST members perform the exact same work as full-time engineers; in all areas of the vehicle from HMI development, to embedded control systems and mechanical system design. UWAFST is looking for students in all areas of engineering. Through outreach programs and advanced vehicle technology competitions, UWAFST is constantly striving to develop innovative solutions to the world’s environmental challenges. As many UWAFST alumni can attest, this experience is a great way to develop engineering skills and can directly lead to exciting job opportunities.



UWAFST

UWAFST participates in community outreach events such as EcoFest.

This is the Way the Term Ends; Not with a Bang but With a Party!



ALLYSON FRANCIS
PRESIDENT

Hello (and goodbye) UW! This will be my last IW update for the term until I see you all again in the Winter term. Exams are coming up fast, but we have squeezed as much excitement as we can into the one week that we have left!

This Thursday the 24 of July, Feds and EngSoc have teamed up to bring you FEngSoc Day, a 24/7 day of fun! We will kick things off on Wednesday night with the last EngSoc meeting of the term, a licensed coffee house and 75 advance tickets to get a line jump for that night's Bomber Wednesday, which can be purchased in the Orifice (CPH 1327) for \$3!

Thursday morning, Feds will treat

everyone to a free pancake breakfast while quantities last, and then starting at 11:30 am in CPH courtyard, EngSoc and Feds are hosting a fun fair! We will have a bouncy castle and a gladiator joust game set up, with Boggan burgers for sale and free freezies and bubble tea! We also will have a photo booth and some fun EngSoc and Feds swag to try on for the camera.

In the afternoon, we are holding a water fight (weather permitting), so make sure you bring a change of clothes!

The night will then phase into Thursday night Trivia at Bomber, followed by the door prize draws, during which exec will each get a pie to the face! Make sure you don't miss it! And if you were a director for EngSoc this term, stick around afterwards for some yummy appetizers and a fun night at Bomber to celebrate the end of the term with Feds.

I forgot to mention the best part: this event is open to ALL FACULTIES as

EngSoc's way of celebrating school spirit within the university as a whole. Make sure you invite your friends from the other faculties! For official event details, check out the Waterloo Engineering Society Facebook page at facebook.com/uwengsoc, or go to engsoc.uwaterloo.ca/events.

Also, the very next day, EngSoc is also hosting its traditional End-Of-Term party in POETS, so make sure you take the opportunity to enjoy these last few carefree days before finals!

On a more serious note, opportunities to provide feedback to exec as well as the Society as a whole will be circulated via the mailing list, so please take a moment to let us know how we did this term and what you would like to see from us in the upcoming Winter term! We also will be publishing all Freezie Friday responses from the term so that students and faculty can see what students really think of their

experience at UW. Your responses will be used to determine what initiatives we will pursue on your behalf for the remaining duration of our time as exec.

What's next for EngSoc? We are continuing to gear up for Orientation Week, so if you will be in Waterloo, make sure to check out our EngSoc day celebrations, the Charity Headshave and ComEng, our three big events on September 7!

I also just wanted to take this opportunity to say thank you for a great term B-Soc, I really enjoyed meeting all of you and working with you, and I am very excited to be back with you in the Winter term! As always, if you have any questions, or have anything else you'd like to hear about or ask me, please don't feel shy to send me an email at president.b@engsoc.uwaterloo.ca anytime during the co-op term, and I'd be happy to chat! Talk to you soon, B-Soc!

Contests, Committees, Collectibles and Cash



MELISSA FERGUSON
VP FINANCE

Hey everybody! There is some exciting news in the world of finance this week!

First off, I would like to say that the Novelties Fire Sale went very well last week. A lot of old merchandise is now SOLD OUT which means that we will need a lot of new merch to help fill the shelves. Unfortunately this does mean that the EngSoc mousepads and licence plate covers will no longer be sold in Novelties *sadface* but I for one am really looking forward to getting in some new exciting swag!

Speaking of new and exciting swag, winners have been selected for the Novelties design contest! Congratulations to Heather Smith, Brendan O'Hanlon, and Matt Vibert-Adams for their winning designs. Keep your eyes out for a new CANstruction patch, a NANO PATCH (woop, woop), and a new ceramic mug

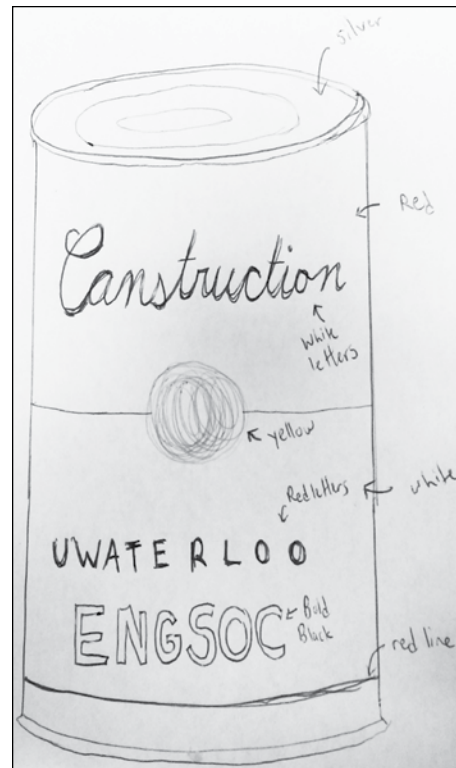
design. The designs will be in stock by next term. You can see the concept drawings for each of the submitted designs, and keep in mind that these are still just the concept drawings, the final products will be much prettier and laid out better.

We will also be bringing back the old Tool Bearer bobble heads to Novelties. They will end up costing \$20 each and we are able to get more manageable order sizes so we don't have our stock room completely full with bobble heads.



The final piece of news I have is regarding ECIF and Sponsorship for this term! Unfortunately this article was due before the Sponsorship and ECIF allocations were approved by council, but if you want to know the approved allocations you can attend the EngSoc meeting on Wednesday July 23 at 5:30 pm in POETS!

That's all for this term! I hope that all of you are pleased with the work I put in this past term, and if you have any suggestions for how I can improve next term please let me know!!

Good luck on exams!



Left: CANstruction patch concept!
Top Right: New ceramic mug!
Bottom Left: Nano patch concept!

Upcoming Events Calendar							
Wednesday July 23 EngSoc Meeting #6 17:30 - 19:30 DWE 3522 Coffee House 19:30 - 22:30 POETS	Thursday July 24	Friday July 25 EOT Party 19:00 - 21:00 POETS GradComm Event	Saturday July 26	Sunday July 27	Monday July 28	Tuesday July 29	Check out up-to-the-day event postings on the EngSoc website at engsoc.uwaterloo.ca  
Wednesday July 30 Lectures End	Thursday July 31	Friday August 1	Saturday August 2	Sunday August 3	Monday August 4	Tuesday August 5 Exams Begin	

Term in Review



SARAH-ROSE LANCASTER
VP EXTERNAL

At the beginning of the term I outlined what I planned to accomplish during my term in office. While I didn't accomplish everything I planned to do, I believe my contributions helped move the society forward.

First off, the Engineering a Difference program, run by Director Matthew Robichaud, was a great success. Engineering a Difference helped out at two major events

in the Kitchener-Waterloo area: the Walk to Fight Arthritis and the Discovery Days at Waterloo Square, hosted by the Children's Museum in Kitchener. Special shout outs go to everyone who volunteered and made Engineering a Difference a success.

Another goal I managed to accomplish this term was to continue the Alumni Speaker series. Lee Brooks, a Computer Engineering Alumni, gave a talk about his experiences as a Waterloo undergraduate and how they helped him become Director of Product Marketing at Sandvine Networking Solutions. The main theme of Lee's talk was to market yourself successfully to your potential employer,

even if you have never worked in their field of interest before. Lee gave one of the best talks by an alumni the program had ever seen, and the students who attended left with insight into how they could find success.

There were certain goals I didn't manage to accomplish this term, but plan on doing so in the Winter term. The main goal I have yet to achieve is to increase awareness and participation in the Engineering Student Societies' Council on Ontario (ESSCO) and the Canadian Federation of Engineering Students (CFES). I had planned to create a poster board display and use it to talk to students about how they could get involved

in ESSCO and CFES, however I didn't have the time to complete this goal. I plan on completing it in the Winter term, along with increasing our participation in National Engineering Month.

Other events under my portfolio that were successful this term were Canada Day Celebrations and the Waterloo Engineering Competition. Huge shout outs go to Janna Henzl for coordinating both of these events simultaneously. Much thanks also goes to the Waterloo Engineering Competition Directors!

That's it for me for this term. I hope everyone has a fantastic Fall...I am looking forward to seeing you next Winter!

ESSCO AGM

NEHA SHARMA
OUTREACH COMMISSIONER

This year I had the opportunity to attend ESSCO Annual General Meeting (AGM) at McMaster University along with 4 other delegates from Waterloo Engineering's B-Society. Through a variety of enlightening and interactive sessions we learnt about importance of mental health, planning a successful event, public relations, ethics of leadership, mastering the art of meetings and many more. In this article I will talk about only some of those sessions.

The mental health and leadership workshop talked about different mental health issues faced by Engineering students. Transition from high school to university is hard for everyone. Different environment, high expectations, maintaining high school averages, and juggling assignments and extra-curricular activities were some of the many concerns faced by the students. During our discussions we also talked about how engineers work well in teams and support each other unlike other programs that are very competitive. We learnt about different strategies that we could adopt to help those having a hard time. Being

more empathetic, patient, and encouraging always helps. At the end, they shared various go-to-people for dealing with these issues such as residence coordinators, faculty advisors, mental health office and peer-mentorship programs.

Planning an event soon? Worried about managing volunteers, venue, transportation, food, promotion and million other things? Worry no more, the next bit talks about the various strategies that could be employed for hosting a successful event which were discussed in the session "Empowered Event Planning" presented by McMaster's student success office. Follow the event planning cycle: Dream, Design, Deliver and Debrief and you are good to go. Brainstorming for ideas and setting SMART goals is an awesome start for an amazing event. If running a team, then one needs to learn the art of delegation for efficiency and development and later following up with the members

to check the progress. Now that you have designed the idea for the event, we would now switch gears to deliver those wonderful ideas. Setting up promotion strategies, reaching out to diverse students, and selecting volunteers are some

of the next steps. In the end, getting feedback from all the attendees helps in evaluating the success of the event and how it could have been improved.

I personally enjoyed the session "Managing public relations for Engineering Societies" very much.

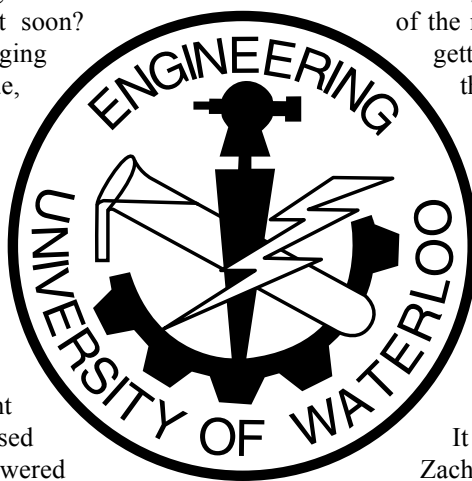
It was presented by Zachary Strong, McMaster alumni, in an entertaining fashion. It started with highlighting articles that had been published in the past that painted negative image of Engineering students in different schools and then transitioned into how we can handle or avoid those situations. Accepting mistakes and being humble helps cool down those situations.

The other session was on "Gender

composition of Canadian engineering students" which talked about gender differences in Engineering societies and presented data and trends for different programs in various Universities. Some disciplines like bio-systems, chemical, and civil engineering did not have a wide gap as other disciplines like computer, mechanical, electrical and others. Delegates from other universities talked about the various programs that are being run in their universities to support women in engineering.

On the last day, Howard Brown, President of Brown and Cohen Communications gave a talk on importance of positive representation as engineering students. Lastly we got a chance to visit the Canadian Warplane Heritage Museum, which was an amazing experience on its own.

I would like to thank EngSoc for giving me the opportunity to attend this conference where not only did I learn a lot from all the sessions but I also got a chance to meet executives from other engineering societies and we got the chance to share our experiences and different practices followed by our engineering societies. To sum it all, it was a great experience and I hope a lot more students get involved in EngSoc and make the best out of it.



End-of-Term Events!



MATHIEU TREMBLAY
VP INTERNAL

Hello, friends: the term is now coming to an end, but there are still a few cool things that will be happening before the term ends! Wednesday July 23 will be the second and final coffee house of the term. It will be in POETS right after the last EngSoc council meeting, and POETS will be licensed and serving beverages for the duration of the event. Come out for some coffee, snacks, and/or a beer with friends while listening to chill music performed by other engineering students! Then, immediately following the coffee house, is the kickoff to "FEngSoc 24/7", which will start at the stroke of midnight on July 24th and continue for a full day of activities. For specifics on that event, check out Allyson's presidential address in this copy of the Iron

Warrior. Then, on Friday July 25 is the End Of Term party in POETS from 7:00 to 9:00 pm, so come out for a final party before classes end and exams begin!

There are also rumours of both National Service Dogs puppies in POETS as well as a de-stress yoga session to help get you through exams. We're still working out the details for that, so stay tuned for more information on these events.

With this term wrapping up now, I'd like to give a shout-out and a huge thank you to all the lovely directors who helped put on all of our events and workshops this term! There's no way we could have put on as many cool things as we did this term without all of your help! If any of you want to help out again and run either the same directorships or new ones you haven't tried before, stay tuned for the opening of directorship applications in a couple of weeks!

Now it's time to enter exam crunch-mode! See you all in the winter!

Places to Study During Exams



PERMEG KENTH
VP EDUCATION

Hey Everyone,

This term is coming to an end and finals are right around the corner. Its time to get out those books, make sure your notes are complete, you have all the right answers to your assignments and most importantly, you have an ideal place to concentrate and study.

Sometimes studying at home may not be as effective because of many distractions and at times lack of motivation. Many students prefer to study on campus at libraries, study rooms, lounges and other areas for group study. In this issue I will be giving an overview of the study spaces available to us.

There are five libraries on campus that offer quiet study:

- Davis Centre (DC) Library - open 24 hours starting July 27
- Dana Porter (DP) library - open until 11pm every day
- Conrad Grebel (CGH), St. Jerome's (SJ) and Renison (RU) Libraries

If you prefer studying in a closed group environment where you can have quiet

discussions or a room to your self, then booking a study room is just the thing for you. DC and DP offer single study and group study rooms that can be booked in advance through their online system: bookings.lib.uwaterloo.ca/sbs/day.php. Additionally, the Student Life Centre (SLC) has nine study rooms that can be reserved either from the turnkey desk or online: bookings.lib.uwaterloo.ca/sbs/day.php. Also, the interview rooms in Tatham Centre (TC), when not in use, can be used for studying on a first come - first serve basis.

Our campus also offers many open lounges to students who don't quite prefer the silent study but enjoy being in a study environment. The DC cafeteria, SLC great hall, SLC basement, POETS, Math CnD, Modern Languages cafeteria, and Environment 1 courtyard are just some of the lounges that are available for studying in an open environment.

You can study pretty much anywhere on campus. From classrooms to the benches outside buildings, any location that makes you feel comfortable and motivates you to study can and should be used.

All the best for your exams!

If you have any question please feel free to send me an email on vpeducation.b@engsoc.uwaterloo.ca.



Lucas Hudson

Charge Your Phone Before Flying to the US



SUNG EUN KIM
MASC., ELECTRICAL AND
COMPUTER

The Transportation Security Administration (TSA) has announced earlier this month that powerless electronic devices will not be allowed on-board airplanes flying to the US.

This reminds me when I had my first flight experience when I was a kid. I had to donate my scissors to the garbage before entering the gate at the airport. I should say I learned my airport-packing lesson at the cost of a pair of scissors; I hope that nobody takes this lesson at the cost of their battery-low smartphone.

After the September 11 attacks, many airports worldwide have escalated their security level. In the U.S., in November 2001, the 107th Congress passed the Aviation and Transportation Security Act, followed by the establishment of the Transportation Security Administration (TSA).

Prior to 9/11, all U.S. airport security services were carried out by contract private companies. After 9/11, the TSA was taken place to strengthen the security

of the nation's transportation systems. The TSA took full control of this urgent makeover, including the recruiting, training and deploying of security officers at most airports, and providing luggage screening for any explosives.

As for that reason, by 2006, we were already familiar with the long list of items such as liquids, gels, aerosols or bottles that carried restrictions on quantity allowed, acceptable packaging and required screening.

These days, our U.S. air travel experience is completely different from that of the past. Increased security at airport can invade personal privacy, with outwear strip downs, removal of shoes and belts, body scans, and occasional pat downs.

It is taxpayers like us who will be picking up the bill for these services. For TSA's screening service and equipment, we now pay '\$2.50 September 11th Security Fee' per journey, which totalled as \$2 billion in taxes and fees to the TSA last year.

The customer experience is evidently lowered: Airlines had the lowest rating of American Customer Satisfaction Index (ACSI) in June this year, by a private survey. Also, demand for air travel has

been declined within the following few years of 9/11, discovered by the Impact of Post-9/11 Airport Security Measures.

Despite all the inconvenience, it doesn't seem that the U.S. air travel experience will be improved any time soon due to strengthened security screening.

US officials are now eyeing at the possibility of high-tech bombs placed in mobile telephones after they collected information that the bomb-makers from the Al-Qaida operatives in Syria and Yemen have been collaboratively developing explosives.

For direct US-bound flights from Africa, Europe and the Middle East, this electronics screening is already under practice. It is mostly Apple iPhones and Samsung Galaxy devices that gain the

most attention from US officials at the security checks.

The screening is now being expanded to a limited number of domestic travelers as well to turn on their laptops, phones and other electronic devices. However, the TSA did not reveal the selection of travelers publicly.

Once the electronic device selected for screening does not turn on, the passenger will not be permitted to board and may also undergo additional screening.

This means that you shouldn't deplete your batteries by playing too much with your phone, laptop or tablet, even if you are on a transfer flight. I would advise to carry all your chargers with you to ensure your electronics don't end up in the trashcan.



Intel Free Press

New U.S. rules require devices to be charged before boarding a plane

EngSoc Approves Referendum to Raise \$1 million in Funding for Engineering 7

MATT MCLEAN
4A MECHANICAL

On June 22, the EngSoc Joint Council approved a referendum on whether or not to collect a \$25 per term optional student fee for the building of Engineering 7. The referendum is contingent on the approval of Engineering 7 by the Board of Governors in late October 2014.

The optional fee will be collected after E7 is completed and open for use, and will continue to be collected until the fund totals \$1 million. Any additional funds collected above the one million will be used to furnish undergraduate student spaces in the building. The fee may be refunded in a similar process to the Stanford Fleming Foundation Fee or the WEEF fee.

The referendum will be held in two parts: one voting session for A-Soc in Fall 2014 and one voting session for B-Soc in Winter 2015. The referendum must pass by a simple majority in both societies. A short debate at Joint Council was held with regards to the B-Soc referendum date. The referendum will be held separately from EngSoc elections and Feds elections in order to get opinions from for both societies.

A Chief Returning Officer will be elected at the next A-Soc and B-Soc council meetings. In addition to the CRO, a 'Yes' committee and a 'No' committee will be formed on each society to promote and educate undergrad engineering about the proposed fee. Interested people may apply to be on either committee at the beginning of the term in which the referendum is held.

Engineering 7 itself will be located right beside E5, with connections on every floor, and a bridge to E6. It will be 7 floors high, and connected to E5 with a glass atrium. The cost for the 220,000 square foot building will be projected to be \$85 million.

Although the plan for the building is still to be formally approved, some potential ideas are available now. It is intended to be a space for Waterloo engineers to

pitch their ideas, work collaboratively, and learn hands-on. The showpiece of the building will be the Engineering Ideas Clinic, an experimentation and re-engineering space where students can build and test new ideas. Plans also include a two-storey aerial robotics testing centre.

The Dean's vision for E7 is to educate the "engineer of the future" who should and will have opportunities to "experience early, innovate early, (and) incubate early." It's an education model based on a very successful pilot program undertaken by the interdisciplinary mechatronics engineering program in 2010-12, and will be taken to the next level in E7 where students learn across different engineering disciplines, with a focus on innovation and entrepreneurship.

The first floor will be occupied by the Engineering Outreach office

while the Conrad Centre for Business, Entrepreneurship and Technology will be housed on the second floor. The first floor will house dedicated student space: a large study room as well as social meeting areas. It will also feature an EngSoc coffee shop in which Dean Sullivan insists will be no doughnuts.

The third through sixth floors will essentially be extensions of E5. The third floor will be dedicated to MME department, providing more space for a second Mechatronics stream. The fourth and fifth floor will be dedicated to the ECE department, hopefully bringing a proper home to the programs. The sixth floor will be for Systems Design Engineering, meeting increased need from the Biomedical Engineering program. The seventh floor will be for the Dean's office, collecting offices that are spread across various engineering buildings.

Each floor will provide a garage that will allow fourth year students to build and store their design projects. Fourth year students will also be pleased to learn that the student machine shop will double in size with a new addition in E7.

Completion of E7 is still a ways out. The groundbreaking is tentatively planned for Fall 2015, if approved in Fall 2014. Much of the funding has yet to be secured. The building needs to be approved by the Board of Governors and any student fee to support this building needs be approved by the engineering student population.

A successful referendum could show potential donors that this is a building that benefits students and the creation of the building is a partnership between students and the administration. The benefits could reach well beyond the one million dollar donation.

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So Where Does Our Co-op Fee Go?

CHRISTINA SHUM
4A MECHANICAL

At the beginning of June, I asked what seemed like a simple question to my classmates: “Where does our co-op fee go?”, and discovered that no one knew. We had been paying over \$600.00 on top of our tuition for the past 4.5 years and we were clueless as to how our co-op fee was being spent. So I decided to find out for myself, and with the help of FedS VP Education I met with Cooperative Education and Career Action (CECA) representatives to find out the answer.

On Monday, July 21, 2014, CECA released a financial breakdown on its student-funded activities for the first time. The cost structure for the fees collected breaks down into 67% for salary expenses to employ 140 full-time, part-time, and CECA co-op students; 11% for non-salary expenses such as travel, marketing, and outreach; and 22% for indirect expenses such as employee benefits, Tech support, and building capital and finance cost. During the current academic year, co-op students on academic term paid a mandatory \$634.00 co-op fee to CECA for an approximate total of \$15.1 million; roughly \$6.4 million from Engineering students.

CECA is funded solely by students. The University does not contribute to CECA’s operation as co-op is not viewed as a mandatory component of undergrad education by Federal and Provincial Governments. The salary and non-salary expenses mainly fund employees and services that oversee over 18,000 work terms, 7,600 of which are Engineering students.

To note a distinction, the Centre for Career Action (CCA) on the first floor of the the Tatham Centre offers services to assist co-op and non co-op students with career planning. These specific services are funded with some of the Incidental Fees all students pay with their tuition and not through the co-op fee.

The approximate \$11.8 million salary and non-salary expenses can be broken down into seven divisions of CECA:

1. Employment Relations, ~\$5.1 million

Staff: Regional Managers, Account Managers, Student Advisors

- Conduct on-site visits (North America only), and virtual work consultation for students; primary contact during work term and until student is hired for next work term where another Student Advisor will be assigned based on job location
- Work based in Canada, live in the region they serve, have expertise in their employers and their geographic area
- Service work-terms held in the US by the nearest in-region representative, who will travel across the border
- Prepare students for work terms, discuss job options, locations, goals

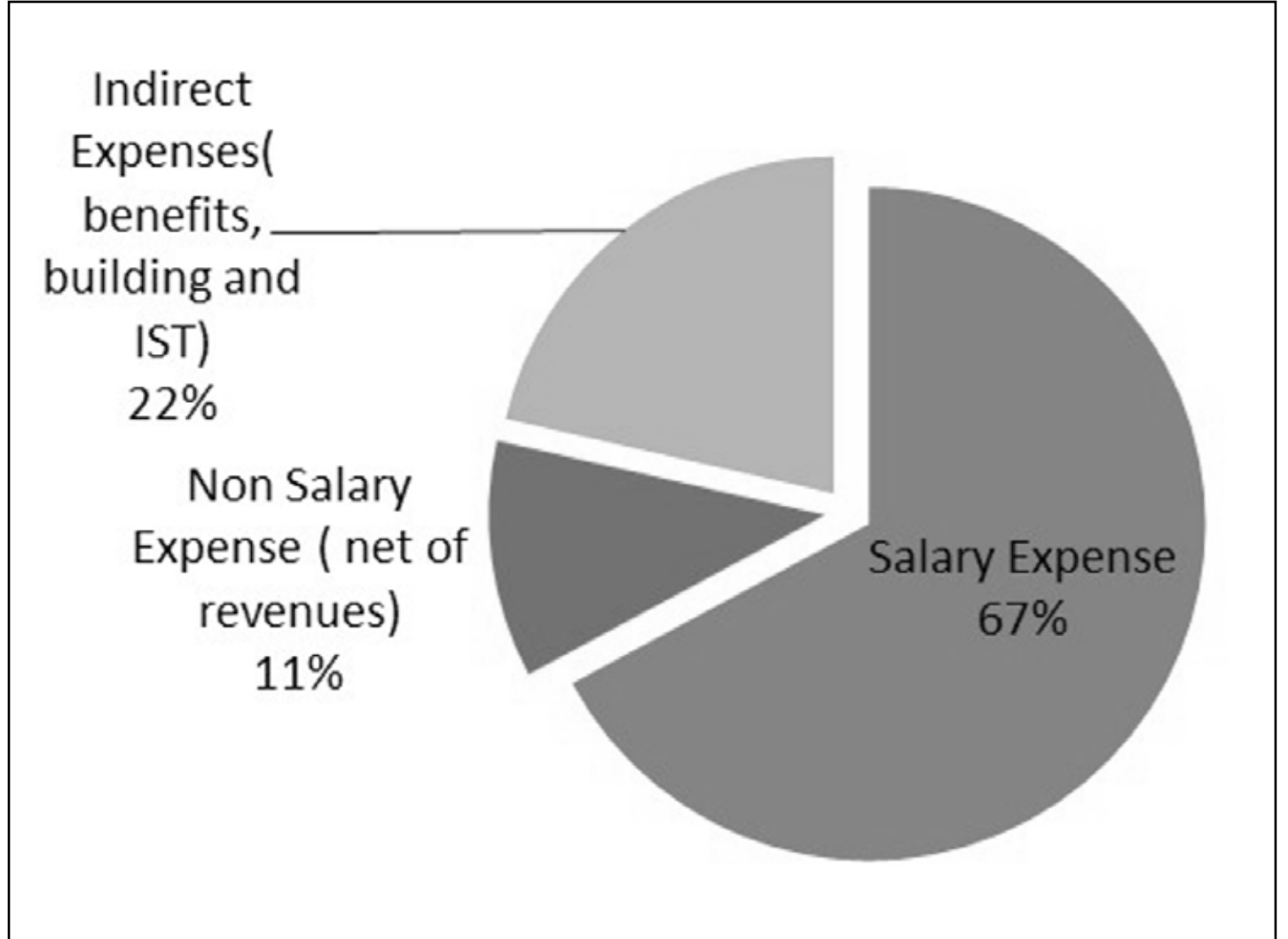
Support students during recruitment process

- Retain and expand job opportunities with existing employers

2. Operations, ~\$2.4 million

Staff: Service Representatives, Account Coordinators, Employment Services Representatives, Programs & Process Manager, Analyst, Technical Services Specialists

- Administrate job creation in Jobmine, scheduling, contacts, recruitment, employment cycle management (main and continuous rounds)
- Determine if external jobs are suitable for co-op credit
- Organize and schedule job interviews,



Grant O'Neill, CECA Director, Planning & Financial Management

Breakdown of CECA Costs by Type

work with employers on how they want their schedule to look

- Maintain co-op student and employer records
- Interview Day Services (e.g., Inquiry Desk, employer check-in)
- Front Desk Information Centre (e.g., sign-offs, referrals, general inquiry)
- Review hiring data and track employer hiring trends (e.g., frequency of hiring, preference for hiring during specific academic term, follow-up if employer’s hiring trend changes)

3. Administration, ~\$1.5 million

Staff: Directors, Executive Assistant, Administrative Assistant

- Direct the departmental with strategic planning and program development
- Oversee Clerical and Administrative support
- Meet with the University and at-large community representatives

4. Communication and Marketing, ~\$1.3 million

Staff: Business Developers, Outreach Manager, Marketing Co-ordinators, Communications Specialist

- Recruit new employers
- Market, advertise, and promote events
- Research industry trends and market of co-op positions
- Compile employer information, session consultation, planning, and execution

Communicate through website, social media, media, and publications (e.g., “Inside Scoop” newsletter)

5. Centre for Career Action and International Employment Relations, ~\$0.7 million

Staff: First work term Career Advisors, International Account Manager, International Student Advisors, International Employment Specialist

- Preparation for student’s very first work term: co-op process training, job search training, career guidance (in-person, on-line, group workshops)
- Resume preparation counselling
- Manage international employer re-

cruitment and relations

- Prepare for international work terms: pre-departure sessions, work permits, visas
- Provide international student work permits for employment in Canada
- Virtual check-in with International Student Advisors for students abroad

6. Student and Faculty Relations, ~\$0.7 million

Staff: Faculty Relations Managers, Academic Support Units Relations Managers, Co-op Student Experience Manager, University Relations Administrator, Student Advisors

- Work with faculties regarding academic integration with co-op, policy/practice, co-op process and experience
- Determine feasibility of new programs (e.g. new Biomedical program), review existing programs
- Track student feedback and experiences
- Tend to student requests: sequence changes, plan modifications, exchanges, withdrawals
- Resource to advise students regarding Policy 70 - Student Grievances and Petitions

- Oversee co-op students employed by the University

7. Planning and Financial Management, ~\$0.1 million

Staff: Financial Assistant, Analyst

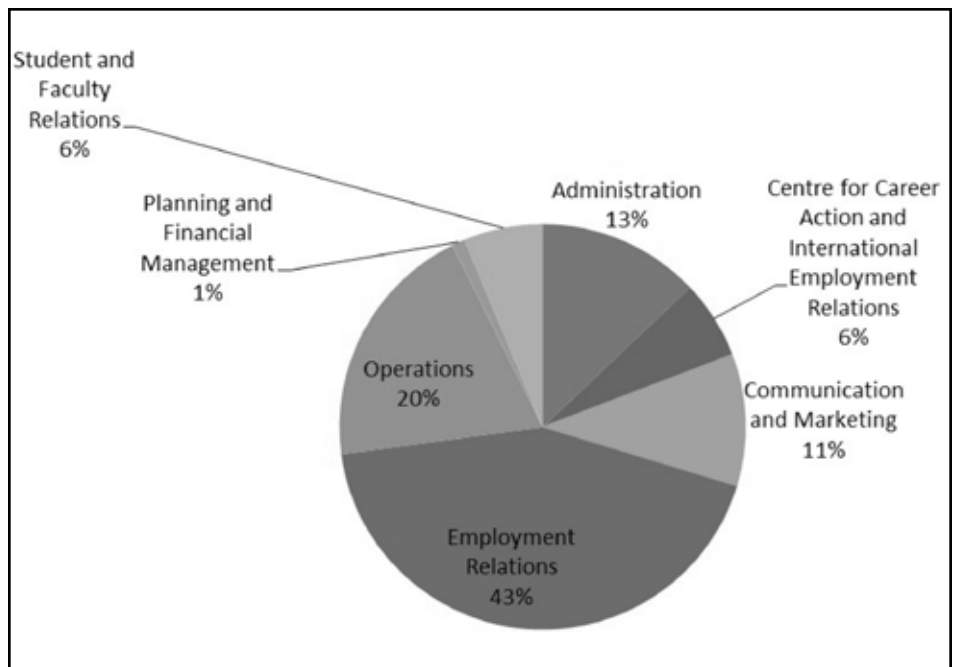
- Manage budget and finances
- Analyze statistics and data
- Project, plan, and forecast for the future

SUBMIT FEEDBACK TO CECA!

Being fully funded by the co-op student body, CECA has provided the following link to students wishing to know more about how their co-op fees are used or have any other questions, comments, concerns, compliments, or suggestions in order to further improve CECA services: bit.ly/cecafeedback (uwaterloo.ca/co-operative-education/your-co-op-experience)

Other information on co-op and fees can be found at ceca.uwaterloo.ca and uwaterloo.ca/co-operative-education/why-co-op/admissions-co-op-fee.

Acknowledgements: Gabrielle Smith, Student Experience Manager; Grant O’Neill, Director Planning & Financial Management; Rocco Fondacaro, Director Student & Faculty Relations



Grant O'Neill, CECA Director, Planning & Financial Management

Percentage of Salary Costs and Non-Salary Costs

Google's 3D Phone Pairing with NASA's Robots



SUNG EUN KIM
MASC., ELECTRICAL AND
COMPUTER

Google's 3D-phone, Project Tango, will be shipped into space to control NASA's space equipment to provide its sensing capabilities.

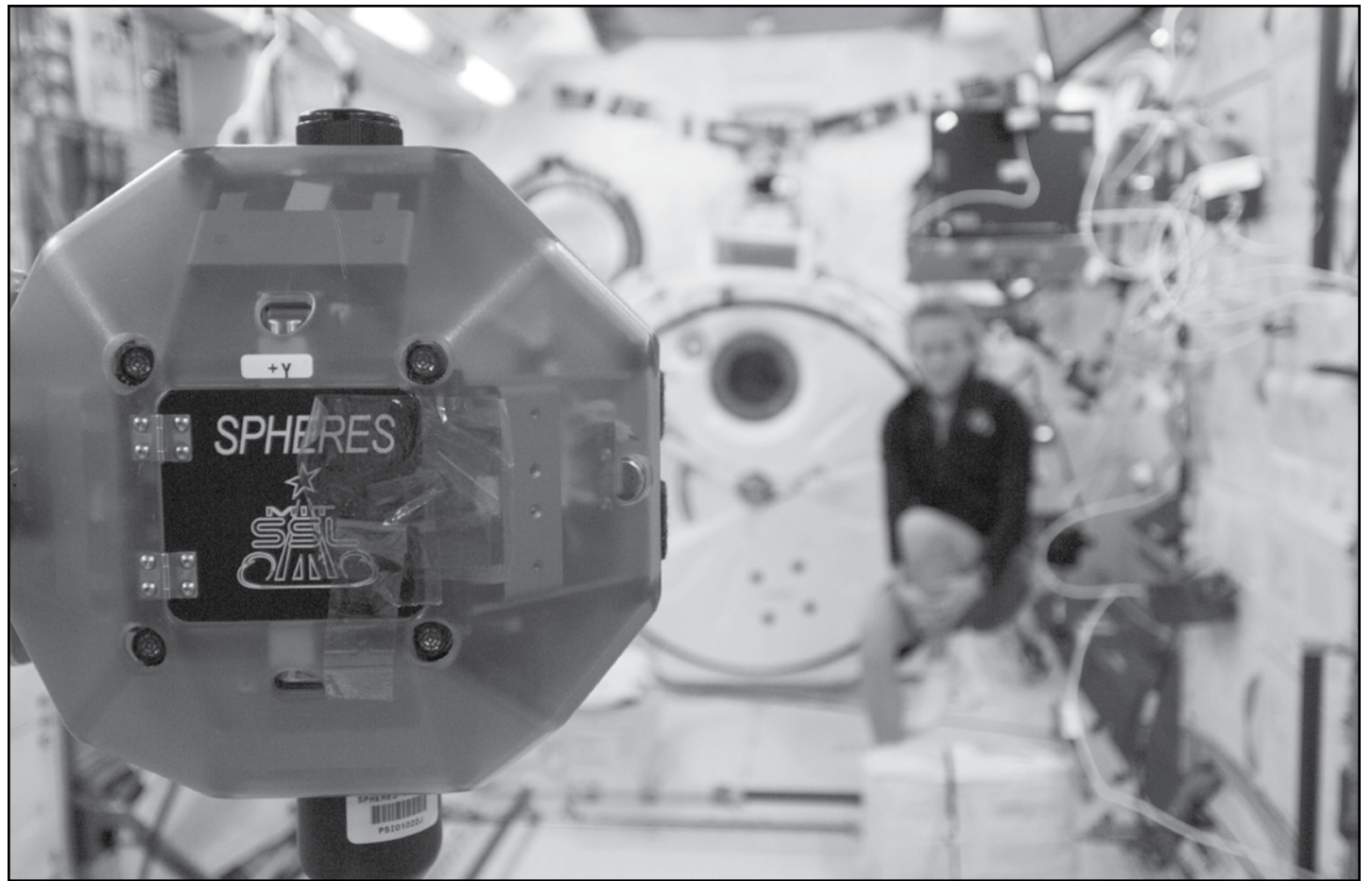
It has been only two years since 3D-phones started to emerge in the media. Now we learn that the technology is not only fully functional, but also getting mounted on NASA's space equipment.

This reminds me when my elementary teacher told us that she has never imagined of moving stairs, a.k.a. escalators, when she was a child. When I was a baby, I played with the TV remote control as if I was calling someone. In my eyes, that plastic brick seemed to have 'wireless' going on and has cool buttons on it just like our home phone, so why not?

My futuristic imagination was beaten by the reality within two decades just like my teacher's. As of now, not only is owning a mobile phone a common thing for more than 60% of the world population, but phones are just getting smarter and more affordable everyday.

Google's Project Tango team built its first android tablet prototype embedding 3D mapping sensors in 2013. The prototype has a front camera, back main camera, motion-tracking camera and a depth sensor. This is to mimic human eyes, by constructing a broad peripheral vision with a central foveal vision in more detail.

In March this year, roughly 200 smartphone prototypes were sent out to developers containing these camera



NASA

Project Tango pairs Google's 3D vision phones with NASA's SPHERES.

components. This phone can take more than 250,000 3D measurements every second and capable of updating the position and orientation in real-time.

One should realize that sensor systems can be attached to a smartphone to be operated on the phone's processing chip. Thus, there are many startup companies selling external sensor systems for smartphones with the app for some specific purpose. In other words, the app

would only work with the external sensor hardware. But a fixed integration of sensor component such as 3D camera in smartphone introduces a huge opportunity for exploration and creativity for all app developers.

Surprisingly, the first users of Google's 3D phones are going to be NASA's space robots. The robots, called Spheres, are satellites about the size of a bowling ball, currently used for testing spacecraft's

meeting and docking routines.

With Project Tango phones, these robots now gain an additional 'feel' for space and motion just like human, and therefore will be capable of exploring and mapping out the station using the 3D camera.

And yes, this tells us that when Project Tango becomes available to us, you could capture your room in 3D simply by walking around with it, download some app and play with furniture deployment.

3D Printing Affordable Prosthetic Limbs for War Victims



MEAGAN CARDNO
2B NANOTECHNOLOGY

The casualties of war are many and the consequences can be great. War permanently damages the lives of civilians and soldiers in more ways than one. One such cruel reality that follows war is the life-changing injuries that can be suffered. In particular injuries sustained by those from very poor families stuck in the crossfire, such as the fourteen year-old Daniel Omar from Sudan, who lost both of his arms to a bomb. Not only do these wounds threaten the lives of people with the prospect of festering wounds and infection, but in the fact that life afterwards becomes impossibly more difficult with the new handicap. Without use of legs or arms, many people are incapable of working and incapable of survival.

Mick Ebeling of the United States and Elliot Kotek of Australia, co-founders of Not Impossible Labs, named Project Daniel for Omar. With a motto of "Technology for the sake of humanity", Not Impossible Labs has brought the technology of 3D printing in order to provide affordable massed prostheses for more than 500 000 amputees in Sudan, and has the intentions of extending aid to other countries in similar need of the technology.

Ebeling and Kotek were inspired by the work of South African Richard Van As, who developed a functional prosthetic hand dubbed the "Robohand", and published the files and code on MakerBot's Thingiverse site, allowing

anybody with a 3D printer to duplicate the prosthetic and assemble for themselves, with significantly less time and money than other available prosthetics.

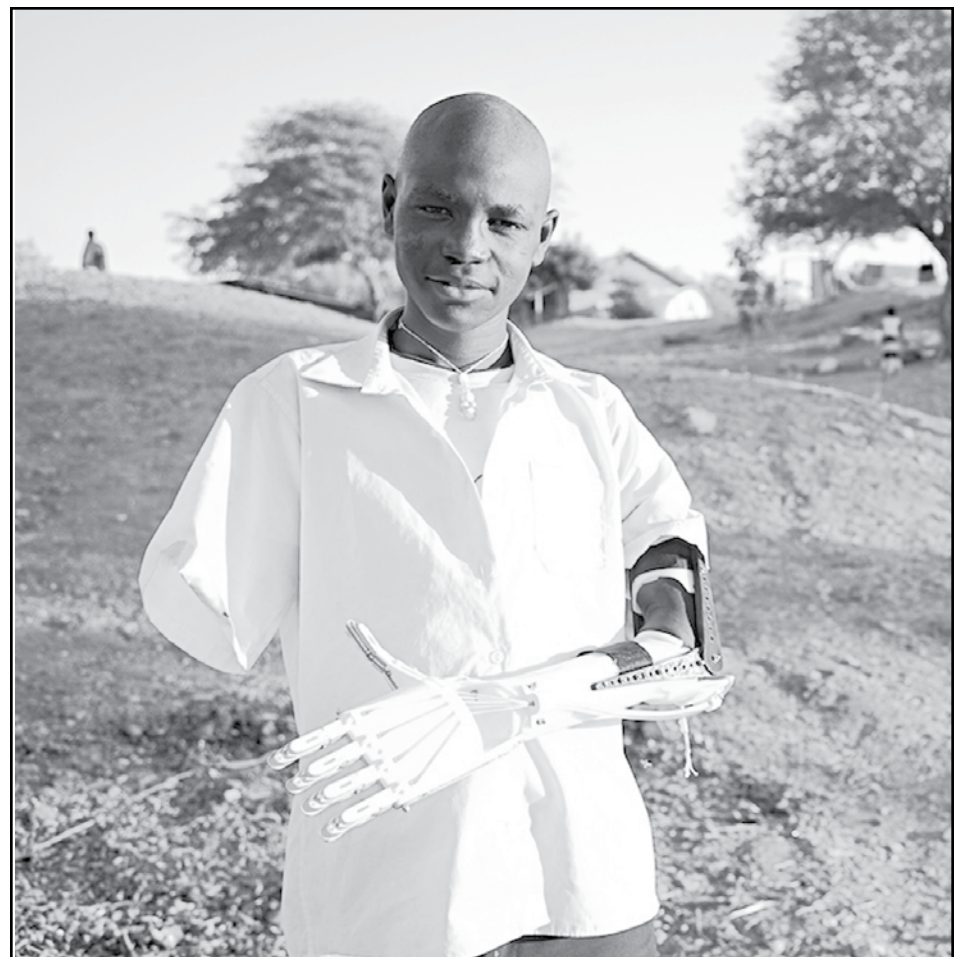
Even outside of war, 3D printed prostheses are seen as a feasible alternative for low-income families in any country, replacing \$5000+ models with only \$50-100 of materials. The rise of 3D print centres in metropolitan regions means that a family would not even need to own a printer in order to achieve this—a good thing, since they can range in cost from a few hundred to several thousand dollars themselves. Of course, these prosthetic limbs rely on physical stimuli in order to function, unlike the expensive myoelectric devices, and are not quite at the same level of quality as other models. However, they can restore basic functionality to the amputees who might otherwise go unassisted.

The prostheses are primarily made of the plastic, printed in many static pieces that can be joined with bolts, screws, and wires in order to make a functional arm, hand, or leg. They take only a few hours to manufacture from an available template, including the time required to measure the patient, printing, assembly, and fitting of the prosthesis. The limbs are strong, too—by finely tuning the fill percentage of each part during the print, tested prosthesis are said to withstand forces that would break a human hand.

There are other benefits to basing the prosthetic technology in 3D printing as well—the speed and ease of printing means that growing children will be able to afford multiple replacement of limbs during puberty and not have to struggle with an ill-fitting prosthesis. In addition, groups like Project Daniel are capable of

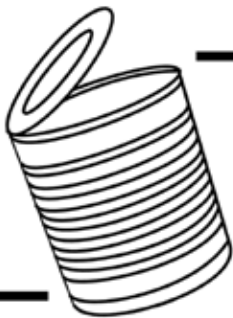
helping many people in the same amount of time, and acceleration in research and development of new model designs; edits to prototypes can be made in minutes instead of weeks. Finally, there is the added benefit of the puzzle-like nature of the prosthetics: if a single part breaks, a replacement can be printed and replaced instead of having to create an entirely new limb.

We have come a long way in terms of the relevancy of 3D printing technologies—what critics once hailed as nothing but a means to make trinkets is now stepping up to taking a large role in the aid of war victims and low-income families with disabilities. It causes one to wonder where else Not Impossible Lab's motto "Technology for the sake of humanity" will be applied next.



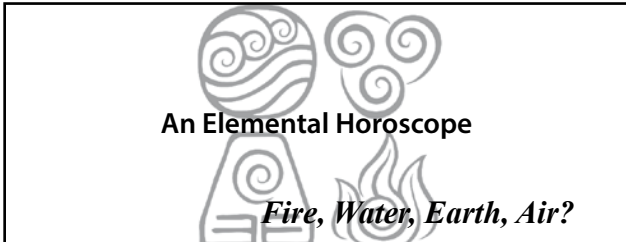
Not Impossible Labs

Daniel Omar, who inspired Not Impossible Labs and Project Daniel.



Pretentious Sushi A-Holes

Eat it! Don't make me repeat it!



An Elemental Horoscope

Fire, Water, Earth, Air?



The Use of Course Evals

Glorified Scantrons.

Whaddup holla at us on fb yo

...but dontcha dare look at the website right now.

Articles: Where are They Now?

Somewhat in Memoriam



Dear former EIC Apple Jacks has been busy FOC'ing off and is too busy being SuperHuge and wearing a FOC Hat and is sad that people think he's literally a grammar nazi and that nobody takes his edits seriously so he stopped his column because F*CK YOU I DON'T NEED YOU ANYMORE I CAN DO MY OWN THANG



TOPZ has graduated and are now seriously serious seriousing handsome serious grown ups now.



Obi Jon graduated and was last seen in Alberta, happily designing roads and shit.



The author bought a legit measuring cup to replace her scratched up one from North Korea so that she can actually read the numbers on the side, and recommends that you do the same.



One assumes the authors have successfully graduated, or live in Yonge Street in a cardboard box.



Mr Nachos is very sorry he forgot to submit his articles, let alone abandoning his YouTube columns. Mr Nachos regrets to inform y'all that he has a job this term and is not allowed to [Red]Tube at work or else he will be fired. Besides, he can't find anything interesting to watch.

MISSING

Have you seen these articles?

VARIOUS PROMISED ARTICLES
SLEEPY FORMER EIC

"ZZZZZ" thought that he "might have time but didn't feel qualified" to write an article about Apple, unlike Apple Jacks. He then lost connection because the tears of inadequacy had dripped into the WiFi adapter of his Windows-based laptop and destroyed the motherboard. Alas.

ENGLIFE
DRILL SERGEANT PICKLES

Drill Sergeant Pickles got his life together but when he was at the gym he fell in a wormhole and "lost of track of time" because there were forty-six dimensions in there. When the wormhole shat him back out, he had seven fingers on his right hand and had to learn how to write again. And that's why his articles are late, but fuck y'all, his average is like 99% now.

HOW TO TALK TO...
CHING O'MALLEY

Nobody wants to talk to Ching O'Malley and it makes her very sad. Please talk to her; she is very lonely.

HIT REPLAY
ARM-WARMING HIPSTER MAN

Arm-warming Hipster Man didn't know the deadline was so soon and "thought there a break during midterms!" Well there wasn't a break.

UPDATES AND THINGS!!
ENGSOC EXECS!!

[Redacted] needed to be reviewed by the Dean for [redacted] high doughnut content [redacted] your mother [redacted] E7 [redacted] so fat [redacted] referendum [redacted] your family is ashamed of you [redacted] and was found to be lacking!!

"SORRY SORRY SORRY SORRY SORRY"
A LOT OF PEOPLE

Half the engineering students at EngSoc have gone on to pursue their dreams to join Super Junior in South Korea. The other half is on vacation. One lucky contributor was on a beach and doesn't want to get sand in his laptop so he only wrote one article. Another wasn't so lucky, because dingoes ate her laptop and she needed to get it replaced.

MAYDAY! MAYDAY!



So you might have read (or ignored) the editorial in the Iron Warrior. That was the level-headed reflection on this term. This is the other side of the coin. It's unclear which one is more accurate, but it's safe to say that it's probably a bit of both, though I'd like to think it as more of the former. Disclaimer: Reading this might give off the impression that things were worse than they actually were. Don't take this too seriously. The term really did go fairly well. Our future goals are certainly not impossible to reach at all. I am not truly, horribly angry at anyone. To the staff: I really do love you all, and am just about as understanding as it seems in my e-mails. Consider these as intrusive thoughts coming out at last. An end-of-term purge of emotions, nothing personal.

ARGH WHERE DID ALL OUR STAFF GO?!? Remember the days when our office was packed with more than twenty people? When you wouldn't be able to get a seat if you arrived late? Yeah... what the hell happened? Where did everyone go? Why are there no more people?

To answer these questions I came up with more questions:

WHY YOU ALL GRADUATE? You should...come back. Quit your jobs and come write for your old school paper again. You don't have to be grown-ups yet! We'll take you in!

WHY YOU ALL NANOS? You and your inconvenient 8-month terms are wreaking havoc on this establishment, as more than three quarters of our current staff are going off term because of this. HAVOC, I tell you.

WHY YOU REPEAT TERMS? Why you fail? We're losing a whole bunch of beloved people to the next year as they repeat terms and such. At this rate, Winter 2014 will be just Nancy and I. We'll publish four-page issues. We'll team up with whoever writes the Chevron maybe. I'll have to do Iron Inquisition, meaning that I'll have to talk to

people. Ew.

ALSO, WHERE ARE OUR FIRST YEARS? If things continue like this, B-Soc won't have staff to do the paper in three years or so. Enjoy it while it lasts. Get ready to say goodbye to your beloved crossword provider. But, if you're a first or second year: come hither. We have pizza. And free C&D food. And juice. Come talk to us. Come write for us. Pls respond.

Next order of business: WHAT IN THE FRICKLE FRACKLE IS WRONG WITH OUR WEBSITE? It was faulty when I got here, and it's just gotten worse. If anyone wants to do anything about it, please step up. I'll try to wrestle with it but dammit guys, I'm an Enviro. Very little web experience, except with spider webs encountered in the vegetation during our field labs.

Next up, HOW DOES ONE ENFORCE A DEADLINE? You tell people a date and time, but somehow 95% of them decided that they had an unspoken two-day extension? Okay, I know there's homework to be done, last minute things to take care of. I know how busy school is, but daaaaayummm. You're later than the GRT. How is it that when I say Friday y'all hear SUNDAY?

Furthermore, if you're going to be late, please give me an update, because for all I know, you've forgotten or don't plan on writing it at all. This I why I hunt all of you down on Facebook Saturday afternoons, and periodically on Sunday. I don't even have all of you on Facebook. I have to creep around.

On a similar note, get better at giving time estimates. Maybe time speeds up inside the office due to some Einstein bullshit, but something sure as hell ain't matching up. I've learned that "soon" means "in a few hours", and "by tonight" means "by tomorrow afternoon", and therefore "by Sunday morning" means "last minute on Sunday night". The hell's going on?

Admittedly, I've been much too accommodating, and I'll concede that that probably contributes to the repeat offenses, but I didn't want to alienate you all during the term, especially since you're important and we need all the staff we can get.

Next rule of business, which gets a

bit sadder. I'm sure we've all had that experience where you're in a group of people, and somehow whatever you have to say isn't regarded as being worth listening to. You'll be saying something before realizing mid-sentence that no-one is actually listening to you. Or you might get in a sentence and half before they divert their attention away and leave you hanging.

If you've never had that experience, LET ME TELL YOU, it sucks crusty nipple. If you're somebody who's prone to pulling that shit, cut it out of your personality ASAP. It kept happening during every meeting this term. Granted, it's not THAT bad and we do get things done during the meetings, but dayum does it happen often, and dayum would we save a lot of time if this shit didn't happen.

I don't really mind tangents that relate the topic at hand, though at some point we have to get back to the meeting. What's much worse are the long, loud, animated discussions about completely random things like schoolwork and entertainment. In the heat of these conversations, it's the hella difficult to stop people without seeming like a cray cray bitch.

Everyone's at a high decibel level trying to get their word in, and if you did it too it'd be startling for everyone, especially coming from an outwardly calm person such as myself. Trust me when I say I've tried everything short of going drill sergeant on your asses, but these things only work for about a minute, if at all. I really should have bought a large judge's gavel, or just yelled. That's the problem with being quick to anger, but slow to expressing it. You get all the emotional angst, but don't usually do much to stop it. Another person might have clocked y'all with the gavel, but I value your presence too much for that.

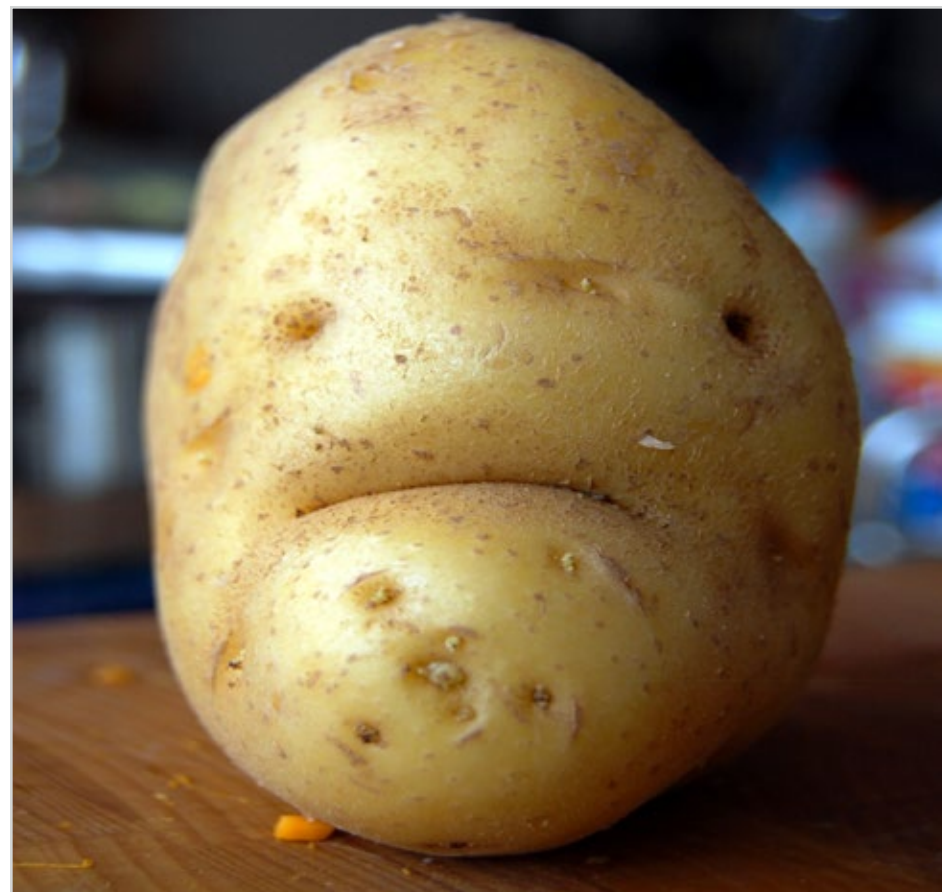
I'm going to close this up now by reiterating the fact that this term was actually okay. No major f*ck-ups. The paper was outputted bi-weekly. It happened. I love everybody in the Iron Warrior. You all make me smile. More so when I receive your articles.

That being said, one term as EIC is enough.

Life in Latvia

and try eat rokk. I learn cannot eat rokk. I rollings into ball and try to starve, but politburo find me and do the fors

feedings. Then politburo beat until die. But hallucinate, just badly beaten. Such is life in Latvia.



A sad potato for you.

Flickr: banger1977

THE TIN SOLDIER

The Toilet Paper of the
Warriors of Iron

Breakfast
Leafy Fifi

Second Breakfast
ZZZZZZ

Elevensies
ZZZZZZ
Sketchy Grad
Talented Eng

Lunch
ZZZZZZZ
Pro Lifter
Talented Eng
Bitter Builder
Failing Mystic
That Grumpy Friend

Afternoon Tea
Musical Mixer

Supper
Pro Lifter

Dinner
Dedicated Gamer
Muse
Drill Sergeant Pickles
Failing Mystic
Poetic Pint
Grad Ghost
Guru Pathik
Ching O'Malley
Social Sleuther
That Grumpy Friend
Talented Eng
Dennis the Peasant
Arm-warming Hipster

Pipe-weed Breaks
Fellow Photosynthesizers
The Government

MATEUSZ VANAGS 2B POTATO ENGINEERING

I am reminding of story from old kountry. In glorious Latvija, once havings house with 4 walls and no roof. Havings 4 daughters, and only 3 taken by politburo! Also havings son, but die of malnourish. Once havings wife, but she die of childbirth of son who die of malnourish, and die again from interrogation by politburo. Kapitalist pigs sayings I find potato in Amerika, but I knowings better. Man from Politburo come and sayings never trusting kapitalist pigs.

Havings dreams once in old kountry. Wife still die, son still die, all daughters taken by politburo. But havings 1 potato! Puttings potato in soup, but was hallucination, was only rokk. Of remindings of story from old kountry, Rokk Soup. I hallucinate until die of malnourish, then wake up. Was happy dream. Struggle was over. But wakings up, and life return to glorious Latvija life.

Hearings of knokk on door. Knokk Knokk.

Who there?

Politburo.

Politburo who?

Putting daughter in gulag.

Then politburo come and put fourth daughter into gulag. Now all daughters taken by politburo. I walk into winter woods to starve. Politburo find. Politburo kapture. Politburo take to gulag. I hungry

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The Tin Soldier encourages submissions from students, faculty and members of the Non-Existent Action Committee. Submissions should reflect the concerns and intellectual standards of the Society of the Travelling Pants in general. The author's name and phone number should be included, except if they are non-existent. This information may or may not be posted on our website.

All submissions, unless otherwise stated, become the property of *The Tin Soldier*, which reserves the right to refuse publication of material which it deems too suitable. However we're so desperate for content that we'll likely take it (but we might just send it to Imprint). *The Tin Soldier* also reserves the right to edit grammar, spelling and text that do not meet university standards, but engineers suck at english so it's a low standard.

Mail should be addressed to PJ Katie, c/o YTV Canada, P.O.Box 7500, Paris, Ontario, N2L 3W7. We do not currently have a phone, however you may redirect all inquiries to Kick-off's, as we're likely there. We don't have a fax number as no one uses faxes anymore.

F&# You and Your Sushi



THAT GRUMPY FRIEND
2B NANOT-A-WEEABOO

You know how it goes. You're out with your buddies early on a weekday evening, and everybody's getting hungry and irritable. After ten minutes of the namby-pambies trying to decide on what to eat, having to take into consideration what everybody 'feels like' and what everyone has already eaten in the past two to three days, finally the group comes conclude that it's sushi time. Oh yeah. You're nearly starving, and so the prospect of eating anything is a ridiculous relief. You like sushi as much as the next kid—we're all finally old enough to eat fish without grimacing and making faces—and while it can be on the pricey side, if you go to an all-you-can-eat place you make sure to get your money's worth. Then you can make up for it later by not eating out another day—maybe you'll finally have one of those five cans of Chunky™ Soup that have been in your cupboard since semester started. You've got it all figured out. Let's sushi. Someone starts walking, suggesting to go to Generic Sushi Restaurant Ltd.

And then it comes. That one friend, with that one line:

“Ugh, no, their sushi isn't good.”

It's inevitable—you could list off every sushi place within a twenty kilometre radius, and that one damned friend will always shake their head in disappointment, will always know that their sushi isn't good enough for them and their highly refined nautical palate. They love sushi. They've already tried

all the sushi places. And apparently not a single one of them prepares sushi good enough to eat.

If you're that friend and you are reading this now, please sit down. Let me tell you something. I don't know if you are aware of this—I think you are, since you're pretty smart—but we live in Canada. And not just anywhere in Canada—right in the middle of Ontario. We're surrounded by corn farms and hockey rinks. Your sushi isn't going to taste like it was kissed by sakura petals and serenaded by a koto as it flew out of Japan onto your plate. So just come off the whole sushi pretentiousness already. All of our sushi is going to taste like twenty different flavours of vanilla... metaphorically speaking. Unless you've been to Japan, ordered some \$300 piece of blowfish sushi and cried about it afterwards, I really don't think you have any credentials in terms of sushi connoisseurship. You aren't that much more knowledgeable about sushi; you just complain more than the rest of us.

Now don't worry, none of us hate you. You're still fun to hang around and tell decent jokes on occasion, but next time we suggest we go out for sushi, don't give us that whole spiel about how the all-you-can-eat place two blocks away doesn't have sufficiently edible sushi. Do like the rest of us: decide to eat at the closest sushi place and make jokes at the other friend who still doesn't have chopsticks figured out while stuffing your face full of imitation crab and soy-sauce-drenched cylinders of rice and fish. You always end up doing that anyways, so save us the bellyaching (unless you actually ate that blowfish sushi. Then you should go see a doctor).

Course Evaluations

Secrets Revealed!



GHOST OF A DEAD GRAD STUDENT
POST-DOC: REVEALING EPIC CONSPIRACIES

Every term we fill out the infamous course evaluation for each course. On these forms, you get to score your professors on pretty much everything from their typically lacklustre teaching abilities to the usefulness of the course itself (perhaps that was wishful thinking). But one has to wonder.... What actually happens to these commonplace forms?

Perhaps the best way to approach this conundrum is to examine the alleged effects that the feedback obtained from the said course evaluations has on the courses themselves. Year in year out, courses seldom change. Obviously, content shouldn't change that much - unless your professor did so well on last year's course evaluations and the results were so phenomenal that they had to change the course and probably their identity (we'll get to why in a minute) to keep the privilege of teaching it. Now just one minute, now we're assuming that these course evaluations actually have an impact on anything?! What! Crazy!

Aside from content the most common things that may change as a result of course evaluations are 'deliverables' which is a fancy-shmancy balmy faculty term for homework, projects, exams and everything they know students hate. Every year, before the profs actually get their evaluations, the UWMHRA (UW Mental Health Revenue Agency) reads them first and if students were to nice (i.e.: if the feedback was actually good), they threaten to fire the prof because they caused the students to be unable to meet their annual mental health contribution on top of their tuition. They threw a wrench in the 'survival of the fittest' regime, which is at the very centre of the UWMHRA's vision and values. In addition, they torture the prof to make up for the lost mental health revenues - this is why so many good professors have left UW and now we have so many, oh so many bad ones!

It's true. Shocking right? But it does make complete, utter and total sense: Now you know why all of those exams are so ridiculously impossibly difficult that no matter how long you study and how long you work and no matter how much of your mental health is sacrificed for the UWMHRA, you still feel like you just barely maybe passed!

Isn't nice to know it's all for the greater good though! UW just wants its grads to be the fittest survivors EVAR so that they can continue paying mental health revenues long after they graduate. It's even better for UW if the survivors pursue graduate studies, of which a major component is being turned into a ghost so that the professors can tell the little undergrads that their labs are secretly haunted by dead grad students (survivors of the 'survival of the fittest') to keep them from asking (or begging) them for coop jobs! (The severe lack of coop jobs is another mechanism by which the UWMHRA collects a hideously gross amount of its revenue).

So now you know the truth. The next time you're asked to fill out a course evaluation, DON'T! Tell your all of your friends - this is a call for mutiny! Everyone take your course evaluations, rip them up in tiny little bits, preferably on the order of nanometers or even better angstroms in dimension, and then get one of the ghosts of a dead grad student to burn it for you. Warning: Do not burn it yourself because the UWMHRA are watching you every second, oh yes, every second, and they will know (But the ghosts are undetectable). And the nanometers/angstroms dimension is absolutely crucial because if somehow they do not get burned, the UWMHRA does not have the necessary equipment to characterize the little bits as a course evaluation as it has not been developed yet on account of the fact the chemical, physical and electrical properties are no different from regular Scantron paper!

Mark my words! Do not be lazy about this!! Do you want the UWMHRA to torture anyone? Do you want your terrible prof to be rewarded for their cruelty? Let's put an end to this epic conspiracy. NOW.

The Elemental Horoscope



GURU PATHIK
5B SPIRIT WORLD

Come one, come all! Read on and you will know your fortune! And it's free. Read on, read on! The four elements of life speak to us: Fire, Earth, Water, and Air.

If your element is Fire:



With your temper today, it might be better to stay in. Do not attend any lectures, as you will blow the lecture hall and everyone in it sky high. You are experiencing an unusually severe case of anger and frustration, and controlling your inner demons has become more and more challenging of late. If you must attend a lab today, I am afraid that your experiment will fail epically and that most of your marks will be deducted for setting the zillion dollar apparatus on fire. Hope you have insurance.

If your element is Earth:



Today is a good day to try something new. Procrastinate on some schoolwork by planting genetically modified palm trees in the classroom where you have most of your lectures. You have a very green thumb, so this will be easy. Next put on your skimpiest bathing suit and set up a pool and some lounge chairs. Chant "I like to fry in the sun!" at the top of your lungs for as long as you possibly can and your celebrity crush will magically

appear in their skimpiest bathing suit!

If your element is Air:



Come to the dark side. We have cookies! Today is an inspirational day. You will design the re-construction of the Death Star and kill Anakin Skywalker so that none of the other Star Wars movies could ever have happened! You have prevented the downfall of the galaxy; the Universe will thank you forever and you will be showered in glory, becoming Chancellor of the Universe. However, be careful: Make sure you memorize the breakdown voltage of the planet-destroying device, and make sure you don't write it down, this is absolutely crucial. If you do, Marvin the Martian will find it and use the Death Star to blow up the Earth, as this is the Death Star's default planetary target when it reaches breakdown voltage.

If your element is Water:



Today is a day to conserve your element. Save water, but do not dehydrate yourself. Be stubborn. Stop people from dehydrating their lab samples. Refrain from flushing your toilet, cleaning yourself and washing your hands. The environment will thank you. In your chem lab today, promote the use of chemicals besides water to do the clean up spills, especially if they are WHMIS classified as acutely toxic materials, toxic materials causing long-term hazardous effects, corrosive dangerously reactive materials, known carcinogens/mutagens, etc. as these are the most fun to work with!

On Quorum



DENNIS THE PEASANT
1B POLITICAL THEORY

Voter turnout in EngSoc is so low that executives have gone from preaching to the kindergarten choir to an empty church.

Current voter turnout is roughly 50% of all eligible class reps, which probably about the same as in Toronto during a massive heat wave, or the House of Commons on the Friday before the Canada Day long weekend.

As a result, allegations of electoral fraud have emerged in EngSoc during the election of the new Board of Directors.

Said an unnamed source, "My class reps hasn't shown up in weeks, so I folded up a ballot and put it in instead."

"I thought about voting again but it seemed kind of unethical and I'm not really stealthy."

Nobody has bothered asking about asking for a redo of the election process, because really most of the candidates' 30-second campaign speeches consisted of "I have no experience in Engsoc so

I'm not in cahoots with the exec, and I have a really fresh perspective for finding what's rotten in Denmark." If that logic were true, we should have just pulled some sad looking artsies out of Dana Porter and set them to work writing slam poetry about the inefficiencies of society processes and the inherent nihilism of bureaucracy and the beauty of an empty, sugar-glazed cardboard tray devoid of baked goods in the C&D.

Also, all six of the Board of Director candidates were white dudes. I'm not allowed to say what this implies about the validity of EngSoc representation because then I'd get mail telling me white dudes can do the job just as well as anyone who isn't a white dude. I mean, it's probably just a coincidence. Assuming that 50% of UW engineering are white dudes, then the chances of this happening is just 2%.

We haven't bothered to ask Engsoc reps for comment, because THE PEOPLE ARE BEING REPRESSED. THE WEEF DONATION IS TAXATION WITHOUT REPRESENTATION. EDCOM IS MAKING A NEW WINDOW IN THE TIN SOLDEIR OFFICE TO TAKE ME AWAYYYYY IM BEING REPRESSED

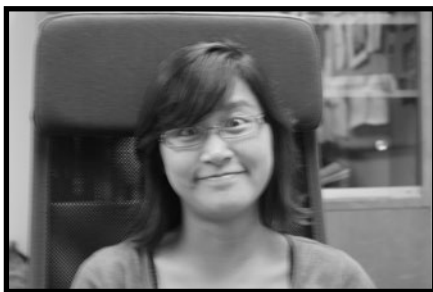
Guess Why Meagan's Pissed

Match the reaction with the *Game of Thrones* scene



- a. Yay Stannis!
- b. I love Stannis THIS much!
- c. I totally needed that Ramsay sex scene.
- d. Where do whores go? Well now we'll never know!
- e. Will they EVER call him the Red Viper?
- f. I have ALL the episodes on my phone!
- g. And there I thought Cersei was going to suck Jaime off.
- h. Ramsay is behind me bending my arms out of their sockets!
- i. Missandei is possibly the most attractive character but I don't actually want to bang her.
- j. Why do I even watch this show anymore?
- k. Maybe Maybe some alcohol will make this rape scene make sense
- l. Oh my god! Grenn! Pyp! Grenn! Pyp!
- m. They could have just stabbed Ramsey in the tit!
- n. WHERE IS STANNIS
- o. My nose is itchy.
- p. WHERE IS LADY STONEHEART

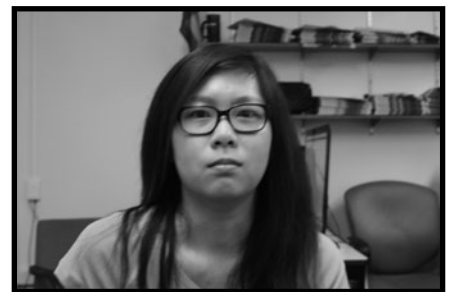
"Hodor?"



"HODOR!"
Ribbed Forty Sippa, 3A Photosynthesizing



"Hodor."
Cold Mafioso, 2B ZZZZZ



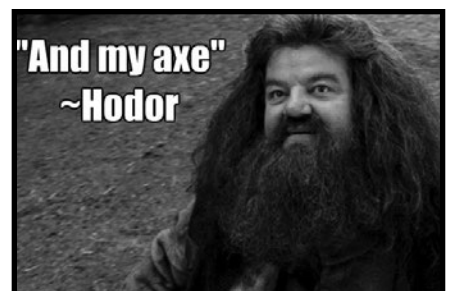
"HoDoR."
Two-Time Killa, 2B Concrete



"Hodor!"
Tony Montana, 4A Trafficking



"HODOR?"
Loose Mule Robba, 2B GoT



"Hodor...?"
Old Ben Kenobi, 5T Hermiting

Google Designing Smart Contact Lenses



ZACHARY GINGRAS
2B NANOTECHNOLOGY

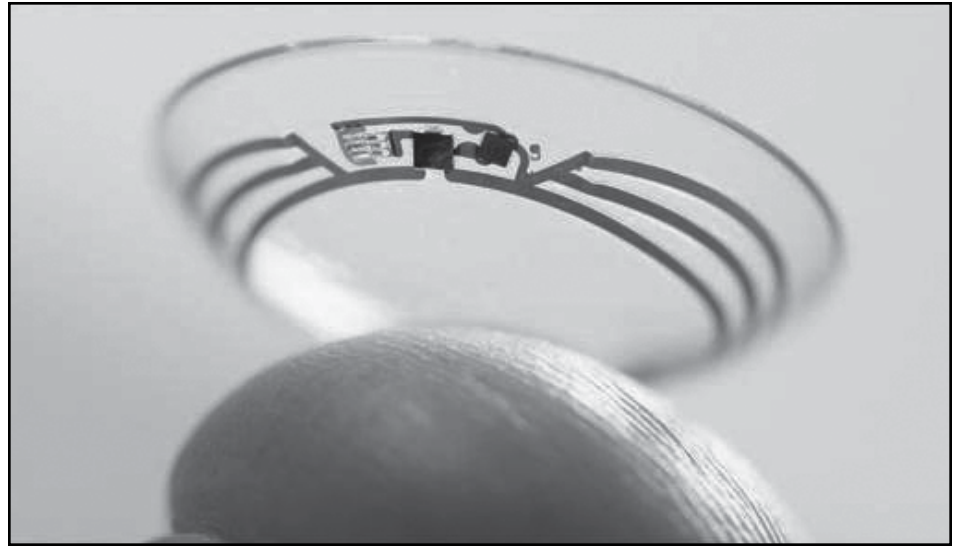
Google has recently announced a partnership with the Swiss drug company Novartis to develop their new smart contact lenses. These lenses are designed to not only improve the wearers vision, but monitor their health as well.

Earlier this year, Google had revealed their first smart lens prototype: a lens with a miniature glucose sensor and wireless transmitter to help the world's diabetics. Now, together with their new partner, they will be developing a series of non-invasive microchips and sensors to be imbedded

into the lens, capable of monitoring glucose levels from tears.

There are many other applications that they are starting to pursue as well. Recently, a patent was filed for embedding microscopic cameras into contact lenses, enabling the wearer to take photographs of what their direct vision can see. They also plan to use this to assist blind users, being able to analyze pictures taken to warn them of approaching danger, such as a busy road.

This is just a few of the ways that Google is trying to miniaturize electronic devices and bring them to the consumer. However, while these lenses are an innovative design, they are still very young in the development process. Sources say it will take about five years before they are ready to reach consumers.



Google

Google's smart contact lenses to monitor glucose in diabetics

Vantablack is the New Black!



BRIAN CHAN
2B NANOTECHNOLOGY

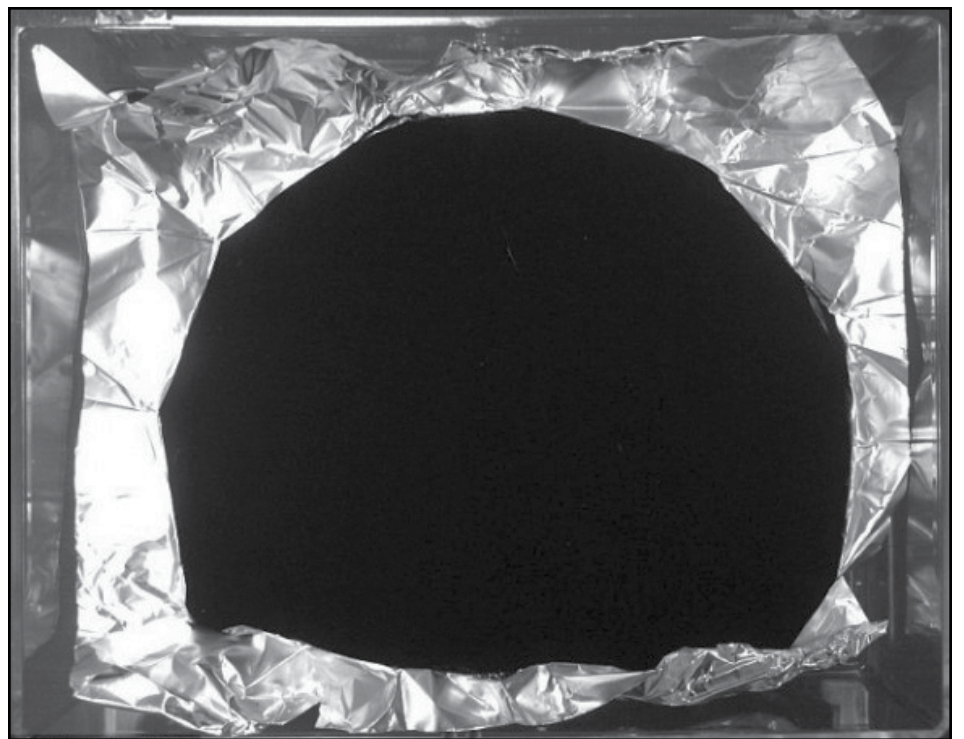
So for those undergrads who think nanotechnology engineering is truly a waste of time with no applications in the real world, a major breakthrough material has been announced: Vantablack!

You may well ask what Vantablack is; the name seems almost like gibberish and is as confusing as the quantum mechanical theories used to invent such a crazy material. This is essentially the blackest material on earth and it absorbs 99.96 percent of light that hits it which is the highest percent ever recorded. It is essentially made out of carbon nanotubes grown on sheets of aluminum foil and in reality it just looks like a black material.

The unique thing about it is that

perception of the shapes and contours within the material is not possible if you simply look at it. It instead feels looks like you are staring into a very dark hole. However visible light is not the only thing it can absorb, it can actually absorb UV, IR and microwave radiations as well. This property actually improves upon our modern day technology. For example, consider telescopes: this material can be used to increase the sensitivity of the telescope so that even a star that can't be seen with the human eye can be detected by it.

Also for you Harry Potter fanboys/fangirls, it is possible to create an invisibility cloak out of this material! How cool is that?! It is still a new and growing piece of technology but the applications are, without a doubt, endless. So for anyone out there who thinks nanotechnology engineering is just a waste of time, look at what can be done with it!



surreynanosystems

Vantablack reflects only 0.035% of light.

WATERLOO

CANADA'S
Research
UNIVERSITY
20
OF THE YEAR
13
comprehensive category

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— PROFESSOR SUJEET CHAUDHURI, Co-Director, Centre for Intelligent Antenna and Radio Systems

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» Ideas start here



UNIVERSITY OF
WATERLOO

COO3861

All About Azor Ahai



(Note: this article contains major spoilers for all five books of the series. Proceed with caution!)

In a world where there are more religions than morally sane characters, it is no surprise that there are a few apocalypse-cancelling hero prophecies. The most popular of these is the story of Azor Ahai, who, in short, is the fiery messiah for the followers of R'hllor, appointed to fight against an unexplained darkness that covered the world many years ago. As a hero, he was tasked to forge the sword that would become the famous Lightbringer, and after twice failing to temper it, thrust its blade into the heart of his wife, Nissa Nissa, in a typical "morality requires sacrifice" fable fashion. He then helped to vanquish the evil darkness — which some believe to be reference to the Others that lived during the Long Night.

His story then tells of another champion to be sent by R'hllor: Azor Ahai reborn, prophesied to return after a long summer, when yet again an evil cold force of darkness would threaten the world... a very familiar setting, all in all. The reborn saviour is foretold to be born amidst salt and smoke, wielding Lightbringer, and very likely to be of the Blood of the Dragon.

The first and most obvious of candidates

is Melisandre's personal fave, Stannis Baratheon, the First of Name, King of the Andals, the Rhoynar, and the First Men, the rightful King of Westeros. Well, depending on who you ask. He fits almost all of the criteria implied for the reborn saviour: he was (re)born amidst salt and smoke on the volcanic island of Dragonstone (which, coincidentally, he also owns by rights), and has a Targaryen grandmother on his father's side, Rhaelle. His own self-proclaimed "Lightbringer" also seems to be convincing evidence, but also might be the biggest clue against his viability— while the sword very clearly appears aflame, it is also said to bear no heat. Both Salladhor Saan and Maester Aemon make references to the fact, with a heatless flame bearing nothing but ill omens. Perhaps this tiny error comes about the fact that Stannis tempered his sword in the flaming statue of the Maiden from the Faith of the Seven, not his own wife, Selyse.

An interesting twist to help rectify Stannis' claim is the theory that perhaps Lightbringer is not, in fact, a literal sword, but a metaphor for a far more powerful weapon: the Night's Watch. Their oath of being "the sword in the darkness" and "the fire that burns against the cold, the light that brings the dawn" does match the lore very nicely. The sacrifice of Nissa Nissa to create Lightbringer could also be drawn as a parallel to the vow that the Night's Watch must take no wives. With Stannis' current position at the wall, it may just be time for him to wield his 'sword' against the forces of darkness to come.

Of course, this also leaves another popular candidate for Azor Ahai reborn: Jon Snow, who, as discussed in an earlier issue, is popularly believed to be the child of Lyanna Stark and Rhaegar Targaryen, thus coming directly from the line of dragons. In *A Dance with Dragons*, Melisandre reflects that whenever she asks for a glimpse of the Lord's chosen, R'hllor shows her only Snow— and yes, capital included. There is a very nice visual parallel between snow and ash to be made here, but perhaps more convincing is Jon's sense of duty leading him to abandon his own Nissa Nissa, the wildling Ygritte, to return to the Night's Watch. His recent election as the 998th Lord Commander of the Night's Watch puts him in a very good position to wield the Watch as his own Lightbringer, although the multiple stab wounds might cause a few issues.

Daenerys is also a popular candidate for the position— Maester Aemon once again provides wisdom in the fact that Dragons are neither male nor female, meaning that there is no reason that the promised saviour could not be a woman. Dragonstone was her literal birthplace, while Drogo's funeral pyre served as a suitably fiery place of rebirth. Also the dragons. Who better to serve as a fiery messiah than the Mother of Dragons?

An interesting dark horse in the theory is Victarion Greyjoy. While at first this seems impossible and bizarre, there are irrefutable similarities between the R'hllor and the Drowned God, both featuring a monotheist religion with a central evil deity, legends of saviours

that fought against great evils, rebirth and human sacrifice (be it through drowning or getting burnt alive... I'll take a beheading, thanks). Victarion, tasked to take Daenerys as Euron's bride and planning to take Dany for himself, falls into quite a peculiar series of events on his shipride over. After rescuing a red priest from the water, Moqorro, he has a potentially mortal hand wound treated with red magic, leaving his flesh appearing burnt and smoking. Moqorro tells him of the wondrous future for Victarion that he sees in his flames, and eventually converts the Greyjoy to respect the Red God — though interestingly, while still honouring the Drowned God. Victarion clearly satisfied both aspects of the 'salt and smoke' detail, and as an added bonus, beat his own wife to death, although, that was after his brother Euron impregnated her, and he didn't get a flaming sword out of the deal.

There are much more complexities to this prophecy in the way that it overlaps with other foretold heroes— there is a vaguely referenced "Prince that was Promised", which may or may not be merely another incarnation of Azor Ahai. In addition, there is Daenerys' vision in the House of the Undying that promised that "the dragon has three heads", with Daenerys clearly being one. Is it possible that this unified three-headed dragon is the entire entity of Azor Ahai to save the world from the terrors to come? It seems the only way we'll know is when the rest of the books are published... which, for the love of R'hllor, I hope is soon.

Songs of the Summer



My album of the week is Slow Club's *Complete Surrender*, but since this is the last Iron Warrior of the term, I figured I would write about something different. I've already done a mid-year countdown and an anniversary review this term, so today I'll cover something different: the Song of the Summer. It's a phrase that's often repeated around now, when the days are hot and long and we want a song to complement that weather. But actually determining a Song of the Summer is a different beast entirely, and ten people could very well ten songs they think are Song of the Summer.

Although not a rule, many times Song of the Summer does not mean the same thing as "best song of the summer." For example, I consider Ariana Grande's "Problem" to be the best song on the radio currently, but it's most definitely not my radio song of the summer. That distinction goes to Norwegian duo Nico & Vinz's gorgeous and out-of-nowhere "Am I Wrong." But why? What makes "Am I Wrong" my SOTS over "Problem" or "Fancy" or whatever else? Maybe the longing in the singer's voice somehow matches the languor of the most humid summer days, or maybe how the syncopated drums bring to mind calypso or tribal African music, where summer never really ends. Maybe it's how everything combines into a song that's as relaxing as it is world-beating in a way that no other song currently is.

In order to attempt to corroborate these assumptions, let's look at some previous SOTS, both of which were pretty unanimous decisions in their respective years. 2013 had Daft Punk's monster retro-

jam "Get Lucky," while 2012 produced unassuming Canadian Carly Rae Jepsen's inescapable "Call Me Maybe." What common themes tie these songs together, why were they better suited for the sunny days of July and August than any other song? Most strikingly, each singer carries the song with a sense of effortless fluidity, riding on top of the music. It's always nonchalant, and yet still commanding in a very non-committal way. The music too is shiny and bright without ever being in your face, full of lush orchestration and major key chords. In each of these songs, as well as "Am I Wrong," the music is almost tactile in its smoothness. With these characteristics in mind, below are five songs, some old and others new, each of which perfectly encapsulates the ideals of a Song of the Summer:

Don Henley – "The Boys of Summer"

In my opinion, this song is miles better than anything Don Henley recorded while he was with the Eagles. For lack of a better way to describe it, this song sounds like what summer feels like, with Henley's strained yet warm vocals sounding like they've been baked under the sun. And the unforgettable chorus is as beautiful and desperate the 100th time as it is the first.

Soulja Boy – "Xan With That Lean"

Wherein Soulja Boy sing-speaks his way through narrating a day in his life, where he "keep the hammer on me, I ain't worried 'bout a thing." His Autotuned drawl perfectly matches the lazy synths and makes the song an exhibit on why Autotune is an amazing tool when used properly. If Soulja Boy disappears into the annals of rap history in the next couple years, this should be his swan song.

HAIM – "If I Could Change Your Mind"



Nico & Vinz

Nico & Vinz's "Am I Wrong?" matches the relaxing feel of summer.

HAIM came from nowhere in 2013 to release an album chock full of songs perfect for summer. Among them, "If I Could Change Your Mind" is a perfect microcosm of HAIM's aesthetic, longing and wounded while still musically warm and sprightly. It's a perfect song for dancing, crying, and anything in between.

Blood Orange – "Chamakay"

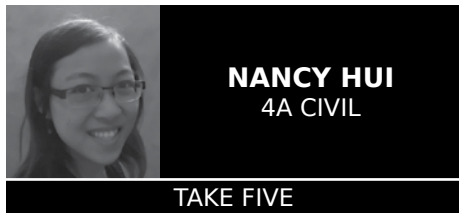
The most heartbroken song in a list full of them, "Chamakay" backs up its boy-girl vocals with airy jazz and calypso. The verses are whispered and intimate. But then the sky opens and the chorus

hits the rafters, lingering on its last line: "Baby girl you're wrong." It's absolutely crushing, perfect for those humid days by yourself.

The Beach Boys – "Don't Worry Baby"

The original Song of the Summer by the original purveyors of summertime songs, "Don't Worry Baby" is three minutes of beautiful harmonizing and plucked guitar. Throughout the song, the narrator is told that "everything will turn out alright," and listening to this song gives you the impression that it probably will.

Classic Popcorn Movies



Look, Take Five is a pretty lowbrow movie column. I rate movies that I want to watch. Maybe one day I'll delve into the French arthouse cinematography scene, but right now I'm at the point in the term where I can't be bothered to use more than 10% of my maximum brainpower in trying to understand and interpret a movie.

This part of the term also coincides with the summer blockbuster season, but like I said, I hardly have time to even write this column and I have a class on the Tuesday discount nights, so I haven't watched any of the big movies this summer yet.

This leads to classic summer blockbusters. I want a movie with likeable protagonists. I want a movie with minimal moral ambiguity. I want attractively filmed explosions.

Here are five movies I consider to be the absolute best post-final popcorn movies.

Independence Day (1996)

Classic tentacle aliens invade earth and blow up the White House. Will Smith is a fighter pilot, and Jeff Goldblum is a computer scientist from MIT. They fight aliens, because 1996 computer technology is totally compatible with extraterrestrial software.

I've been saving this one for a while, because it is possibly the easiest popcorn movie. The plot has global yet simple consequences. The characters are many, but distinguishable, with minor but memorable subplots. The morality is black and white. It also has Will Smith, who is the only black actor who is indubitably the protagonist of every movie he shows up in.

This is the number one movie to watch when you don't know what you want to watch: if you lack the willpower and energy to decide for yourself, this probably falls within your mental capabilities and is unlikely to offend any of your delicate sensitivities like Michael Bay.

Gladiator (2000)

Emperor Marcus Aurelius is murdered and succeeded by his cruel and incompetent son, Commodus. General Maximus Decimus Meridius refuses to grant his loyalty by Commodus, so Commodus sends soldiers to kill him and his family. The plot fails, but Maximus is captured by slave traders and becomes a vengeful gladiator.

It's appropriate that one of the best blockbusters is based on historical spectacles, though history didn't really go down the way that it did in film. Marcus Aurelius actually died of plague, and Commodus's actual murderer was his personal trainer, who strangled him in a bathtub. His assassination was followed by the Year of the Five Emperors, in which five claimants to the title of Emperor attempted to bribe and murder their way to the throne. I'd like to see The Year of the Five Emperors as a movie.

Until then, we can settle happily for Russell Crowe shouting in the middle of the colosseum. I think this fully deserved the 5 Oscars it won, since it's a sensitive blockbuster that successfully combines its quiet, emotional scenes with amazing action sequences. The only part of the movie I felt didn't work was Hans Zimmer's score: I couldn't hear it without thinking of the Pirates of the Caribbean. Fo shame, man. Get yourself some new action motifs.

Star Wars (1977)

After the accidental acquisition of droids with some classified information, Luke Skywalker (Mark Hamill) is swept up in a space rebellion ironically led by Princess Leia (Carrie Fisher) which plots to destroy the Death Star space station.

Star Wars, which was followed by two sequels, three prequels, and another trilogy of sequels, was instrumental in the propagation of special effects in the medium of film. This led to better onscreen explosions. Star Wars also paved the way for trilogies so that producers could make more money with fewer ideas.

Look, I guess I'm just not as big a fan of Star Wars. The story is great but the acting and pacing are somewhat suboptimal, and the special effects have not aged well. It's not my first choice for a nice, popcorn-brained movie session.



independenceday.wikia.com

Independence Day (1996) serves as an ideal classic to watch when in doubt.

Jaws (1975)

A shark filmed by Stephen Spielberg menaces the beach, ruining the tourist economy of the nearby town. Robert Shaw, Richard Dreyfuss, and Lorraine Gary play the men sent to kill the shark.

Jaws was literally the first summer blockbuster. Before Jaws, there were only blockbusters that happened to be released in the summer. After Jaws, distributors planned their releases around the July 4th long weekend, and actively sought to replicate the success of previous action movies appealing to the lowest common denominator. As a result of it all, Spielberg became criticized for possibly ruining the spirit of creativity of 70s filmmaking.

But Jaws was still totally, totally worth it.

Head to head, I think that Jaws wins over a similar movie, Alien (1979). Although I couldn't name any of the three teuteroganists beyond nice guy / nice guy / dickhead, I thought their strategy for killing the shark to be more complex and interesting than Ripley's strategy for neutralizing the xenomorph.

Furthermore, I found the suspense in Jaws to exceed that in Alien, since Alien is mostly a CGI snuff film, and Jaws balances the power more evenly between man and beast. Furthermore, the shark in Jaws to have more presence, although it's a fin most of the time - the shark has bulk that the xenomorph's spindly exoskeleton can't match.

Though this begs the question: who would win in match between a xenomorph and a great white Shark?

Top Gun (1996)

Tom Cruise is an aviator training picked for elite training at the Navy's Fighter Weapons School, a.k.a TOPGUN.

Top Gun is an awful movie. The action scenes are filmed mainly inside the cockpits, where you can't see where the other fighters are and the pilots are wearing helmets. I don't buy Tom Cruise's daddy issues for acting as a careless jerk throughout. The sex scenes have cheesy music and disconcerting closeups on Tom Cruise's sweaty face as he humps the love interest. He should have died at the end of the movie.

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Bill C-36: NIMBYism and Victimization



Testimony to be used in the drafting of Bill C-36 concluded on July 10th. Bill C-36 was introduced in the wake of last year's Supreme Court decision to strike down Canadian prostitution laws as violations of constitutional guarantees to the life, liberty, and security of the person: specifically, the prohibitions against keeping a brothel, living on the avails of prostitution, and soliciting on the street. The previous legislation exposed sex workers to danger, since it forced them to practice out of public view and be unable to hire their own drivers and guards.

Bill C-36 seeks to protect sex workers by treating them as victims and shielding them from criminal prosecution. However, prostitution is still illegal if carried out in public places where children could be, or if two sex workers communicate for the purpose of selling sex.

Bill C-36 also aims to limit prostitution by prohibiting the purchase of a sex worker's services, but not the selling of

such services, and thus prosecutes johns and pimps: it would be illegal to pimp out prostitutes and pay for their services. This is also known as the Nordic model.

The bill is intended to protect sex workers by allowing them to rent apartments, screen clients, hire receptionists, drivers, and guards, and to advertise their own services. However, sex workers believe that the most vulnerable members of the profession do not benefit from hiring support staff they can't support, and instead would be driven further into sketchy neighbourhoods when soliciting clients.

Furthermore, the ultimate purpose of C-36 is "to protect human dignity and the equality of all Canadians by discouraging prostitution," as stated in the bill's preamble. Seems a bit ironic - that one might promote dignity of one group by discouraging another. Furthermore, the purpose of Section 15 in the Charter of Rights and Freedoms is, according to the Supreme Court, to prevent the "violation of essential human dignity and freedom through the imposition of disadvantage, stereotyping, or political and social prejudices, and to promote a society in which all persons enjoy equal recognition at law... equally capable and equally deserving of concern, respect,

and consideration."

C-36 also addresses provision of assisting workers to "exit" the sex industry, but these services are contingent on exiting the industry in the first place. Sex workers for whom leaving the sex trade is not feasible, or have no intention of leaving in the first place, do not benefit from these services, because C-36 considers them to be still part of the problem.

You might also notice that I haven't referred to any sex workers as female above. Bill C-36 is exclusively designed to protect vulnerable and marginalized women. And yes, most sex workers are female, but male sex workers were not included as witnesses in the discussion and drafting of Bill C-36.

Furthermore, the Conservative government would have you believe that the world's oldest profession has no right to exist in the first place. The Nordic model, 15 after years its 1999 inception in Sweden, still has not eliminated prostitution. The War on Drugs won't help suffering addicts, but clean needle and medication does. Prostitution is illegal in all the States but Nevada, but I'm pretty sure there are sex workers all over "the land of the free and the home of the brave." The 2003 legislative

accident in Rhode Island that allowed paying for consensual sex (but only indoors) reduced rape by 30% and female gonorrhea by 39% until the closure of the legal loophole in 2009, likely due to lower rates of victimization.

One recognizes that prostitution or brothel management is not always a person's first choice of career, and that generally speaking, prostitution is not good. However, C-36 broadly assumes that all prostitutes are victims in need of protection. C-36 also prosecutes madames who currently manage brothels, and those who depend on the services of such escort agencies. Similarly, those who purchase sex are not necessarily bad people.

If the government really wanted to protect sex workers, they might focus their efforts on reducing poverty and the removal of legal and social stigma associated with the sex industry to allow for easier prosecution of abusive johns, pimps, human traffickers. Isn't the abuse of sex workers the problem in the first place?

Such a broad and simple-minded law like Bill C-36 is dangerously powerful. It stinks of NIMBYism and ham-handed legislators. It will probably pass by the end of the year.

Everyone Would Benefit from an On-Campus Grocery Store



Freshman 15 – a rumour or reality? According to University of Guelph's study, the freshman 15 is a myth. They say, by average, female students gain 5 pounds and male students gain 6.5 pounds by the end of the first year in university. Well, that's still evidently some gaining in my opinion.

The freshman 15 was a reality for me. Believe it or not, I had gained more than 15 pounds by the end of 1A and yes, that much weight causes some major transformed look.

Why does weight gain happen? Reasons include decrease in physical activity, increase in sedentary activities, celebrating legal drinking age and of course, eating fatty food.

However, study has shown that the first year university students eat about the

same number of calories as they did in high school, but by different intakes such as less fruits and dairy products. Then, of all the possible reasons, we can quickly conclude that it is mainly the imbalance of nutrition that causes first year students' weight gain.

So I took a look at this week's dinner menu in V1: Pork Chops, Chicken Wings, Ginger Beef, Indian Butter Chicken... and we can find similar menus in the university plaza: Burger King, Phat Cat, Pita Factory, Curry In A Hurry...

If students rely on this kind of menu on daily basis, I am sure that intake of the three primary macronutrients (protein, carbohydrates and fat) would be very easily fulfilled but that of macrominerals and micronutrients will be of question.

We can buy lecture-friendly, to-go snacks such as apple, banana, milk and salad boxes at different locations on campus. And on campus, these healthy snacks are provided very overpriced compared to the grocery stores. For example, today I bought 5 bananas for \$1.30 at a local mar-

ket but C&D sells one banana for \$1.00. Therefore, for fruit lovers like me, regular grocery shopping is necessary to keep me healthy and not bankrupt.

The truth is that for all students, not just first years, balanced nutrition and fresh fruits and vegetables are a must. If fresh ingredients are available nearby at affordable prices, eating healthy would not be too challenging for students.

There are a few grocery stores in Waterloo on bus routes. But doing grocery shopping by bus can be hectic at times depending on the weather, delayed bus schedule and buying heavy things like water. I am sure everyone has experienced it once. During exam times when we get busy, grocery shopping is definitely something to skip.

So what if we get a grocery store on UW campus?

Some quick research into how many people are needed to support a full service grocery store comes as around 5000 people. Even if this measure isn't rooted in the correct assumptions and statistical

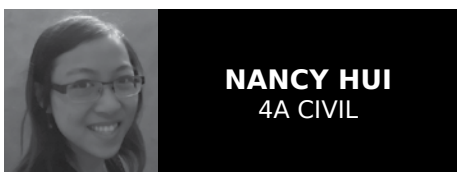
computations, we have more than 20,000 undergraduate students in UW, not to mention the population of postgraduates and staffs. This means that UW campus population is enough to maintain the flow of fresh groceries in the shop.

There is also an added benefit of having a campus grocery store for the school. The left-over non-expired ingredients can be used in the cafeteria kitchens in residence.

It will provide students some part-time job opportunities. The size of a grocery store is not comparable to C&Ds and it is not too necessary to keep the store run by volunteers only. Making enough revenue to hire paid employees will be easy.

Average weight gain among university students is highly undesirable and unhealthy. Simply, coming to university should not introduce an imbalance of nutrition in anyone's life and we spend a great portion of our life here. This can be changed by providing fresh groceries available to students in walking distance from the campus - preferably on the campus. Everyone will benefit from it.

Entrepreneurship: An Option



According to Wikipedia, entrepreneurship is the process of starting a business. According to the University of Waterloo, entrepreneurship is now also an option in the Faculty of Engineering.

Starting in the 2014-2015 school year, students will be able to pursue venture creation and corporate entrepreneurship. Venture creation is what one typically associates with entrepreneurship: startups, angel investors, the Silicon valley shebang.

Corporate entrepreneurship, on the other hand, empowers individuals to act as "entrepreneurs within organizations", or, "intrapreneurs." Overall, those who complete the entrepreneurship option will be equipped with the tools to create and grow new entrepreneurial businesses, understand the process of commercializing new technologies, and manage the growth of new business opportunities within existing organizations.

The project has course and project components. There are six required courses: ECON 220, any List B CSE, BET 300, BET 320, BET 400, and one technical course in an area related to the student's entrepreneurial experience, as approved by the option co-ordinator. As

for the project component, a student can opt for the Venture Creation Emphasis, where a student earns a credit through completion of an e-coop term, the Engineering Entrepreneurship Milestone, and BET 310. I have no idea what the Engineering Entrepreneurship Milestone is. Alternately, one could demonstrate entrepreneurial experience through their capstone project.

Although it is possible to create a civil engineering startup, and to think entrepreneurially within an organization, I cannot help but think that this option is not targeted towards the Civil/Enviro/Geo students.. The current list of pre-approved technical courses for the course component of the Entrepreneurship option only includes courses from the

ECE, Management, Mech, and Systems Design programs.

Furthermore, the requirements of what makes a capstone project "entrepreneurial" are nonexistent. Well, there's still a few years for the option coordinators to define what it means to be entrepreneurial, other than that it has fifteen letters, six syllables and seven vowels.

But although the guidelines of what constitutes entrepreneurship are a mite fuzzy, I'm glad that the option - should one choose to pursue it - recognizes that not all programs are equally equipped and suitable for start-up development, and allows students to recognize that there are opportunities for innovations within large organizations.

The Return of the King; The End of an Era



**ELIZABETH
SALSBERG**
2B NANOTECHNOLOGY

THE BENCHWARMER REPORT

LeBron James is officially going home. The King recently signed a two-year, \$42.1 million contract with the Cleveland Cavaliers, where he spent the first seven seasons of his NBA career. With this surprise came the end of the “Big Three” era.

The Cavs have a solid young core in point guard Kyrie Irving and rookie Andrew Wiggins along with some other respectable role players. Regardless, the current Cleveland Cavaliers do not have anywhere near the talent potency of the Heat. James will need to be patient; but over the next couple of years and with him leading the way, the Cavs could become serious playoff contenders.

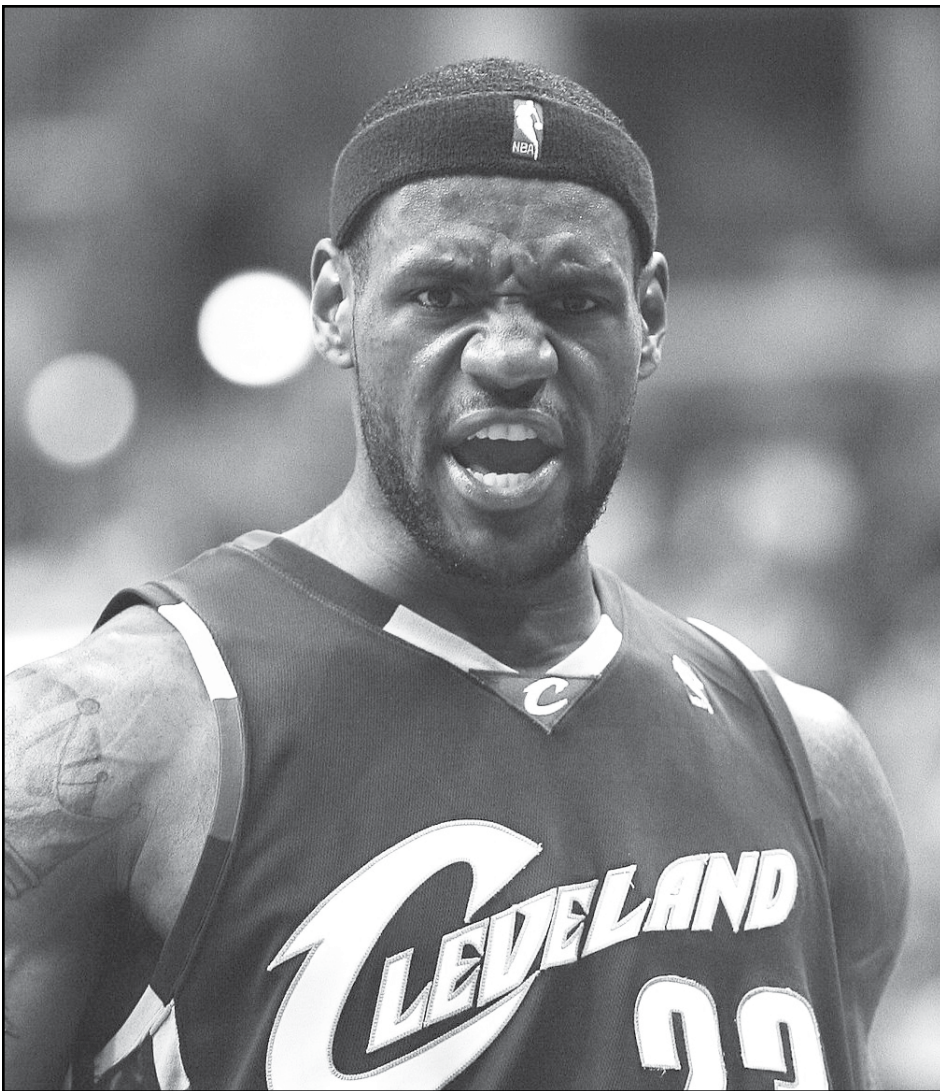
With the King out of town, what happens to the Heat and the Big Three? Soon after the King’s announcement of his departure, the third amigo, Chris Bosh signed a 5-year, \$118 million contract. The Heat are now looking to re-sign mainstay and fellow amigo Dwayne Wade. Even in the likely event that Miami does re-sign Wade,

the “Big Three” era is officially over.

What does this mean for the rest of the Eastern Conference? We all know that the conference was extremely weak this past year. Few teams were above .500. Miami and Indiana were dominant, but less face it, Miami is not going to be the force that they were with the King. Cleveland will likely make the playoffs, but they will not dominate the way Miami did for a long time. There have not been any other substantial trade moves across the Conference. This likely means another weak year across the East.

According to Cavs trade rumours, the team may be looking to trade prize rookie Andrew Wiggins for some key experienced role players or another strong starter (Kevin Love, potentially). LeBron suspiciously mentioned being excited to work with Kyrie Irving and a few other up-and-comers, but there was no mention of Andrew Wiggins.

What ever happens to this season, it will be interesting to see who comes out on top. Indiana will be strong as ever, but the rest of the Conference is pretty much up for grabs. Expect the Western Conference to be significantly stronger than the East again. The end of the “Big Three” means the Eastern Conference has a long way to go to meet the West.



Keith Allison

LeBron James is back in Cleveland.

Proactive Thinking: Proactive Results



BRIAN CHAN
2B NANOTECHNOLOGY

ENGLIFE IMPROVEMENT

So exams are coming up, and I’m sure everyone is under a lot of stress. I am also pretty sure that your professors have all these last minutes assignments and projects that they want you to complete, which sucks, but that’s the engineering life. Professors usually don’t really care about you or your life, just their own courses which they think is the most important course you are taking for that term (which is completely egocentric, and students suffer for it). So how do we overcome this harsh and cruel fate we are subjected to and make it to the end of term with minimal casualties? Be proactive!

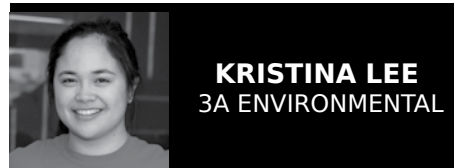
The bane of most university students is that we try to leave everything for the last minute. That is why when we are given extra assignments we are in even deeper trouble because we still have to prepare for those finals coming up as well. This will lead to us pulling out our hair and regretting the fact that we enrolled into engineering. By being proactive, all of this can be avoided.

First make a list of all the work that has to

be done and the days that they are due. This will help you gauge which assignments are due first and which ones are more important. Say that you had an assignment worth 10% and one worth 20% and they were both due on the same day, I am pretty sure you would want to prioritize the 20% assignment because it is worth more of your marks. Then tackle the assignments one at a time. If the tasks are assignments I would advise you to get together with friends and try to complete the work together because heck, more than one head is better than one and if you distribute the work evenly everyone will obtain the answers at a pace at least 2 times faster than it would take one person to do it. If you have a project, invest as much time as you can into those because they will require more time than assignments and most likely are not group projects. As for studying for the finals, study a bit of each subject a day so you won’t get overwhelmed when exam week hits and you are scrambling to understand certain concepts. Make sure to ask the TAs and professors for help! They are probably your best resource.

That’s probably the best advice I can give you on how to tackle the last couple weeks of this term. Be proactive, be ahead, and hopefully pass the term with less stress than you’re used to!!

Nights in the Yukon



KRISTINA LEE
3A ENVIRONMENTAL

Here I’ve been all term writing about the wonderous North, unsure if I’d see it again. Alas, another co-op cycle has come and gone and I find myself heading back up North. This time however, I’ll be going into darkness – a thought that spooks me.

Heading into the winter, the days will shorten until they reach about five and a half hours; I’ll leave for work and come home in the dark. Although I’d rather spend my daylight hours outside rather than in, there are a few perks that come with the darkness. My favourite time is past sunrise, as the sun hits the mist off the Yukon River and all the buildings. It’s absolutely gorgeous and only gets better as the sun disappears. As the days get shorter, the nights get longer and the temperature drops, which means my favourite spectacle appears. My favourite show, the Aurora Borealis.

The cold, crisp nights are totally worth the lights that dance above. I’m excited to be reunited with the morning mist and the northern lights but I’m also excited for the new things I’ll get

to experience. I’ll be making my way up before Labour Day which means everything will be open and not just between 10am and 4pm three days a week.

The Yukon is most lively during the summer months, when all the tourists are visiting. There are a plethora of museums I’ve yet to discover. I’ll write you one last info piece on the Yukon. A lot of people down south are opposed to hunting, but up North it’s a way of life. Hunting is a sport just as much as it helps maintain balance. Permits are required to hunt and there are size requirements that must be met for certain animals.

I wasn’t so keen on hunting when I first arrived, but after attending the Yukon Fish and Game Association Banquet I started to think otherwise. They don’t play around in the Yukon. There are free lessons on how to properly skin an animal and family days for fishing. They provide a welcome and warm environment for anyone who wants to get involved and teach the best practices. They try to make hunting as sustainable as possible. Even if you’re against hunting, it’s a way of life up North and they don’t waste an ounce of the animal.

I’m excited to back up North and see what it has to offer and explore.

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Why Old People Should be Given Recreational Drugs



JON SWYFT
1B [REDACTED]

A SPECTACULAR PROPOSAL

When people retire and grow old they start to lack purpose in life and take up new activities to fill the time like bridge or crocheting. No one can bake cookies as well as grandma because that is all she does, she has so much time on her hands she has perfected the chocolate chip cookie. Recent studies show that sexually transmitted diseases have been on the rise in old people and that is gross. So to remove that gross thought from your mind, I propose to make the lives of old people easier and more enjoyable in their golden years. We can achieve this by allowing octogenarians (and perhaps a bit younger, depending on the situation) to use recreational drugs - any recreational drugs. They could smoke marijuana, crack cocaine, inject heroin or krokodil. They have free range when it comes to drugs so they can have more fun before they die. "But John Swyft, why

would you let old people harm themselves with drugs, they could die and injure themselves." you protest. If we are able to maintain a safe environment for all these old people to be administered these drugs, they won't injure themselves that much and there are plenty of drugs to help if they do.

One reason we should give old people drugs for recreational use is because they deserve it. I am not saying that because grandma is sending me \$100 a week for food but I am using it as beer money. The venerable in society have paid their dues, worked hard as a part of society, and are now trying to maintain as much comfort as possible before they die; by giving them drugs they can enjoy the last years of their lives. If grandpa never got to return France after fighting against the Nazis and to visit his secret French second family, he can take another type of trip thanks to LSD and magic mushrooms. If your really old grandmother asks where she is, you won't know if its because she is really high or just has very advanced Alzheimer's. Old people will be very relaxed and feel less pain than they have in years thanks to recreational drugs.

Much like the first reason, they have worked very hard to keep potatoes and bread on the table to keep their children alive to eventually produce a genetically unique you. They have suffered through wars, famine, and dictatorships, and they will need help to forget all the horrors they have seen. When your grandparents was still in elementary school, they had to fight off snakes with machetes and didn't have shoes because they had to eat the shoes in soup. After school, your grandparents would work on the farm from dusk till dawn gathering enough potatoes and rice to feed all of Australia. The worst thing that ever happened to you in elementary school was when your Game Boy ran out of battery in math class, or you died in MapleStory and got laughed at. Even now, the worst thing that happens to us in university is when we have to study so we can have an easier life than our grandparents. Oh no, you have assignments due and have to apply for scholarships. Wow, did you know what happened to your grandparents when they were your age? COMMUNISM! They were running away from warlords and losing family members, while all you are doing

is looking at how many retweets you are getting. They are getting too old for this kind of shit and terrible shit is happening right now in the world. So why not allow them a very pleasant escape from more war, while the young bring freedom to the rest of the world?

This is why we should be giving old people drugs. After a long and fruitful life to help make the future, we allow them to live a relaxed and enjoyable life. The movements of old people are a lot more limited and they will be unable to do the things that they loved before and giving them more drugs is less gross than imagining old people have sex. Unless recreational drugs also increases sex. I am not sure of the statistics on that, so we should tell old people to practice drugged-up safe sex to minimize the spread the STDs. They might be able to spread it to the young people, but I am not going to be judgmental about young people who have sex with very old seniors. Whatever floats your boat, although one of the motivations to give them drugs is to try to curb senior STD rates by having seniors have less sex. TL;DR: Promote safe condom drug sex amongst old people!

How to Talk to Yourself



CHING O'MALLEY
GRADE 12 ADMITTED
INTO BIOMED FALL 2014

HOW TO TALK TO

A great person once wrote something and people quote it today. I am not one of those people and many of the things I say have absolutely no quotable value. What I can offer is advice for when you become a hermit and recluse. Whether you end up living a life of solitude because of your uncontrollable personality and you physically change from your rage or because you were extra trouble while in jail; being alone for a long time will affect you psychologically. If you are prepared for all these possible situations, then you have nothing to worry about. When you decide to send yourself to Mars and build a giant floating glass castle, remember the "3 T's Rule": Topic, Technique and Tupac Shakur.

First, "topic". When you talk to yourself and you are training to talk to yourself

because you are living the life of solitude, always have a topic. The topic can be anything and if you talk to yourself enough about what kind of topic you would like to discuss in depth with yourself, you will be occupied for hours. This really helps when you decide to go and ponder existence. Why does it exist? What is thought? How do you think? What did I have for breakfast? Why is my memory so bad? What is thought? Things like that will lead to more thoughts and more conversation with yourself because remember, the most boring conversation partner is yourself because you always know what you are thinking. By randomly thinking things and surprising yourself, you are creating a fun and exciting mind adventure for yourself. It is also good to be productive with yourself and start learning about a specific topic like the cure for cancer and HIV or how we can end famine.

The second T in the Rule of T's of Three is technique. To kept yourself engaged in a conversation with others, you stare at their face, hopefully in the eyes, and hope your ears are picking up what they are saying.

Once you have heard their thoughts, you move on to expressing your thoughts with mouth muscles. When talking to yourself, you have no visual point of focus, you can speak and just stare into the sun or a lamppost. The most important thing is that you do not speak into a head set connected to a companionship AI app on your phone because that is the plot of the movie Her. To learn the technique of speaking to yourself, you must learn to gather all your thoughts all the time and let it all out of your mouth. Very much like meditation where you clear your mind of all thought, you are clearing your mind of all thought by speaking them out of your mouth. There is no thought too small and no word too large to say and think. I am currently using this technique while trying to write this article. It is a lot of finger movement and very little thought because that is how you get ideas which leads back to topics to discuss with myself.

Lastly, the final T of the Rule of Threes is Tupac Shakur. You have discuss whether or not he is dead and where he would be. This conversation and train of thought

also includes who really shot Tupac and whether or not it was his hologram sent from the future to prevent a terrible gang war in the rap scene. This is also the perfect opportunity to break your life of solitude by asking people if they have seen Tupac and if they are Tupac Shakur. It is been many years since Tupac has been seen alive and not in hologram form. He may have evolved into my Chinese grandmother or my Irish father by now. So if you see a pleasant old Asian lady or small child in a stroller, ask if they are Tupac Shakur or if they have seen him. Most likely, they will have not and will call the police. The best thing you can remember when you are arrested is to say "I want my lawyer." This is when you stop talking to yourself and anyone else and let the lawyer handle the public disturbance and harassment charges.

Follow these tips and you will most likely be arrested and sent to a mental institution because I think most of the behaviours I have described are symptoms of serious mental illness. Go to a counselor if you ever take my advice seriously.

An Advice Column for the Meteorological



**MADAME FOUR
FLOWER**

WHETHER REPORT

July 21



Mostly sunny, with a high of 27. Today is a good day, unless you are turning 27. Any other birthday is good luck. However, if today is your 27th birthday, it is a turning point in your life. Your best years are past you, and it's all downhill from here. You may die of a drug overdose, but that is none of my business. For all others, make the most of this day. Everything will go well for you. Take a few risks. Ask that cute gal out. Enter the demolition derby. Set random things on fire. It will all work out for the best.

July 22



Cloudy; high is 29. Today, you will have to face the consequences of your actions. You may have or may have not performed

these actions yesterday, under our advice. We accept no liability. If it is your birthday, you will have to face the consequences of your own birth (the same as every day.)

July 23



Thundershowers; down to 24. If you are a mad scientist, you may wish to take advantage of the thunderstorm in myriad ways. Re-animating corpses suggests itself, as do some sweet-ass Tesla coils, for those of you less maniacally inclined. Whatever your chosen profession, take advantage of any opportunity that comes your way. The thundershowers will make an excellent backdrop for your success (or failure, as the case may be.) If it is your birthday, you may just be the Almighty Thor.

July 24



Sunny again, but only 22. What's up with that? After all that warm and dramatic weather, we're just going to drop a couple of degrees here? If you are feeling dissatisfied

with yourself today, try to remember all of your positive accomplishments this week. Did you win the demolition derby? Did you overrun MC with a legion of zombies? Did you watch a movie marathon that has every friend of yours shaking their heads? Hold your chin up and remember your week with pride.

July 25



Sunny, and 24 degrees. Now is the time to buckle down and get some work done. Any outstanding homework? Any below average homework? Sit at your desk and finish that garbage. You have it in you to catch up, at least some day. Today is some day. Git'r done! If it is your birthday, try to start the next year of your life on a clean footing. Wash those socks and learn once more to wear pants. Schedule some rest time and some work time. Re-organize your life.

July 26



Some sun and some clouds. High of 24

again. Don't let those clouds get to you! It's still a good day, even if there are fluffy dark things looming over your head, ready to dump cold water on you the moment you make a false move. If it's bothering you too much, get some industrial-quality fans and some heat guns on your roof, and those damn cumulonimbus should disperse. If the problem persists, contact your local meteorologist.

July 27

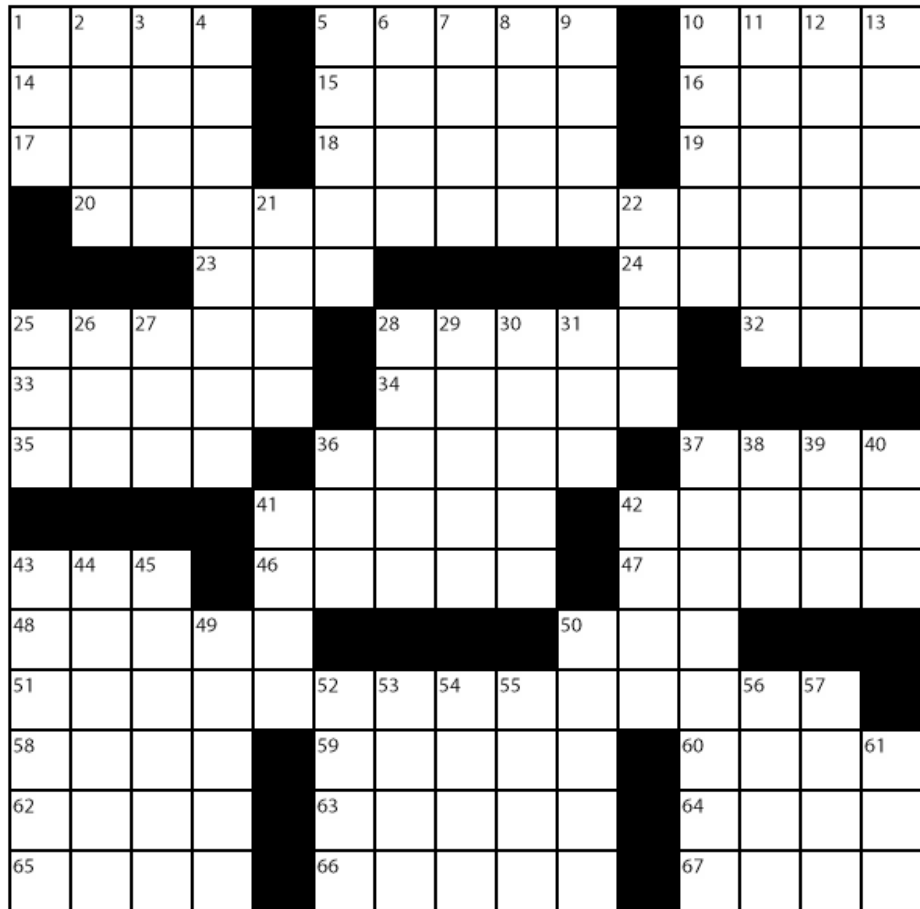


Gloomy and rainy. Still 24. Those clouds burst, didn't they? It's ok; you can stay at home and play hide-and-seek in the dark with your buddies. The clouds can't usually get inside. It only happened to the Iron Warrior office once, and that was because the EIC was getting involved in some really dark summoning shit. She swears it won't happen again. There haven't been any dank, musty clouds getting inside for weeks now, regardless of that circle on the floor with those pentagrams, and- they seem to be glowing. How strange. I always warneddddddddddjdgknjghknjhcjkl

The Iron Crossword

The Fourth Year Design Project

NANCY HUI
4A CIVIL



ACROSS

- 1 One __, your __, her __
- 5 Hits a 37-across with a 37-across
- 10 By elimination, Heather has none of these
- 14 Shallowest Great Lake
- 15 Authentic, yo
- 16 Light blue-green
- 17 Space
- 18 Source of "Don't Cry For Me Argentina"
- 19 Want badly
- 20 An important criteria for evaluating alternatives, that usually ends up being interpreted as "pretty" and "trees"
- 23 Forthcoming rapid transit system in Kitchener-Waterloo
- 24 Aisha or Steve
- 25 An arm and a leg
- 28 Eagle's nest
- 32 Important sources of IW revenue
- 33 Circles not drawn by Dr. Wei-Chau Xie

DOWN

- 34 Kingdom
- 35 "He's not my ____."
- 36 "Look, it's my duty as a knight to sample as much ____ as I can."
- 37 Subject of chiromancy
- 41 Its government is a unitary parliamentary constitutional monarchy
- 42 A monk in the wild
- 43 Rose's jilted fiancé
- 46 A curved nook in a church
- 47 Rolls in the hay
- 48 Surrounded by
- 50 An application of a dildo
- 51 Easiest multi-criterion way to evaluate alternatives in your work report or 4YDP (2 words)
- 58 Zeal
- 59 More arid
- 60 Clapton or Bana
- 62 Joust
- 63 Driving and bowling locales

- 64 "That's what she ____!"
- 65 Cumberbund
- 66 Fill with joy
- 67 Sulk

DOWN

- 1 Where Legolas wanted to go
- 2 Makes a mistake
- 3 In ____ of
- 4 Possible, in 4YDP lingo
- 5 Neaten
- 6 Saint Matthew
- 7 Not fer
- 8 A type of sandwich
- 9 Knife
- 10 Procrastinate
- 11 St. Thomas of ____
- 12 Removed motes
- 13 Horny men?
- 21 Lob
- 22 Twosome
- 25 Auction unit
- 26 Yale's building-destroying greenery
- 27 Navigational aid
- 28 17-carross plural
- 29 Otherworldly
- 30 The ____ of Castamere
- 31 A type of will
- 36 An acronym for the three components of 20-across
- 37 A report in which one summarizes one's lack of advancement on the 4YDP thus far
- 38 Use a scope
- 39 Type of dance
- 40 Dr. and ____ Vandertramp
- 41 Like a bad sofa
- 42 Anxiously play the guitar
- 43 Citadel student
- 44 Babysitter Bedelia
- 45 Natives
- 49 The bottom of it might be stressful
- 50 Interpret
- 52 60-across the Python
- 53 Type of presentation to make at end of 4YDP
- 54 Current outgoing EIC. Have a happy retirement.
- 55 Fulfill (a need)
- 56 An Islamic republic
- 57 T-Swizzle's lucky number... in Rome
- 61 Summer time in St. Louis

Sudoku

NINA FENG
3A ENVIRONMENTAL

Easy

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

Medium

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

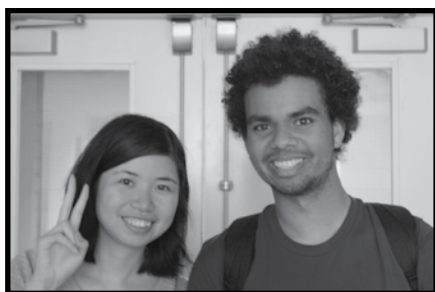
Hard

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

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Send your submissions to:
iwarrior@uwaterloo.ca

THE IRON INQUISITION
Jessica Keung, 2B Civil

"What was your favourite/most memorable exam?"



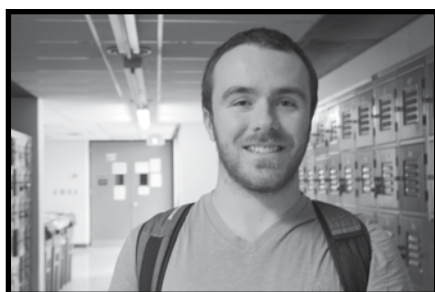
"CS 442."
John Shultis, 4th yr CS



"ECE 105, that horrible midterm."
Sudat Islam, 4A ECE



"PHYS 115."
Beyin Abraha, 1B Mechanical



"MATH 116, got 50% (with 1 mark for picking my section number)."
Drake Oldfield, 2B Civil



"CHEM 102 final, because someone else already said PHYS 115"
Melissa Ferguson, 3A Mech



"ME 456 midterm"
Travis McElveny, 4A Mech



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

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