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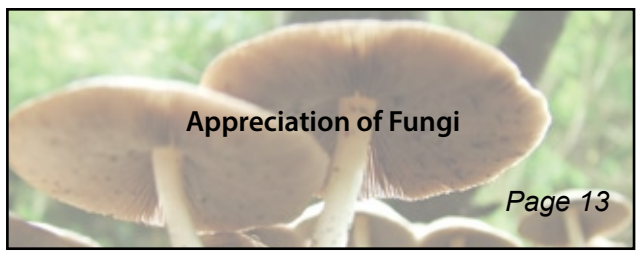

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Trudeau Government Puts Forward First Budget

Jake Wright via The Hill Times under fair dealing

Prime Minister Trudeau and Finance Minister Morneau display their proposed budget

CAMERON SOLTYS
3A MECHANICAL

The Trudeau government introduced its first budget to the House of Commons on March 22. Keeping with their campaign platform of "A New Plan For A Strong Middle Class," (a platform first unveiled at Laurier on October 5, 2015), the budget is titled *Growing the Middle Class*, which is proudly displayed in slanted letters on the front of the document.

In the speech he gave to accompany the budget, Finance Minister Bill Morneau keep the same theme strong. He harkened back to the Great Depression and World War Two, after which "Canadians believed the future could be brighter." Morneau supported this claim with essentially a description of the American Dream; middle-class Canadians could expect to buy a house and car, send their children to college, retire decently, and expect their kids to live an even better life than them.

Morneau went on to contrast that optimism with the current economic conditions, in which older Canadians didn't feel secure in their futures, in which young Canadians didn't feel that they could get the best education due to rising tuition costs and a job market where continuous long-term employment was not guaranteed. This budget is to restore that optimism by improving the economic conditions for the middle class, thereby growing the economy for everyone.

The Introduction

The budget itself is a 200-page behemoth, as one might expect for a document that will largely dictate the policy of the government for the next one to five years. While it touches on many things, some items of interest do pop out.

For instance, in the introduction of the budget there is specific mention of how "paying for the basics is sometimes tough," a possible allusion to the basic income that the government had previously said it wanted to explore. (See "Liberal Government to Explore Basic Income", *The Iron Warrior* vol. 37 i 4, pg. 11) However, no money was budgeted for the proposed exploration.

The introduction also notes that the number of working Canadians is expected to go down, as the number of people 65-and-over is for the first time larger than the 14-and-under group. It suggests that this budget will help to prepare Canada for the drastic oncoming demographic changes. In another section, an emphasis on growing trade relations with Asia is described, pointing out that Asia is expected to remain the large-growth sector of the global economy over the medium term.

The introduction wraps up with the suggestion that Canada should look to plan for the future by accruing government debt to invest in their ambitious projects. In its words, the low debt-to-GDP ratio of Canada (the lowest of the G7 nations) gives it the flexibility "to make strategic investments now that will grow the economy well into the future." Further justification for this proposal is given by the fact that the Canadian Government currently has extremely low interest on its debt.

Indigenous Peoples

With the recent publicity of the suicide crisis in Aboriginal communities ("State of Emergency Declared…", *The Iron Warrior* vol. 37 i 4, pg. 12) and the continuing efforts of the "Silent No More" campaign to raise awareness about the epidemic of missing and murdered Indigenous women, the state of Indigenous peoples is a central topic in Canadian Politics. The Liberal budget proposes $8.4 billion in investment in Aboriginal communities over five years to help bring their services to the standards of other Canadians. While $1.8 billion of this money is allocated for the fifth year, after the next federal election, this part of the budget has gotten some high praise. Assembly of First Nations National Chief Perry Bellegarde said "It's way better than Kelowna," referencing a $5 billion dollar 10-year deal proposed by the then-governing Liberals in 2005 and not implemented by the Conservatives who have been in power since.

One item in this part of the budget is $40 million over two years for a national inquiry into the aforementioned missing and murdered aboriginal women. This is yet another in a string of inquiries that have taken place, including one funded by private citizens published last year.

Some people critique the Indigenous Peoples budget as not doing enough. For instance, Cindy Blackstock, president of the First Nations Child and Family Caring Society, says that she is disappointed that the budget for welfare is going up only $71 million, given that a $109 million shortfall in welfare services to aboriginals versus the rest of Canada was identified in 2012. Similarly, Sheila North Wilson, Grand Chief of the northern Manitoba First Nations, claims that her communities need $2 billion in housing infrastructure investment alone.

Helping Young Canadians Succeed

In keeping with one of the themes that were used to introduce the budget, the government have put forward new initiatives that they hope will help students and young adults deal with rising tuition costs and lack of job security. For one, they have increased Canada Student Grants by 50%, meaning that students may now be eligible for $800 to $3000 in aid depending on their financial status. Another proposal will raise the salary that a student must obtain before they are forced to pay back their student loans from $20 210 per year to $25 000.

A more interesting proposal, designed to encourage students to take on part time or coop jobs, is to neglect a student's personal income when considering financial aid. Instead, it will be assumed that all students have the ability to pay for some amount of their tuition (an amount that has been left unspecified), and financial aid will be calculated based on the remaining tuition. The hope is that this change will make coop programs and part time jobs, that give useful work experience, more attractive.

Another change proposed by this budget is the removal of the education tax credit and textbook tax credit. Both of these credits are currently awarded to all students based on their full- or part-time enrollment in school. Two arguments are given for the removal of these credits: firstly, the credits are not targeted based on income, and therefore do not help those that need it most; and secondly, the credit comes at tax time, not when it is needed.

A final proposal that is of particular interest to coop students is that of a $73 million initiative over 4 years to support collaborations between employers and post-secondary institutions to cater what is being taught to the needs of industry. This proposal would, among other things, support coop placements.

What Happens Now

The budget must now be voted on by the House of Commons. Since the failure of a budget is seen as a vote of no-confidence, forcing a re-election, the members of the Liberal party will be expected to maintain party discipline and vote for the budget. In governments where the ruling party has a minority, they generally have to make major concessions to convince an opposition party or member of parliament to support the budget. Given that the Liberals have a comfortable majority that is unlikely to be necessary for this budget.

Here's to Paper

RAEESA ASHIQUE
EDITOR-IN-CHIEF

Hello readers! I can't believe I'm already writing my last editorial. I feel like it was a yesterday when Cameron congratulated me on running my first meeting, and distinctly remember the excitement of flipping through my first issue.

I have to start with thanking everyone who gave me this opportunity, which has definitely made me come out of my shell, be more expressive, and explore my own opinions. I used to be the kid who sat quietly in the corner of meetings, but I have definitely gotten to know all of our staff this semester.

I could thank Cameron every other sentence, so I might as well do it all in one go. Cameron was my assistant Editor-in-Chief, and I couldn't have asked for a better one. More like, I couldn't possibly have found a better one if I tried. He has two columns, makes the crossword and Sudokus, and writes a minimum of one extra article per issue. He taught me layout – since, being the responsible person that I am, I never bothered to learn it last semester – and was around to answer questions, copy edit, write last minute space fillers, layout Distractions, and just generally was the support I needed. Also, when Cameron says he loves the newspaper, trust me: he loves the newspaper.

I would also like to thank Leah, who was my first link to the paper. She was EIC when I was in 1A, and interestingly enough, she also moved me into residence in 1A! Now, in my term, she basically did whatever I asked her to do. We get along really well (maybe too well…we chat for way too long when we run into each other on campus, and say several times, "Okay, we should really get back to work now" before finally parting ways) which is why I will be very sad to see her graduate. All the best in all future endeavors, when you become "a real person"!

Nina was also EIC (before I was in university) and she will also be graduating this year. We only met this semester, so I didn't get to know her as well as I would have liked, but she has been awesome to work with, and I wish her all the best as well!

Basically, I've been super lucky to have three past EICs on staff this term to show me the ropes, and just fill in wherever I needed. That doesn't even take into account the rest of the IW staff!

Thank you, staff, for all the articles which made this term possible, and thank you for copy editing! Waking up on Sunday morning was always a pleasant experience when I saw that copy editing was pretty much done. Also, you guys are just generally awesome. I feel like we're all kindred spirits. My roommate came to one of my meetings, and said afterwards, "You guys are so chill, I don't understand how you get anything done." It's true: we sit around and chat most of the time, but crack down when it comes to crunch time.

Finally, it is my great pleasure to introduce Caitlin, the next A-Soc EIC! We've been offstream as long as I've been in school, but I met her for the first time two weeks ago when she came in for production. Despite not knowing her in person, I had intended for a while to ask Caitlin if she wanted to be EIC, and was willing to give her the position in a heartbeat. I know she'll do an awesome job. She often covers important global stories, isn't afraid to address controversial topics, and is very open-minded. Also, if you haven't read her column "5 Things You Really Don't Want to Know", you definitely should. You'll realize that despite cultural differences now, we all had strange ancestors.

Caitlin will be on campus in the fall for her 4A term, and I am so happy that she will get this opportunity before she graduates. I'm excited to work together; I feel like we'll have good times and interesting conversations. I'll see you in the fall!

Now onto the editorial of my editorial (because, as usual, I actually have something to say)!

I remember one meeting when Meagan (who was EIC last fall) was ranting about receipts, and how in this digital age, we should only print receipts for cash transactions since with debit or credit there exists electronic proof of sale. Now I'm here to talk about why I love paper.

I would consider myself somewhat of a tree-hugger. I turn off lights I don't need (and others don't need, which my siblings generally never appreciated), I turn the tap off when I brush my teeth, I try to recycle everything, including items that aren't strictly recyclable. But I still love paper.

Take this newspaper, for example: reading the articles online isn't the same. Reading the PDF gives you the same visual, at least, but it's still not the same. That's why I was so excited to open my first printed issue, even though I had been staring at it on a screen all weekend. (Well, sometimes I do more than stare at it on the weekend…) But to me, part of the feels is holding the paper in your hands. It's not just because, after two weeks of sweat and tears, the paper feels like my baby. It's because I like having something physical to hold.

That's the same reason I don't like eBooks. I know lots of people – and "lots" is relative because most people I know don't read – who like the Kindle or Kobo eReaders. My mom says it's for the convenience, which I do understand. But still, I like holding a book. I love buying books and flipping through books and having a full bookshelf. I love garage sales because I can buy so many books for cheap!

Same goes for textbooks: I would much prefer a physical textbook to a PDF. This isn't enough incentive to purchase a physical textbook, because broke student problems and also I'd rather not carry it. So yes, I'm going with the PDF. That being said, if the other issues didn't exist, I would prefer actual textbooks.

The way we "school" is changing with technology, as is the way we organize our lives and schedules: apps are replacing calendars and agendas, tablets are replacing lined paper and notebooks.

We also had the tablet discussion in the Iron Warrior office, and whether it is necessary to purchase an additional device. Personally, I would love to have a tablet, but not for taking notes. I want to be able to pull up my assignments/slides if I'm studying on campus (although the word "if" is better replaced with "when"), or even a textbook PDF, so I don't have to cart my laptop around. But I would never take notes on one.

I do see the convenience of taking notes on your tablet: it's only one device to carry, compared to a bunch of notebooks. You can write on slides, easily insert pictures into your notes, send to and receive from others. Besides, the battery life is much better than a phone's, so that isn't a deterrent. But keeping in mind that I haven't actually tried anything besides paper, I don't think this would work for me. Like I said, I like paper.

Now, why exactly do I like paper? That's a tough question to answer. I'll come back to talking about this newspaper. In 1A, I started keeping a copy of every issue that I contributed to. I like the idea of being able to read it in the future, and the sentimental value associated with a physical version. Which is why I also still have copies of our elementary school newsletter.

Besides, just imagine fifty years in the future when our technology is so archaic that there may not be a means of accessing an electronic version.

I think I like paper because I form attachments to things like the newspaper, my notes, my collection of books. I like it when they're pretty and organized and I can actually touch them.

I think it's also because us 90s kids didn't grow up on devices: little kids today have phones and tablets, but these weren't around when we were little. "Back in my day" we got an hour of TV time, and otherwise just played. Or if you were like me, you read all day. Including at the park. And at other people's houses. I know, I was cool.

Now elementary schools have iPads, but we didn't have those either. This is probably why we still use paper now: it hasn't worn off.

So, will paper go extinct? News is online, textbooks are electronic, people are choosing tablets over paper. And forget writing letters: I used to write to my cousins when I was ten (and I still have all the letters! Now there's some sentimental value for you), but that stopped when we got email addresses, and finally Facebook and cell phones.

But I think paper will be around for a while yet. We are the generation who did not grow up on devices, and as long as some people still feel like I do, paper is safe. In the next ten to fifteen years when these younger kids grow up, it may be a different case.

So here's to paper! Please stick around for many years to come.

Issue #1 Deadline: Spring publication schedule to be announced
Send your submissions to *iwarrior@uwaterloo.ca*
Winter 2016 Publication Schedule: January 27, February 10, March 9, March 23, April 4

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

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.

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Thank You!

ERYN DICKISON
KIRANDEEP SAHMBI
GORDON STUBLEY
COURSE CRITIQUES TEAM

Engineering's move away from paper-based course evaluations is off to a strong start. In winter 2016, we had an overall response rate of 58.8% in undergraduate Course Critiques. This is just 2.9% lower than the winter 2015 response rate, and that's pretty impressive. Many institutions have experienced a significant decline when moving to electronic evaluations. In fact, other UWaterloo faculties have reported a much bigger drop in response rate since transitioning to the same online platform (evaluate.uwaterloo.ca). Our high response rates can likely be attributed to Engineering's tradition of active student engagement with the Course Critiques process. So thank you!

We are interested in hearing about your experience with the Course Critiques process; did you like the online platform? Do you have any questions or suggestions about the process? Did you come across any bugs? Should we be doing something differently? Send us an email at engineering.teaching@uwaterloo.ca and let us know!

The Ceasefire Holds in Syria, But Only Just

BRIGITA GUBINS
2A ENVIRONMENTAL

In the month since the ceasefire was declared in Syria, peace talks have been held in Geneva, and the historic city of Palmyra has been recaptured from terrorist militants. The United Nations envoy overseeing the Syrian peace process has slated the next round of talks for April 9th.

However, the ceasefire has by no means been universally observed. The Russian coordination centre in Latakia reported that unspecified groups launched 11 attacks within the last 24 hours of the time this article was written. Mortars were fired, and heavy shelling targeted both the Kurdish YPG protection units and residential areas, claiming at least one life and injuring several others.

The greatest victory by any party in the war-weary country has been the retaking of the captured city of Palmyra by regime forces. The historic site was seized by Islamic state militants in 2014. With the aid of heavy air-support from the Russian Federation, regime forces and local allied militia were able to gain ground as the terrorists were forced to flee their stronghold. Further airstrikes were reportedly targeting vehicles leaving the city, travelling east towards ISIS-held territory.

Further complications to the conflict involves the decades-long (some argue centuries) antagonizing of an ethnic minority, the Kurds, by Turkey and subsequent antagonizing of the Turkish majority by the Kurds. Because of the hard-won semi-autonomy enjoyed by the Kurds in Syria, many have flocked to the Kurdish People's Army (YPG) banner from neighbouring Turkey. The YPG are arguably the best ground-force controlling Islamic state militant activity on the Turkish border; however, Turkish officials consider the YPG to be a terrorist organization. As the west has backed the rebel groups, including the YPG, this has caused internal disagreement among the rebel-backing nations. The west cannot afford to alienate Turkey, being an important NATO member situated in the Mediterranean, especially when its immediate neighbour is already at war.

A short tangent on Turkey/The Kurds: The Turkish government has been condemned by the United Nations for decades for their treatment of the Kurdish people. Numerous human rights violations have been cited, heavily emphasising the approaching-genocidal policies on the Kurdish language and culture within Turkey. However, independent political groups of Kurdish radicals have staged loud protests involving bombings and taking ethnic Turks hostage in order to gain autonomy from Turkey.

In the weeks since the tenuous agreement was announced, the Obama administration has been facing increasing pressure to follow through on their intentions to oust the Assad regime from Syrian government. It is speculated that the Russian air support has turned the tide of the civil war in the regime's favour. However, Russia has begun to withdraw much of its heavy military presence in the area, suggesting that Russia too wishes for a swift conclusion to the half-decade political unrest. Secretary of State John Kerry went so far as to state that Russia was by no means "wedded" [sic] to Assad, although State Spokespersons declined to comment on the recent victory in Palmyra by regime forces, only expressing relief at the victory over terrorist insurgents.

Life Finds a Way

DONOVAN MAUDSLEY
2T MECHANICAL

Easily my favourite line from the Jurassic Park movies, "life finds a way" is essentially a very eloquent way of explaining Darwin's theory of natural selection. Life is able to move forward and survive under the harshest circumstances imaginable. It takes on different shapes and sizes as it adapts to survive and thrive in its environment. The fittest rule the world, and everything and everyone wants to be the fittest. The dinosaur is the perfect example of evolving to survive. Each was deadly and dominant in its own way, whether quick and small like the Compsognoathus, heavily armoured and powerful like the Anylosaurus, or massive and ferocious like one of the world's best known dinosaurs: Tyrannosaurus Rex.

The Tyrannosaurus, or "tyrant lizard" was a perfect killing machine. Imagine an earthshaking beast over 12 metres tall bearing down on you. With an estimated top running speed of 40 to 70 kilometers per hour, it was able to outpace all but the fastest prey. Its bite was its most brutal feeding technique, and possible jaw strengths range from 35,000 to 235,000 newtons. The most glaring deficits in the Tyrannosaurus' killing arsenal were its relatively small arms and lack of maneuverability. I say relatively because the arms measured around a meter long—which we would consider long for a normal person—but were dwarfed by the rest of the body. Evidence suggests, however, that these arms were anything but useless. Heavily muscled tendons were attached to every bone and researchers have suggested that these were used to hold prey once caught, or mates during reproduction.

What really separated the T. Rex from the rest of the pack though was its keen senses, which were specially attuned for hunting. Large and acutely tuned eyes allowed the Tyrannosaurus to see up to 6 kilometres away, and their eyes were more than thirteen times as acute as a human's. Large cochlea augmented their super vision with intense low frequency hearing. Prey rumbling the ground as they walked far in the distance would have been heard by the T. Rex. The size of their brain cavity versus overall mass also suggests that they had a keen intellect to go along with their perfect senses and destructive physical abilities.

How is it possible though that this perfect storm of evolution would come together to create the most powerful apex predator in the known history of the world?

A new discovery from Uzbekistan has shed some light on this mystery. Dubbed the Timurlengia euotica, or "Pre-Rex" as it has become known, shared many traits with the Tyrannosaurus, but was only a fraction of the size. At about three metres long and around 600 pounds the Pre-Rex was around the size of a horse, but still deadly like its larger descendant. It still had large cochlea and a relatively large brain cavity, meaning that its senses were heightened in the same way as the Tyrannosaurs'.

Researchers think that the Pre-Rex fills an evolutionary gap of around 20 million years before the rise of the Tyrannosaurus. The event which ended the age of the dinosaurs occurred around 61 million years ago, and the Tyrannosaurus became the apex predator around 80 million years ago. The Pre-Rex fossils have been dated to around 90 million years ago and other fossils from 80 million year ago show relatives even smaller than the Timurlengia. In a span of only 10 million years the Tyrannosaur grew four times longer and twenty times heavier.

Evolution is a wondrous and selective process, one which the Tyrannosaur and its ancestors rode it all the way to the top.

Point Vs. Counterpoint

Should We Have Final Exams?

POINT

CAMERON SOLTYS
3A MECHANICAL

Exams are a great way to bond with your peers and friends. Studying together all day, struggling to understand a particularly tricky concept, and then rounding it out with the comradery that comes of complaining about the stupidity of it all. While exams, with their propensity to cause a large amount of stress and their large hold on one's academic success, are easy targets for complaint, the complaint is not all that well deserved; exams are extremely useful for evaluating students understanding, especially in programs like engineering that are largely academic as opposed to hands-on. They give each student the opportunity to succeed until the end of term. They are useful at pinpointing the independent knowledge of each student, and do so in a way that is relevant to the skills engineers as professionals need. Furthermore, while exams can promote poor study habits, it is not the exam itself that causes the habits but poor study skills.

The first great advantage of exams (particularly finals) is that they keep all of the marks up in the air until the end of the term. No matter how poorly someone does throughout the year, how much trouble they had with the concepts, their academic fate is not sealed until the final is over. There is never a need to give up hope on a course half way through because hard work, and soliciting help from the professor or TAs can give you a passing grade.

The criticism of this fact is that all of the hard work you've done all term is irrelevant, and that it all comes down to one day. This is not the true. For instance, weekly assignments, lab reports, and projects still provide important marks; good marks in these areas can bolster a poor examination, and relying on exams alone can give you a pass, but not a terrific mark. A student who was confident in the material throughout the term is rewarded by the project marks, and should still do well on the final since she knows the content. But for the student who had other difficulties over the term, the high-weight final is a merciful second chance.

Exams are very useful for a second purpose: they pinpoint the knowledge and understanding of the student themselves. What is being tested by an exam is not google-fu, the ability of the student to collaborate with potentially more-knowledgeable partners, or the ability to figure something out over the course of days. What is being tested is the understanding the student has of the material. Does he know how to approach a problem? Does he have a grasp of the key concepts? Particularly on math-heavy exams, the final answer is rarely worth many marks while being able to apply a methodology that is correct is very important. What exams seek out—the knowledge that the student has—is a critical evaluation metric that projects and assignments do not provide.

This leads into the final reason that exams are important: for engineering students in particular, they test the incredibly-relevant skill of having a competent grasp of the field one is supposed to be an expert in. When an engineering student graduates, they are well on their way to being a professional in a career field where the good of the public—and potentially the well-being of individual people—is at sake. When an engineer signs off on a design, she is saying that she is confident in that design. Designs that could cause risks take a long time to make, and they are rigorously checked-over. However, she cannot check for something that she did not know was a concern.

For instance, if someone took a materials course and got through corrosion by copying a friend, he won't know how different metals touching cause expedite corrosion. It's not as simple as looking in the textbook, because without the fundamental knowledge of how corrosion works, it might not occur to him to check. The exam tests if the student can think about corrosion and really understand how it behaves, so in the future the student can identify times when he should consider the effects of corrosion. Exams, by testing the understanding that the student has of concepts, prove the ability of the student to apply the knowledge they are alleged to posses. This skill is not proven using alternative evaluation techniques alone.

Another criticism of exams is that they promote cramming and don't really teach the material. Indeed, it invalidates the previous point if one can learn all the content overnight, repeat it the next day, and then forget it. However, it is not as simple as that; it is absolutely possible to employ poor study habits that do not impart the benefits of exams to the exam taker. This is where one's own professionalism comes in. School is a full-time job, with way more than 40 hours per week. Like any job, its not good enough to just show up; there needs to be professional development. Learn time management strategies that keep from being overwhelmed. Learn new studying skills that allow one to excel on exams and retain the information. Then the exam really does prove that one is competent with the ideas the class has taught. This is not a problem unique to exams: copying and hanging off groupmates coattails are just as effective at devaluing assignments and group projects respectively.

Exams are an incredibly useful evaluation technique, used in most courses in this school for good reason. They give everyone the opportunity to succeed without punishing those that work consistently throughout the term. The skill that they test, personal understanding of the subject, is an important skill particularly for a professional program like engineering. While it is possible to "cheat" this purpose by cramming the night before, similar problems affect the alternative evaluation methods. As with these other methods, it is up to the student to ensure that they participate in the evaluation process appropriately.

COUNTERPOINT

LEAH KRISTUFEK
4B CHEMICAL

Is the goal of education to determine how well the student has learned a subject or to see how well a student performs under pressure? When 50% or more of your final grade depends on your performance in just one 3 hour period it seems dubious whether that will reflect your actual understanding of the subject.

There are many alternatives to the typical written exam format that we are accustomed to. Students can be tested by multiple midterms throughout the term or projects. Alternatively oral exams can be used to determine how well a student understands a concept. Having such an emphasis on performance in such a short time period is not an accurate indicator of ability.

By the end of the term you have been through a lot. Between midterms, assignments and projects you have put in lots of blood sweat and tears, not to mention some elbow grease, all for maybe 30 or 40% of your final grade. This constant stress adds up, and it manifests differently for different people. Whether you have succumbed to the lure of inactivity, or poor diet, or have decided to give up good sleep patterns you are likely a less effective person at exam time than at the beginning of the term. So why is it assumed that everyone is being evaluated equally on final exams? Wouldn't it be better to evaluate learning in say 20% chunks throughout the term?

A mix of projects and quizzes throughout the term would create more work for educators. However, a wider range of evaluation methods could foster more meaningful learning experiences and act as a more representative determination of a student's learning. Studies suggest that when concepts are reviewed frequently around the time they are first learned, the knowledge is retained longer. When students attempt to cram the contents of a course into their minds over several days the material learned will be remembered less.

In the real world, we will have the ability to shape our work experiences. High stress situations like those created in an exam can cause anxieties which could be avoided in a future professional environment. For instance, the experience of sitting down and feeling like your mind has been wiped blank or completely misinterpreting a question and not being able to ask questions. In the professional environment, you would be able to ask questions and reference relevant publications. I have had classes where the way you chose to attack the questions has a significant impact on your final grade because one or more questions had incorrect information which leads to an improbable or unrealistic answer. Do you spend significant amounts of time re-checking that one question worth 60% of your final, or do you finish the other 40% worth of the final and just hope you did well enough to pass?

In extreme circumstances when you must defer exams to the next semester, the weight of final exams can significantly jeopardize final grades and your ability to pass. In a worst case scenario, if you become ill or for some other reason are unable to write final exams, one or all exams can be deferred to the next academic term that those courses are offered. This means two things. First of all, your academic term is in limbo since those courses are not completed and secondly, the following exam period you have to re-learn the courses which were differed in addition to the courses you are taking in that term.

Final exams are especially detrimental in first year. In the first year students are going through a great deal of change. Living away from home, feeding yourself and meeting lots of new people takes up a great deal of time. The fear of failing courses can prevent first year students from becoming involved in student teams and clubs which they may have otherwise joined in September. Extracurricular activities can foster a support network and help develope a student's interests which may be expanded on in later studies. Varsity student athletes have been shown to have some of the highest GPA's because sport offers an outlet from academic frustrations and vice versa.

Other schools acknowledge that the transition from high school to university is challenging and may affect grades. To encourage a continued interest in learning rather than grades, some universities simply don't have grades in first year. At MIT students receive either a 'pass' for grades above C- or a 'No Record' for grades below D. At Queens University, students who fail the first engineering term can redeem themselves by doing 'J section'. These concessions allow a different type of learning to take place in the first term without the pressures of maintaining an average or being judged relative to your class.

University is about learning how to learn. While this includes the fundamentals like linear algebra, calculus and physics, it also means meeting new people and experienceing new things. This might be as mundane as going to a club with friends or riding the bus for the first time. However, extracurricular activities might also lead to irreversible life changes like discovering new passions through design teams or backyard experiments which might form the basis of your future career. Grades aren't everything. In fact, as important as they are now, after graduation it will be your people skills and ability to contribute within a professional environment that will define our worth.

Final exams with weights greater than 50% of final grades ensure that graduates be competent exam writers but not necessarily competent engineers. While it is currently the best way to evaluate large groups of people against each other, it may not be the most effective way to foster lifelong learning. Ultimately the question is, should universities foster inquisitive lifelong learners and contributors or should they simply create graduates competent at cramming book knowledge into their minds for a short period of time.

UW Team Competes in Clean Snowmobile Challenge

DIRK FRIESEN
TEAM CO-LEAD

On March 6, four members of the Clean Snowmobile Team headed out to compete in the SAE Clean Snowmobile Challenge. The challenge showcases snowmobiles that student teams from around the world have modified to reduce noise and emissions while maintaining performance. It consists of a number of events that evaluate those aspects of the snowmobile as well as the design process that created those results.

This year was the third year for our chassis engine combination. Given that, hopes were high leading up to competition; we knew what needed improvement from last year and had worked to improve in those areas (namely, leaking gas tanks). We also improved our muffler design in order to uninhibit exhaust flow and incorporate a new catalytic converter.

The first event of competition was a static and dynamic technical inspection of the sled. Having fixed the issue of the leaking gas tank and having kept many of the components the same from previous year, we expected to pass quickly. We did... almost. The judges requested that an modified clutch cover be added to our sled. It fell into a gray area of the rules but we quickly built the extra shielding requested with the help of the onsite machinist and were able to pass the inspection. Later in the week we discovered the "0.06 in thick 6061 Aluminum or equivalent" that was used was extra siding from the building that was home to the competition.

Next event: the 100 mile endurance ride. There were some concerns about the trail conditions, since spring was coming early in Northern Michigan. Chris Campbell had the questionably-enviable job of riding the snowmobile over the ice and slush for the event. Of the 13 snowmobiles at competition and 9 snowmobiles that started the ride, Waterloo was one of only 6 that finished.

After the strong performance in the endurance ride, and being joined by four more team members who drove up Tuesday night, we headed into the next events. On Wednesday our sled was tested for in-service emissions. The event took much longer than expected as there were difficulties getting the data acquisition equipment that is towed behind the snowmobile running. The freezing rain didn't make it any easier for the event staff to fix the problems they were having. Waterloo had the 6th lowest tailpipe emissions in the event.

The other events on Wednesday were the oral design presentation and static display. These events are a chance to show the judges, other teams, and public the design work that goes into the snowmobiles. We were also joined by another four team members

One of the interesting systems that we presented was an electronic continuously variable transmission (eCVT) that Nick Mulder developed the control strategy for. An eCVT allows for the gear ratio to be controlled in such a way that the motor is always operating at it's optimal load and speed. The eCVT was not used on the sled in competition for reliability concerns.

On Thursday, we had MSRP, noise, subjective handling, and the menacing lab emissions test. The MSRP consists of defending the suggested retail price for the sled with the modifications that have been made to it. The noise event measures the sound pressure at a set distance from a trail where the snowmobiles drive by at 35 mph. During subjective handling a number of volunteers and industry partners ride the snowmobiles around a test track and evaluate them on power, suspension, and rideability. Finally, the lab emissions involves the snowmobile being outfitted with emissions probes and run on a dyno test stand through a ramped modal test. This tests the total power and the emissions at 5 different speed and load points. The event is widely considered to be the most challenging of the competition.

We know why… After doing two power sweeps to verify the max power of our snowmobile, we began the ramped modal emissions test. The first mode is 2 minutes at full power. Just one minute in our engine suddenly lost torque. Seeing this, we shut down the test.

It was disappointing. We had been on track to a top five performance. We thought through our options and came to the conclusion: "We could swap the engine but we would do worse." It felt like giving up, but by not competing in the rest of the events we would finish with more points.

The final events took place Saturday. The public is invited to watch as teams compete in cold start ("warm start" this year), acceleration (effectively a drag race), and objective handling (a time trial race through a narrow course of snow and, new for this year, mud holes).

On the whole, we enjoyed competition. We were 45 seconds from a top 5 finish. Our sled was running so reliably that we didn't have to spend a single evening working on it. We even managed to go skiing one afternoon. We were able to learn a lot about the snowmobiling and auto industries.

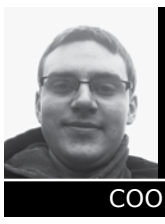
During the weeks since competition, the team has had a chance to reflect on competition and make plans for our next snowmobile. We have decided that we will be switching to the electric (or zero emissions) class for next year. It's a large change for us but we see it as a chance to include students from a broader range of departments (ECE, we're looking at you) as well as provide more relevant learning experience.

We would like to thank everyone who helped us to compete this year, including the MME department, the Dean of Engineering, WEEF, Engsoc, Polaris Industries and the rest of our sponsors as well as our advisor Professor Teertstra. Check out sled.uwaterloo.ca or facebook.com/uwsled for more info!

Photo provided by the team

UW Clean Snowmobile Team

Chicken Salad Sandwin



CAMERON SOLTYS
3A MECHANICAL

COOKING WITH CAM

Now I don't actually solicit feedback from people who try out my recipes. Nor do I, for that matter, listen to any of them that rudely barge into my kitchen complaining about poor quality, excessive paprika, or food poisoning. That being said, I understand that much criticism has been levied at me. Without reading any of it, I'm going to assume that it's all about how hard it is to make my recipes. They're too complicated, I imagine you say. They use ingredients that you can't seriously expect us to have on hand, I further envision you wailing childishly. And they take so idiotically goddamn long, I believe you to cry. I would like to address these criticisms in turn. But honestly I don't think that you will listen, so let me just point out that an inability to wait for a reward—in this case the most scrumptious of food—is a characteristic frequent in the most newly-birthed of children.

Anyway, if any of you insolent, disagreeable, argumentative complainers are still reading—presumably for your weird and creepy masochistic fetish—here is a dish that is so trivial to make, using such basic ingredients as canned goods and bread, that even you can find no offense. So here we go: the surprisingly delicious and really easy lunch that is the chicken salad sandwich.

Chicken salad, and its multitude of variants like ham salad, tuna salad, oyster salad, beef salad, and buffalo salad, is a foodstuff consisting primarily of the titular protein. It is nothing like anything else I have ever heard called a salad. It looks nothing like a salad (unless your salads are pink), shares almost no preparation steps with a salad (unless you chop your lettuce by brutally stabbing it with a fork), and contains completely different ingredients (unless you tend to forgo the lettuce and croutons for extra bacon on your caesar salad).

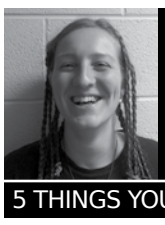
Start with a serving of canned chicken. If you're curious, a can contains two servings, presumably for caloric on-the-nutrition-label reasons. Use a fork or spoon (I recommend fork) to ladle or scoop mayonnaise into the bowl which you already put the canned chicken. Now use your fork to mush the two together until you get a consistent mixture without any chunks. (If you were reading while you followed along and took my note about the fork as facetious, congratulations! Now you get to choose between spending three times as long mushing with your spoon or getting an extra utensil dirty.)

At this point most people would be done. Maybe a dash of pepper, maybe not. Then they smear their concoction on a slice of bead and call it a sandwich. If you feel like canned chicken is a rather tasteless meal, devoid of adventure and enjoyment, it's not the chicken; it's the people making it. So let's spice it up.

What you add to your chicken salad isn't important. What matters is that you add something. Mustard is a good start, as is barbecue sauce. Another favourite of mine is olives, closely followed by banana peppers. This, even more so than my other dishes, is a real opportunity to make it yours. Raid your cupboard, see what interesting things you can find. Really go nuts with it.

And when you then apply your tasty mush to the bread, don't unceremoniously slop it on. Put it on a pre-toasted bun with cheese, lettuce, and a pickle spear. Keep it classy. Or even go beyond the humble (but unquestionably delicious) sandwich. Try spreading it on a flour tortilla, layering with cheese, and making a melt. If you're bulking and don't want to fill precious stomach space with carbs rather than protein, forgo the bread altogether and make it into a high-viscosity, low-liquid soup. The possibilities are as endless as the number of ways to source canned chicken from a poultry carcass.

A Last Hurrah



CAITLIN MCLAREN
3T CHEMICAL

5 THINGS YOU DON'T WANT TO KNOW

Ave atque vale for this term, readers, and I hope that you have found my column edifying and humbling. By now, I hope that I have taught you that your ancestors were entirely full of it – and do not forget that in 200 years, the Titanium-Ceramic Composite Warrior will run articles about the horrifying and foolish lives that we live today.

Without more ado, here is the last hurrah of grotesquerie this term. There should be something for everyone; I hope this collection is eclectic enough for your tastes.

Getting Your Husband by the Balls

These days, society is encouraging men to take on a bigger share of childcare. While most husbands and dads are great, Huichol men would put any modern guy to shame. They wouldn't just help out with the childcare – they would help out with child*birth*, in a horrifyingly literal fashion.

When an old-timey Huichol man's wife started to go into labour, the husband would climb onto the roof, or onto a tree above her. This was not so that he could jump onto her belly to send the baby flying out. Instead, he would tie a long string around his testicles, and give her one end. Every time the wife experienced a painful contraction, she would pull on the string, allowing her husband to share in the pain of childbirth. It is not clear why he would need to climb up on the roof for this, but I suppose it would allow her to put her weight behind it.

I think that the female audience would get behind a revival of this custom immediately.

How to Cheer Up Mourners

If one of your friends has recently had a death in their family, it falls to you as a friend to cheer them up. How? Let's take a lesson from Greek mythology. As many of you will know, winter was invented when the god Hades kidnapped and raped his niece Persephone, leading to, in all honesty, one of the healthiest relationships in any Greek myth. (That was not hyperbole.) When Persephone disappeared, her mother Demeter assumed the worst and blasted the earth, prevented crops from growing, and stopped that course you wanted to take from being offered this term. Demeter wandered around crying and mourning for her daughter, and everybody tried to cheer her up. However, she was far too sad to listen to any of their jokes.

However, there was one nice old granny named Baubo who could always get a laugh. First, she encouraged Demeter to get drunk. When Demeter refused, on account of her missing daughter and all, Baubo pulled up her skirt to expose her vulva. Demeter decided that she really needed a drink after seeing that, and chugged it right down.

For this reason, ancient Greeks would tell dirty jokes and sing rude songs at their most solemn religious festivals. They also made statues to honour Baubo, which are just, from top to bottom: head, vagina, legs.

Speaking of gods, and vaginas…

How Goddesses Kill

Maui was the great hero of Polynesian mythology. To give an estimation of how powerful he was, when he noticed that the days are way too short to finish your work in, his response was to beat up the sun and make it promise to go slower. Thus, he became the patron god of engineers.

So how did such a hero meet his demise? Cherchez la femme, of course. Maui realized that the only way to become immortal was to crawl into the vagina of Hine-nui-te-po, the goddess of death. He tried to disguise himself as a worm to do so, because it is completely normal for worms to randomly crawl up vaginas, and no woman would ever find that suspicious.

However, his friends, who had gathered round to watch, found that it was so funny that they couldn't help laughing. Unfortunately for Maui, that woke the goddess up, and still more unfortunately, her vagina was made of stone and had teeth. She promptly squished him.

Now, just imagine if Sigmund Freud had been Polynesian. Imagine what he would have come up with!

Ehhh, It Would Have Been About the Same

Actually, what Sigmund Freud came up with was just about that weird. But wait! You cry. He was a respected man of science, and not too long ago!

However, people will believe just about anything if a respectable-seeming person says it. Freud came up with all of the following ideas, which scientists back in the day thought were logical and innovative:

- Cocaine is awesome, and having sex while on cocaine is more awesome.
- Molestation does not exist. If a child says they have been molested, they are just imagining it.
- It is normal for boys to be sexually attracted to their mothers.
- Little girls are initially attracted to their mothers, but realize that they have no penis. This causes anxiety, and she blames her mother for punishing her and taking her penis. After that, girls become attracted to their fathers.

Whereupon our great-grandparents said: "Seems legit."

And Now For A Public Service Announcement

Don't do drugs, kids. If you must, do it sensibly, and not the way our ancestors did them.

For example, don't drink reindeer pee (as I mentioned in an earlier column). Don't have hallucinogenic enemas, like the Maya. Don't eat the heads of sea bream, because fish heads are gross and smelly.

You want to know why witches ride broomsticks? Because if you make an ointment of toxic and hallucinogenic herbs, it will be taken up into the bloodstream very quickly if applied to a mucous membrane, like your nether regions. Broomsticks are a convenient, er, applicator.

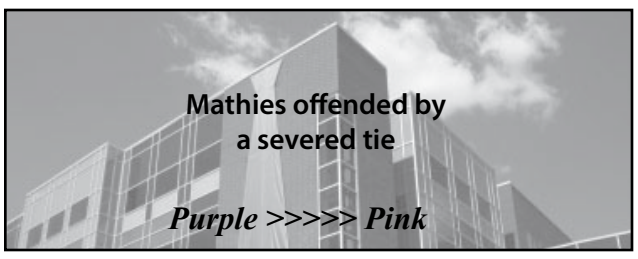
If you must eat shrooms, don't be like old-time Russians and chew them up, then spit them in your buddy's mouth. Shrooms will also not cure your rheumatism if you set them on fire and burn holes through your skin with them.

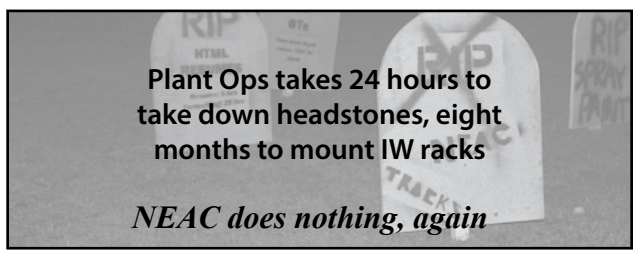
So there we have it. If your grandparents tell you that things were better back in the day, you can laugh in their face.

THE TIN SOLDIER

IW EXECS CONVERT TO ROMAN PAGANISM

IW EXECS REALIZE THE DAY HAS 24 HOURS, REGARDLESS





CPH to Install New Bathrooms Because Lineup for Morning Coffee Shits Too Long

B. FLOATING LOG
2B PLUMBING

Due to the numerous complaints coming from professors and lecturers, students will no longer have to queue for hours for the daily ritual of caffeine-induced defecation. Talking to various complainants, it was found that students and staff alike have been missing entire classes waiting in line to relieve themselves of the uncomfortable pressure caused by their coffee-marinated bowels.

In the words of the ME department's VroomVroomCars TA, Jacob D. Tootoo, "I waited for literally an entire day one time. Missed the tutorial I was supposed to teach, nearly shat meself, but I met my now-husband in that queue so I guess not all was lost." Vendors and services have taken advantage of the long lines snaking around the building, mimicking the long brown anacondas waiting to be deposited by the queueing masses. A small wedding officiator's office hidden behind a corner served as the location of Tootoo's wedding, 30 ft further down the line from the spot he and his new beau struck up a conversation, as well as a flower shop, adult fun store, and wholesale shoe outlet.

Now, some of our readership has been wondering what exactly causes this urgent intestinal pressure, and they are in luck, because we have contacted the leading researcher in the field of proctology to enlighten you! What Dr. P. Suup stated was that coffee is actually a by-product of cocaine (also known as coca,) production, and the energy you feel is a result of trace amounts of coca left in the coffee. Incidentally, this is also where the nomenclature of 'kaka' is derived from. The liver, being the excellent filter that it is, detects this trace coca and punishes you by assaulting your bowels, forcing the muscles to contract like a fecal hydraulic-pump.

Space will be made for these new toilets by opening up small rifts in the spacetime continuum in the walls of classrooms, avoiding bearing walls, studs, and other magnetic items. These will allow students to travel to an undisclosed location and disappear mysteriously, never to be seen again, and then return to their studies in a timely manner.

Engineering Refugees Risk Lives to Cross Tracks to E5

PURPLE ACTIVIST
3A HUMAN RIGHTS

Recent months have been tough on the citizens of UW. Students looking only to pursue greater knowledge and understanding of life, the universe and everything have been placed in increasingly compromising positions. It is time to take a stance my friends! Say no to the injustices! Not only are our lives threatened daily by vicious goose populations: fast moving trains and gaping holes of doom are now added to the trials and tribulations of our struggle towards the cold hard iron. (But not the cold hard iron of the train tracks, probably wise to stay away from those…)

Crossing the Tracks

At first the troubles started subtly. Walking paths started disappearing and the options for geese evasion became increasingly limited. After that it wasn't long until the fences went up. The horror! What were the poor far-flung students of E5 and E6 supposed to do when running from one class to another? How is one to survive in this terrible economic climate when the only option is expensive plaza food at massively inflated prices or a lengthy walk to cheaper food?

Alas, what if you choose to trap yourself on the other side? What of long dark weekends when sources of sustenance are especially scarce? The choice between working or traipsing across the tracks in hopes that you won't stumble on loose gravel or trip face first into concrete. The hillocks between tracks wait to grasp our feet and pull us down.

What then if the fences are up and secured? Having already lost the bridge to explosives, one is forced to rejoin the main road. Walk around, walk longer, walk further. Perhaps the promise of a time and energy saving train comes with a catch. To save energy there must be a larger upfront cost. Do they hope to extract an equal but opposite amount of energy to fund its completion? Our heavy steps to take the overhead passageways pay slowly for the convenience.

Bridging the Void

Crossing the many terrible train tracks is dangerous and hardship enough. Alas, for many that is not where it ends. In frigid winter months especially, the newly formed E7 chasm forces students from the refuge of E5 to trek through the whistling winds which blow hard upon the few scraps of pavement left for pedestrian movements next to the gaping hole of construction.

Remember, PURPLE LIVES MATTER. Respect the hallowed halls of this sacred academic refuge and bear through the constant disruption of the construction noises. We will make it to the other side. A place with more student space and better transportation infrastructure! Some day they will choose not to build again and there will be quiet.

Some Bullshit Happens in the Middle East

AS TOLD BY THE WINNERS

Today saw the latest in a long series of bullshit happening out in some desert in the middle of nowhere. Western leaders reiterated once more that they are sick of all this. There was immediate controversy over whether the bullshit was caused by religion or just assholes who like to f*** shit up.

Several militant groups tried to take credit for the bullshit, but a bunch of politicians blamed people running away from bullshit like that instead. Republican candidates all vowed that they would put a stop to this crap that keeps happening, with Donald Trump calling President Obama a "pansy" and saying that he would be much tougher and do a whole bunch of retaliatory bullshit that would totally solve the problem, like, forever. Ted Cruz said that if he were President, he would carpet bomb the whole fracking place; he later clarified that he had meant precision bombing on all of the carpets, thus crashing the economy of the Middle East.

Other people pointed out that we've been through all of this bullshit before, and maybe we should do something different for once or this crap will keep happening. Assholes round the world responded "Nah, we like all this shit that keeps happening, this way we can totally wreck stuff and still feel good about ourselves."

The Internet won't shut up about how this same bullshit happened last week, but no one cares unless some shit we care about gets wrecked. Then some people start screaming about FLAGS and won't stop till they feel self-righteous enough to leave satisfied.

Sometimes it seems like we will never be done with any of this bullshit.

#InnovateOne #IdeasStartHere

ALMOST FROZE TO DEATH
XX [ANY PROGRAM]

On March 24, 2016, in the wake of an ice storm, Waterloo was characterized by frozen paths, freezing temperatures, and power outages. The University of Laurier, being the reasonable human beings they are, decided to cancel classes for the day and gave students an early start to the Easter weekend. Meanwhile, the University of Waterloo, where the words "snow" and "day" are recognized as part of the English language but forbidden to be uttered in the same sentence, decided to keep classes open and reminded students to avoid all travel to class in lieu of their safety.

What follows are true account of the events in that day, from a (somewhat) reputable anonymous source.

"How the hell am I suppose to get to class without travelling, a teleportation device?!"

"You're suppose to #InnovateOne."

Faced with the challenge of #Innovating a teleportation device, students from all faculties sprung into action:

The Math students spent the entire morning solving parametric equations but soon realized that the limit does not exist. Soon after they gave up and played video games all the way to Easter Monday.

The Arts students re-enacted a classic version of the song "Baby it's cold outside" in hopes of anything happening ever.

The Applied Health Science students took the bus to their (only) building on campus, but still managed to fall on the three steps leading to the front door. Luckily they studied applied health science and diagnosed their condition but, because they studied applied health science they were unable to do anything about it.

The science kids walked to classes carefully like a bunch of boring losers.

The engineers, still feeling the hangover effects of St. Patty's exactly a week before, came to school expecting another EngSoc meeting and got more drunk.

Rant from the Editor

If You Want to Buy Me a Present

I THINK EVERYONE IS STUPID

Yooo get ready for rant number six, because what's the point of being Editor-in-Chief if you don't get to rant for 7500 words (or 8000, if you're good with manipulating spacing). Also, the more tired you are the better if you ever need to get some extra words, even though that usually isn't the problem. Usually there are too many words going on...

Let me tell you about school at UW. Some people say that university is the best years of your life. LOOOOOOL. Ahh, the things that make me laugh. Not haha laughing, but hysterical "I have four labs due in the next two days" laughing. Joke is on you, if that's the reason you applied here. Let me give you a more accurate summary of what you are experiencing right now, without using the 9GAG "it's fine" meme, or the "riding a bike in hell" line. Also please don't let me near any innocent Grade 12s: we will let them experience the fun for themselves.

School is an endless cycle of one problem aggravating another, and I hope you can relate to the following so I'm not actually the only one.

1. I can't get a job because I don't have experience, can't get experience because I don't have a job. ALSO, I can't get experience because I'm in school at the moment and who has time for Hackathons or personal projects. The only experience I get is when I'm on co-op, which obviously can't help me when I'm in school.

2. Can't focus because I'm stressed, I'm stressed because I can't focus.

3. I can't get any work done because I'm tired because I didn't get any sleep last night and I can't sleep tonight because I didn't get any work done because I'm tired…

4. I'm broke because I buy food at SLC or the plaza every day, which stresses me out because I don't have any money, but I don't go grocery shopping because I don't have any time because I am studying and it makes me want to eat more so I buy more food and get more broke and get more stressed and continue to convince myself that I don't have time to go grocery shopping and I'm not sure if this is still a cycle or I'm just rambling because I'm hungry right now and just want to go watch Tasty videos on Facebook.

Continuing with the food topic:

I once said that the only thing I want for my birthday is groceries, because birthday presents in general are stupid and I really don't need anything else (besides a 95 average and a job at Google). So, if you were ever interested in buying me a birthday present and because I am currently in some stage of cycle number 4, I thought I would make it easy for you. Here is my grocery list:

Chicken
Bread
Peanut butter
Granola bars
More granola bars
Even more granola bars
Lettuce
Apples
M&Ms
Muffins
Pasta
Hummus
Carrots

Broccoli (you know broccoli is really good with hummus? I bet you didn't know that because what kind of normal person eats raw broccoli and hummus on their study breaks?)

And now for the best part:

Oreo ice cream

Turtles ice cream (must be from Safeway!)

Some other kind of ice cream

All items may be dropped off under the E5 bridge. Like, where the pizza delivery guy seems to think the entrance to E2 is. Can someone please tell him that he's standing outside E3? And can everyone walking by please stop giving him false information?

Much appreciated.

XOXO,

Your broke and sleep-deprived EIC

Five Things You Want To Know

THINGS GOING INTO OTHER THINGS
1A TMI

Humans are just no fun. Why can't we all be like our feathered, furry, scaly, slimy, microscopic, and extinct friends? Here are five fun things animals can do that we all wish we could do.

Barnacles Can Adjust Their Penis Size

Since barnacles are stuck to rocks all day, but still want to get laid just like anyone else, they have penises several times longer than their own body. Not only are their dicks prehensile, but they can also change their length and girth at will. This helps them deal with rough water conditions, and also impresses the lady barnacles. Oh wait, they are all hermaphrodites. Well, whatever floats your, err…

Mantis Shrimp Can Punch a Sonic Boom

That's right - the mantis shrimp has claws so powerful that they can cause a sonic boom just by shadowboxing. If you try to keep them in an aquarium, watch out! They have been known to go full Kill Bill to get out of there. As if that isn't cool enough, they can also see polarized light.

Hairy Frogs Are Basically Wolverine

You probably hink you're hardcore, right? Wrong. You have nothing on the hairy frog. First of all, they grow hair made of skin, just so they can take in extra oxygen. Forget that high-altitude training. Secondly, they intentionally break the bones in their fingers, and push sharp bits of broken bone through their skin to make claws. Why not just evolve claws? Well, which would strike more terror into your enemies?

Dolphins Stay Awake… Permanently

Yes, they are ever awake, watching. Waiting. In fact, dolphins do sleep – they just also stay awake. How? They can sleep with one half of their brain, while staying awake with the other half. Those multi-tasking skills though. If only we students could do the same.

Axolotls Are Just. The. Best.

Sorry, everyone. Axolotls are the pinnacle of evolution. Why? Let's just start counting the ways. In the first place, they don't have to grow up. Sure, they can if they really need to, but they can live a rich and fulfilled life in their childhood state. Secondly, they can regenerate new limbs, organs, and even parts of their brain. They can donate organs to each other easily, which is nice. All that means that they are super important for science. Last, but not least, they are freaking adorable.

U2 Saves FBI from Embarrassing Court Case

U2 THE BAND
NOT THE PLANE

U2 — the band, not the really cool plane that was used during the Cold War — has managed to save the FBI from a lengthy court case with Apple that would have cost taxpayers millions, if not billions of dollars, stretching out over many decades in a protracted passive-aggressive legal battle. U2's spokesperson is quoted as saying that "Apple' security is once again [really goddamn] easy to crack. It took us about 20 minutes to compromise the desired phone, along with every other iPhone in the world." To clarify, U2 is a band, not to be confused with the secret government aircraft that was used to photograph Russian missile sites in Cuba during the Cuban Missile Crisis, which is itself not to be confused with the SR-71 Blackbird spy plane that could travel at over Mach 3.

The band says that all it did to secure the information was pick up their ultra-secure emergency phone that is connected right to Steve Job's grave and ask really nicely for his eternal spirit to let them romp around in the operating system without any repercussions, in a manner very reminiscent of the United States' foreign policy towards the banana republics in the 1960s and 70s. However, whereas the US used their massive economic power to perform tasks like devalue copper to crash the Chili socialist government, U2—who play music, don't take high-quality high-altitude photographs—just uploaded their newest, most screechy album while downloading all of the personal, impersonal, and metadata on every phone in the world until they stumbled across the one that the FBI wanted.

The FBI says they are very thankful to U2 (that's both the plane and the band, as both provide important services to the US's national security), especially since they can now get around those "[annoying tech people who seem to want nothing but to make our] lives [difficult]."

THE TIN SOLDIER

Editor-in-Chief
But I slept yesterday

Assistant Editor
Do you think I should write my articles 3 weeks early this time?

Layout Editors
Chrome is making the computer crash
Is -50 spacing ok?
My name isn't Photoshop
Why are creative commons pictures so boring
Let's add four more pages!
Let's not add four more pages...
WHY ARE YOUR ADS UGLY
WHY ARE YOUR ADS AWKWARD SIZES
WHY WOULD YOU WRITE 250 WORDS
WHY WOULD YOU WRITE 2500 WORDS

Copy Editors
To comma or not to comma
Ah semicolons
It defeats the purpose when I double edit
It also defeats the purpose when I edit my own article

Circulation Manager
My group scheduled an all nighter
Please tell me you live in V1

Advertising Managers
What's up Student Deals
Au revoir, Frites

Photo Editor
Resolution?

Web Editor
On the bright side, the link works!

Staff Writers
Assistant Editor
Featuring: himself

Contributors
So when did you graduate?
No I won't scrap your entire article
English isn't necessary...
but it's preferred

ADVISORY BOARD
Enjoy co-op while you can
Just kidding
Not really
But like kind of

Hi EngSoc
Of course you're on the mailing list...

Voting members?
Voting members?
Voting members?
Don't all come at once
What's our policy again?
Aaaaand they all came at once

The Tin Soldier is not a forum for thought-provoking and informative articles, and has no association whatsoever with the Society of the Traveling Pants. Views expressed in *The Tin Soldier* are not those of the authors and do not necessarily reflect the opinions of Chuck Norris.

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 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. For this reason, *The Tin Soldier* also reserves the right to lower the quality of your grammar and spelling, to make it more accessible to its readers.

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 Kickoff's, as we're likely there. We don't have a fax number as no one uses faxes anymore. We also can't figure out how to use our phone.

Five Ways You Will Actually Study for Your Finals

(because who takes advice from a newspaper seriously)

1. The Notes Thief

Somehow the computer which contains all your notes for all your classes magically crashes right be for a final exam! Oh this is a tragedy fit for Shakespeare! Your notes are Juliet and you are Romeo, the two of you were just not meant to be together. (or so you tell your friends) It's alright, no big deal, you can always steal someone else's Juliet, after all, there are plenty more noteser- I mean fish in the sea. Thank god you have you social skills to fall back on! Remember that guy that you once offered a cheeto to at the beginning of the term? Time to call in the chit. Don't worry, you got this.

2. Library Camper

An entire term of (not) learning has finally come to this. You remember doing this in high school, cramming is your specialty, right? Squeezing in 3 months of content into 2 day is not a problem at all if you stop doing those pesky everyday tasks like eating, sleeping and showering. DP is now your home base and your diet will consist of their coffee and pastries. You will read the books, you will live the books, YOU WILL BE THE BOOKS. During this period of time, you will become a sponge for all knowledge. Study like you have never studied before, ignore the pain. Just remember, there are only two more weeks till you can forget everything.

3. Number cruncher

No, you are not crunching numbers for that calculus exam that you have been putting off for the past week. Your notebooks are filled with percentages and weighted averages as you attempt to figure out the question for the ages: How much do I have to get on my final exam to pass this term? The dream of that 95% average from the beginning of the term, yeah, the same one that you changed to 85% after midterms is now a flickering shadow in the distant past. As long as you pass, izgud. After all Cs get degrees! There is no point wasting all that time studying, go out and enjoy the collegiate life. Long live the hashtag #minimumeffort and good luck on getting that 104%.

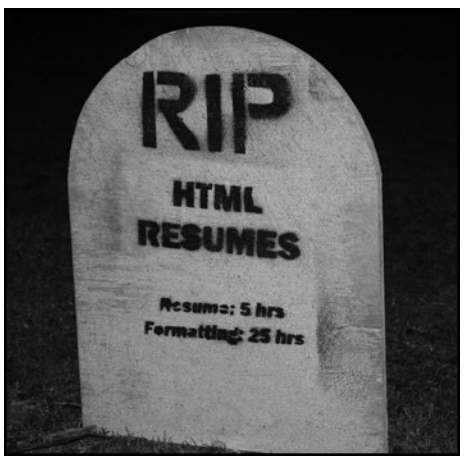
4. TAKE ME TO CHURCH

Wise words sang by a wise man. You are not a religious person, and you probably never will be, but at this point you realize that you are so f***ed for this term and the only way that you can possibly pass is by—a literal—miracle. And that is when you decided to hit the books. No, not your text books, the book, because who else goes around handing out miracles, I am I right? Suddenly the bible that your great aunt Bertha got you for Christmas 12 years ago is now your most prized possession. You find yourself bargaining with all that is holy above the clouds, saying things like "I swear I will go to church every Sunday if you just let me pass" (let's be honest, you probably will not keep up your side of the bargain). Just keep on praying to God, Budda, Zeus, or whoever those scientology guys believe in bro, because praying to more than one higher power will definitely increase the chance of you passing that 8:30 you never bother showing up to.

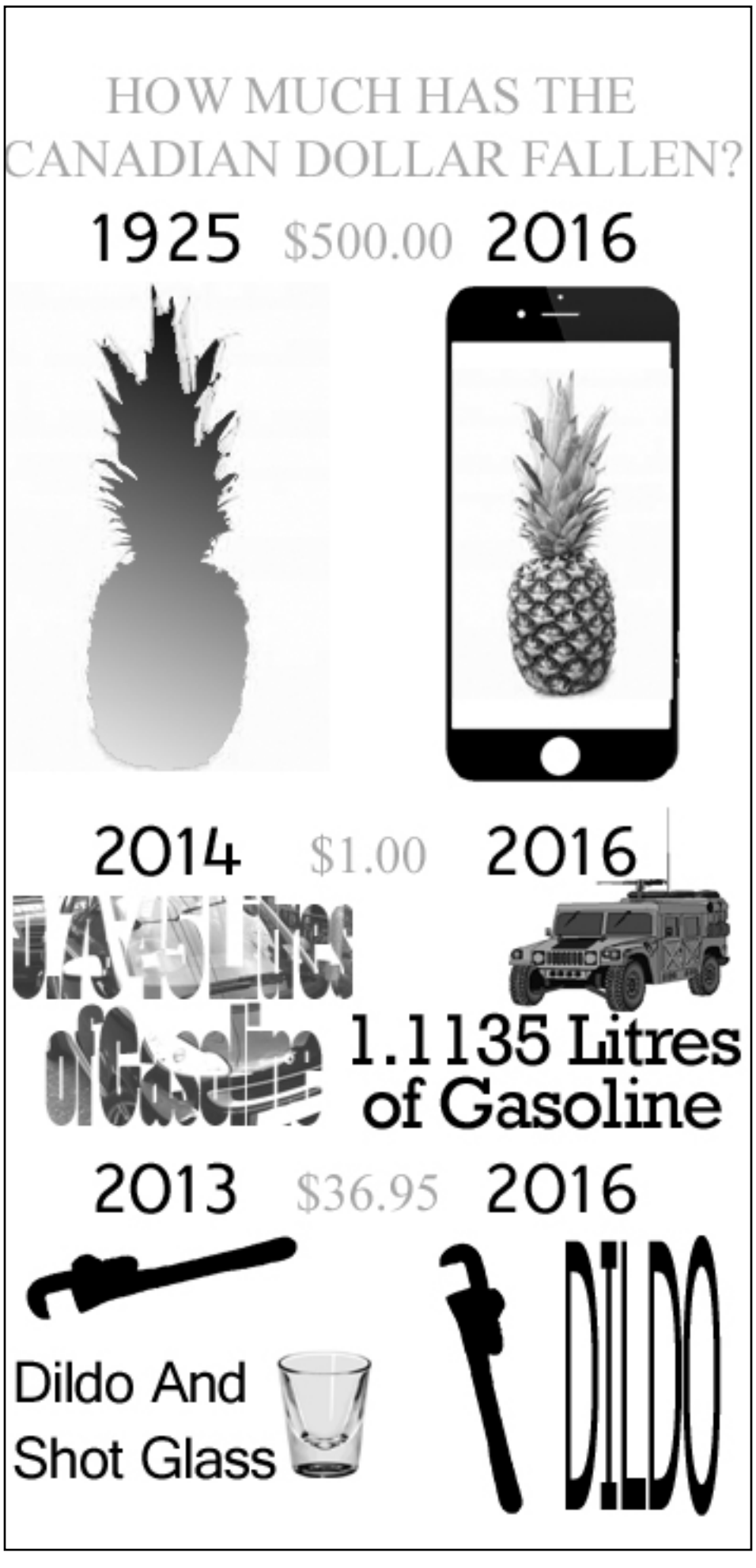
5. F**k it all!

Congratulations, you won the award for being the most logical person here! By giving up your hopes and dreams of becoming an applied scientist (remember kids, you have to actually register to become an actual engineer), you realize that you could just use the 8 grand per term that you pay for this torture to get plastic surgery, move to Vegas and become a stripper instead. The best part about it is the fact that it would probably pay just as much as the job that you will get after your degree!

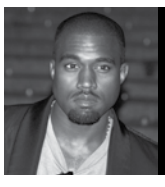
Graveyard Spotted



There is no one to take credit for these photos



Cooking with Kanye



KANYE WEST
4B TWEETING FOR MONEY

Wat up ma peeps? Y'all getting hungry? Good, cuz I've been slaving over the stove all day like it's Kim Kardashian's body. And you know fo sure that my shit's good. Ya man, like always I didn't buy any new crap, didn't measure my ingredients or bank account, and didn't let any of this mo-fo good food go to waste.

So my son was asking for something damn good to eat. Like real home cooked Chicago food. Man, he's a saint. Like you can't refuse my little man. He's the king. We're teaching him to be a rapper and he's damn good. Now I don't really know how to make any of my mom's good recipes. My mom has the best damn recipes in the world. No your mama doesn't have a thing on my mama. My mama could whip your mama one-handed with her rolling pin while mixing the best cake you'd ever eat. She's so strong, she can't even get AIDS. Take that government, you can't beat one old lady. But you're not eating my mom's cake. That's my cake. You don't get my cake unless you're my friend. And you don't chose if you're my friend. I choose my friends. I'm an individual. This is my cake man.

But if you need a snack in the middle of the day, I've got you covered. Just get yourself some corn meal. This shit is the best. It's like goddamn god food. It's basically flour but made of corn and shit. Like my daughter said, this shit is the bomb. She's got a damn good way with words. Like a more northern Shakespeare. But I mean really, she's more like Shakespeare's daughter in the FLESH! You can make anything out of it. Like you find a recipe online, and it takes flour. But you don't have flour. That's cool man. Just use corn meal. And you know that crap on the bottom of your Pizza Hut box? Like the little yellow balls? I think that's corn meal too. It's good.

Anyway, so I dump some of this corn meal in a bowl. And then you start adding shit to it. Like, corn meal is good and all, but I got some flour. That goes in. That's good shit. And I guess I'm making bread or something. You use flour to make bread. You can use a lot of shit to make bread. You can use like crickets or mealworms and shit. But anyway then I'm thinking, and it's like, bread has liquid and shit in it. So I get some milk. And I get some eggs. And you need baking powder and vinegar to make good bread. But I'm looking for something spicier, so I add some paprika. And then I'm thinking, I need some sugar. Sugar is sweet, just like my beautiful wife. So I go looking for some sugar, but we're all out. And I mean, I'm not going to the damn neighbours. They hate me. They don't respect me. They think I should be their servant! But then I'm feeling like I'm on a higher plane. Like, I got this shit.

So I'm through my pantry, and I thinking, I just want some sweet shit. So I see some brown sugar and shit. And the brown sugar is old and clumpy. But I'm like, that's cool. So I add this brown sugar, mix it all up, and then put it in the oven. And I'm thinking, this is going to work. When my bread's done, I take it out and I give it to my family and shit, and they are like "Damn, this is good." So that's how you make bread out of corn, bro. It's super cheap, and damn good if you just got bankrupted by the goddamn government.

On the Importance of Mental Health

Dear Readers,

Mental health is important. Boys and girls, remember: get eight hours of sleep ("Sleep": a state reminiscent of but not as extreme as death. This is not to be confused with death by school; this form of dying should be practiced every day), eat three balanced meals every day ("Balanced meals": includes all food groups as outlined by the Canadian Food Guide, NOT by an engineering student), and exercise regularly to get your heart pumping.

Just kidding, ain't nobody got time for that.

If you are reading this expecting to gain knowledge or be enlightened, sorry to disappoint. Here in the layout department, we are very very VERY tired. It is currently 4 AM and there is a very awkward space here which needs to be filled. It is no good for pictures, and it would be tough to use any of the usual tricks, mostly because you can't change the spacing or hyphenation on a bunch of comics. Basically, there is no way of extending this page by that much.

Therefore, we are here to tell you that in the spirit of mental health – as we do not want to undermine the university's interest in talking about mental health by so rudely compromising our own – we have decided to sleep instead. We hope that you enjoyed this little insight into our thought process.

Sincerely,

The Layout Department

FourthYearEngProblems

The Other Other Referendum

I sure hope you have heard about The Other Other Referendum. If not, you should really stop studying once in a while and leave your room. If you happen to come to campus on occasion, I am confident in my assumption that you are already aware of the topic which I am addressing. Everyone is talking about it. And I mean EVERYONE. It is an outrage. An absolute outrage. Students, staff, and fellow Canadians everywhere are vehemently protesting the proposal.

One of our correspondents bravely ventured from the cave that is home to our EIC, trekking down the stairs to campus. Take a gander at this transcription of a live interview with one student: "You know, I can kind of see where they are coming…" [At this point, the argument is drowned out as angry students start yelling and screaming. Our correspondent, frightens, runs back up the stairs and slams the office door, out of breath, never to leave the office again.]

It would appear that even some semblance of agreement can be very dangerous. We at the Iron Warrior sincerely hope that our correspondent survives this traumatic experience. Also, the interviewee.

There is no Vote Yes Committee for The Other Other Referendum. Do not be deceived: this is not a matter of proponents' sense of self-preservation. This is because there are (almost) NO proponents. Apparently, one student felt inclined to respond in the manner stated, but he must have been slightly tipsy. (After all, it was almost 11. He must have had an early lunch that day.)

There is, however, a Vote No Committee. It is rather large, especially compared to The Referendum and The Other Referendum: 30,599 of our 30,600 undergraduate students are on the Vote No Committee. They are advocating with every fibre of their being to convert the remaining undergraduate over to the light side, which is proving more difficult than it would seem at a glance. However, there appears to be progress being made.

Some of the Vote No Committee's initiatives include: neon flyers posted all over campus (which is why I stated previously that everyone who occasionally leaves their room is aware of the situation—neon flyers posted all over campus can be very difficult to miss unless the student is particularly clueless, especially when they are plastered all over blackboards, whiteboards, all types of boards), stickers handed out at building entrances, petitions passed around in class, debates held in the SLC Great Hall. The debate proved quite insightful since there were only opposition speakers present.

This riveting discussion has been gaining momentum, and is sweeping campus with full force: so full, in fact, that it is overflowing the bounds of Ring Road and flooding into the rest of Ontario. Prime Minister Justin Trudeau aka Bae has actually issued a statement condemning this proposal, tweeting "Undermining the University's international reputation in this manner is gross and inexcusable. I am disappointed."

I know that the consequences of passing this referendum will be detrimental to our research and to the future of the students who will leave this institution. I don't think there is any more I need to say to convince you to Vote No, as the argument speaks for itself. It is outrageous; absolutely outrageous.

If The Other Other Referendum passes, UW will be officially changing its name to "U of W".

Therefore, I urge you as a matter of utmost importance to Vote No.

Uninspired by Promotional Materials

Dear Engineering Recruitment Office,

As I was sitting in class, waiting patiently to be inspired, I was browsing through some engineering advertising literature, specifically "ideas start here(R): Engineering".

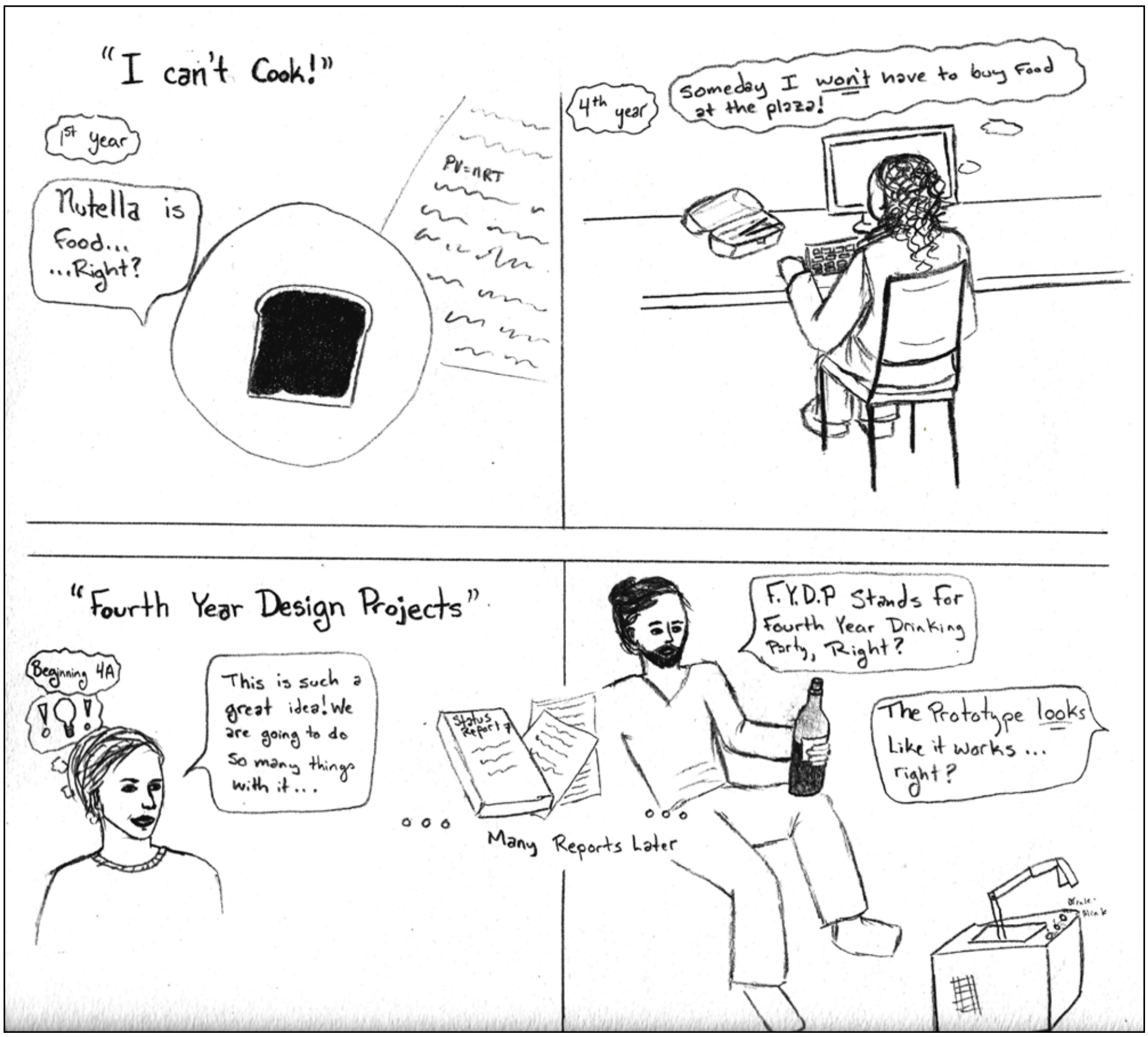
As I was looking through this document, I was surprised by the poor-quality of the photoshop on page 6 and 7. Specifically, the laptop in this picture has clearly been mirrored, as all of the letters are backwards and in reverse order relative to the standard QWERTY keyboard. This wrecked my immersion, as I'm sure it did to many potential applicants as well.

As someone who deeply cares about the future success of this faculty at attracting the best and brightest minds, I request that you do a better job at screening out such trivial and obvious mistakes.

Thank you,

Very bored student sitting in ME 340: Manufacturing Processes

FourthYearEngProblems



Point Vs. Counterpoint

POINT

Who Wore it Better?

COUNTERPOINT

DONALD TRUMP
OF THE WISPY FRINGE, INSPIRING OLD WHITE MEN EVERYWHERE

It is a wave crashing over emptiness. Its origin is lost in time and a cloud of lies. His enemies whisper about forgery, about ugly bareness, hidden scars. There is mockery, flattery, imitation, and aping. None of this touches him; he pays them no mind. All other insults cut deep—he hurls them back viciously and nurses the wounds in private—but that shimmering veil of gold lays as a protective cloud over his mind.

It was always that way. Perhaps when he had been pulled from his mother's womb, there had been nothing. Perhaps its nascent form had lain over his infant brow like a wispy ghost, sending metallic tendrils into his brain and promising greatness. No one remembers any more. But ever since he first stepped out into the world, carrying little more than his name, he wore that simple fringe like a crown.

He no longer has to tug it forward. It urges him forward, sweeping him ahead like a tsunami boiling up from his unconscious. It topples cities and raises towers, touching one thing and leaving another, unpredictable like a broom of divine straw. If there ever was a man there, hiding under those locks that stretch lazily towards the sun, he is no longer the master.

JUSTIN TRUDEAU
OF THE UNRULY LOCKS

He never cared about it much, though everyone else seems to. It is disobedient, unruly; for most of his life, he gave it its head, letting it run free. Its rebellion was mainly for show, as was his; it coiled up into itself, in the end, not choosing to do more than rustle.

No one can fault it, though some try. Even the attackers tip their hats to the dark brown tangle as it perches without a care in the world, come what may. If a time comes when it might drag him down, he lets it go—quietly, without a fuss, the ringlets floating silently to the ground—and it leaves no shadow behind. It will come back, it will always come back. It bears no ill-will, and cares little for the whims of the powerful.

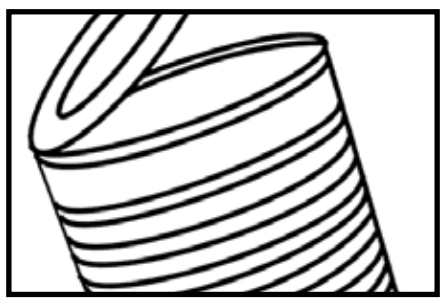
There is nothing strange about it, after all. It does not serve, and it does not rule. It simply is. Perhaps this is why the world finds it so mysterious, enticing even. The one who came before him had a head of silver wires; beaten into shape, every line calculated to be bland, inoffensive. It had been painful in its neatness. He is different. Nowhere else does this show so much.

It does little now, impressed by the soberness of those around them. Still, it is none the paler for what it sees. Instead, it lets its darkness curl around him, shielding him from the blinding lights of the pinnacle where he stands. It is his own darkness, a friendly shade hanging over his head.

THE TIN TRIBUNAL
O Curly Haired One , and her Sleeping Beauty Boyfriend, and the impish Editor in Chief

"What would you sever ties with?"

"Palestine."
Salty, 4B Peace and Conflict



"The Iron Warrior"
The Tin Soldier, 25B Ageless

"My Uterus."
One of the 10% , 4B Feminism

"Severed Ties"
Mathie, 1A Pure Math

"My Bed"
Dolphina, 4B Too Little Time

"That student life."
It's Fine, 2B or not 2B

Engineering Co-op Student Debt-Load Survey

1. Term Total

Response rate to survey: 14%.

2. Does your family support you financially? (339 responses)

Yes: 6%. No: 94%

3. Average cost of living for a 4 month school term (499 responses): $12,323

4. Average cost of living for a 4 month work term (446 responses): $5060

5. Have you applied for local aid or other bursaries to pay for school? (471 responses)

Yes: 4%. No: 58%. Not yet: 38%

6. Have you applied for OSAP? (329 responses)

Yes and received: 3%. Yes and denied: 80%. No: 17%.

7a. Do you have a loan for academic purposes? (474 responses)

Yes: 4%. No: 50%. Not yet: 47%.

7b. How much is the student loan? (362 responses)

1-999: 53%. 1000-1999: 2%. 2000-4999: 1%. 5000-9999: 5%. 10000-19999: 15%. 20000+: 25%.

8. Has the differential tuition increases caused you hardship? (347 responses)

Yes: 4%. No: 78%. Not yet: 18%.

9. 9 How much debt do you expect to be in by graduation? (411 responses)

No Debt: 7%. < 4999: 23%. 5000-9999: 6%. 10000-19999: 11%. 20000-39999: 18%. 40000+: 34%.

10. Do you live at home while in school? (40 responses)

Usually: 10%. Used to: 73%. No: 18%.

11. Have you lived at home while on workterms? (331 responses)

Always: 12%. Sometimes: 14%. No: 74%.

12. Average of the weekly salary while on work term (375 responses): $767

Life is a Game of Chance, Just Ask Jobmine

JOSH LI
1B MECHANICAL

If more than one person ends up with the same overall ranking for a job, Jobmine randomly assigns the job to a lucky individual. We all know this; we don't seem bothered by it, as we've either accepted it or don't think it will happen to us. There is an element of chance in landing a job.

Step Two

Think about how little control we have over actually getting that co-op job. We apply to so many and rarely consider an application carefully. Our resumes are piled with hundreds of others and screened by multiple HR employees who will glance over your top 6 points in less than 20 seconds. How much can they take away about you in 20 seconds?

That's why there are interviews: for you to demonstrate your entire engineering capabilities for the next 4 months in a period of 30 minutes. If the employer has already made up their mind about a previous candidate, everyone else pales in comparison through confirmation or availability bias. Afterwards you are ranked, and we already know how much chance is involved there.

Nobody can say that they are completely, personally responsible and in control of getting a job; even arranging your own job requires knowing the right people and meeting the right opportunities. There are many factors in landing a job, and some factors in life are outside of our control.

A Two Step Process

All of the above does not mean that fine-tuning your resume and preparing for interviews are complete wastes of time. Of course, the position you put yourself in has great implications: you get a job by doing your part (Step 1), and then getting lucky (Step 2).

If you do your part well, you are now at slightly better odds. But everybody does Step 1; we all have resumes critiqued and apply to similar jobs, but not everybody gets lucky. And this is something we fail to recognize.

For those of us that don't have jobs yet, or interviews even, don't be too hard on yourselves. Being at a great school studying every day is a lot to appreciate. For some people, Step 2 just hasn't gone their way. At the same time, don't give up: continuing doing your part and doing it well is the only thing we can control. Focus on Step 1 and don't be afraid to take chances, because life is a game of chance.

Broskies on Brewskies: Season Finale

DONOVAN MAUDSLEY
TRISTAN KUEHN
2T MECHANICAL
2T SYSTEMS

BROSKIES ON BREWSKIES

We put off doing this issue for a while, and sadly the beer sat in my fridge for a little bit. We were planning on drinking these beers for last issues column, but Tristan got sick. We changed our plans and meant to drink up on the Thursday before Good Friday, but then we forgot. Then we decided to do it on Good Friday, but then we forgot. It's now Easter Monday and we're finally gonna crack open some cans and meticulously rate and analyse the fluid inside. Like fluid dynamics, but not.

We kicked the night off with Thornbury Brewing Company's Jubilee Amber Lager, a local brew from Nobelton, Ontario. It's been so long now that I don't remember why I bought it. This one was a good beer to start the night off with, light and easy to drink. This would definitely be a good one to have with dinner. The most prominent flavour of this beer is bitterness, but even it isn't very strong. We came to the conclusion that if we found this beer in the fridge on a summer day we'd be pumped, but we wouldn't go out of the way to get it into the fridge. Overall 4 out of 5.

Next up was the Bitter Waitress Black IPA from the Shillow Beer Company up in Oakville. Totally bought this one cause of the can design. It really lives up to its name, strong, bitter and good. I like it far more than Tristan does, but both of us see the appeal of it. It's exactly what you would expect from a cross between a fairly standard IPA and a medium weight dark beer like Killkenny. I would probably drink this again, but Tristan definitely wouldn't. Overall we give it 3.

I may have bought our last beer today because of a mistake. I thought that Sultana Gold, a Blonde Ale from the Lake of the Woods Brewing Company, was Santana Gold when I bought it. Whoops. It is very similar to the other Jubilee Amber Lager from earlier, just not as flavourful. It's very unfortunate that this beer doesn't pack a bigger punch because we like the flavour that's there and just want more of it. Neither of us really thought that this beer was anything special. Sorry Lake of the Woods, 2.5 out of 5.

Leafy Thoughts: Appreciation of Fungi

NINA FENG
4B ENVIRONMENTAL

LEAFY THOUGHTS

It's very strange, but I realized only a minute before starting this article that this will probably be the last of Leafy Thoughts as we know it. Over the years it's bounced around from being news-y to rant-y to, unfortunately, Buzzfeed-y (those were dark times). I never be-leaf-ed that it would have continued for this long, and it's almost over-elm-ing thinking about it. While I thought I'd grown tired of it, it's kind of bittersweet actually writing the last article. I'm ending off with a topic that I've been pine-ing after a long time, but never quite found the appropriate time to do so (it's not entirely environmental, nor is it a poplar topic).

I'm going to finally write about mushrooms. I love mushrooms. I love mushrooms about as much as hobbits love mushrooms. "A Shortcut to Mushrooms" is one of my favourite chapters in Fellowship of the Rings, mostly because of the basketful of mushrooms Farmer Maggot gifts to Frodo at the end. Mushrooms are aesthetically interesting, oftentimes tasty, and an important part of the natural world.

Mushrooms are a great source for all the essential amino acids—the building blocks of protein and arguably of life as we know it. They also include vitamins and minerals such as Vitamin C, Vitamin B12, calcium, and folic acid. Like most fungi, many varieties are also valuable in a medicinal sense.

Mushrooms and other fungi are responsible for getting rid of dead animal and plant matter, recycling them into organic, nutrient-rich soils that can then be used to grow new life. While bacteria and other organisms can also conduct a similar conversion, the absence of fungi would cause us to be buried in metres worth of the dead matter. They are amongst the sometimes-overlooked organisms that form the base of most ecosystems and are vastly important for promoting life and biodiversity.

They are also so cool because there are so many varieties of them that vary in size, shape, and colour. Button mushrooms are edible, adorable, and delicious. Gyromitra esculenta look like a twisted mass of brains and, when eaten raw, can be fatal due to the amatoxins it contains. However, with proper preparation (through parbroiling) you're good to eat it in an omelette or a soup. If you suffer from trypophobia, it's best that you avoid the Bleeding tooth fungus (Hydnellum pecki), which oozes a bright red, semi-transparent substance from multiple pores across its cap. There are even several bioluminscent varieties that glow green in the dark, such as the Mycena chlorophos in Asia. Some are bright blue and some are as tall as trees. Puff balls can be super fun to watch as they spew they're spores into the air. There is even the "Giant puffball", a mushroom of up to 70 cm in diameter.

I could go on for a while about how cool mushrooms are but I also must move on with my life. For whvoever's been reading these over the year - I thank yew all. I hope my writing hasn't made y'all sycamore.

Fall Term Goals

JEFF GULBRONSON
VP EDUCATION

Hello, and welcome to the last Iron Warrior of the term! I'd like to use this article to talk about the three main things that I'll be working on over co-op and the Fall term.

First is working with the B-Society VP Education, Anson Chen, along with Stephanie Tortorici from the WaterlooWorks team, to create questions for a "Rate my co-op" feature. It would allow students the opportunity to leave feedback about the term, which other students could view when applying to jobs. There are still lots of details to be decided regarding this tool. For example, how many reviews do we need for a certain company before they can be made public? Obviously if we only have one or two, it wouldn't be very anonymous. We are also figuring out exactly what students want to know about co-ops. Should we focus more on the employer, or more on the job itself? We'll be seeking student feedback to try and generate a valuable set of questions that students can use when on WaterlooWorks.

The second thing that I'll be working on over co-op is continuing to grow Career Fair. We are hoping to have the event earlier in the term, to help students find both full-time and co-op employment. I firmly believe that based on how many students we had at the event this term, Career Fair is a valuable service that EngSoc offers to its members, and I'm looking forward to improving it for the Fall.

Lastly, I'll be evaluating the ongoing resume critiques service that we offered this term. I've sent out a survey to those who volunteered to help out, and so far the feedback has been very positive. I'll look to promote the service more in the Fall, and better support the volunteers. For example, we could offer free printing of resumes that are being critiqued; volunteers would come to the Orifice, print them off, write their comments directly on the paper, and then scan it to send back. This would more closely mimic how our in-person sessions are run, where volunteers markup resumes with pen or pencil. If you got your resume critiqued using our ongoing service, and have some feedback, please pass it along to me at *vpeducation.a@engsoc.uwaterloo.ca*.

One final thing I'd like to mention is that EngSoc is running an election in the Fall term! While the title of VP Education is changing to VP Academic, the position itself is remaining the same. In my first article next term, I'll be writing about the position, what it entails, and what kind of person might be interested. Keep an eye out for that, but feel free to email me before if you have any questions about the position. The election will likely be early in the term, so if you're at all interested, I'd strongly encourage you to find out more about the position before then! (This goes for any position.)

I hope you all enjoy co-op, or if you're in 4B, your new title of "Adult". Don't hesitate to stop in by the Orifice when we're back, and say hello. Or, if you're coming to JAGM, I'll see you there! As always, good luck on exams.

A Winter to Remember

SARBAJOY MAJUMDAR
VP INTERNAL

Hello, A Soc, this is your friendly VP Internal Sarb here. I want to take this opportunity to say thank you to everyone whom I have met this term, be it through events or just through run-ins around campus. I have learned a lot about leadership and communication through the many interactions I have had with all of you. Here are some things I would like to share about my term as VP Internal, now that I am halfway through.

Winter 2016 in Review

I was glad that all directors under me took the initiative to make their respective events well-planned and successful. I am amazed at how much initiative the directors have taken and the time they have spent to make their events amazing. As such, I would like to thank all the directors who have worked under me this term. Events were well-planned out and I am glad that many directors got a good learning opportunity through directorships.

Marketing for most of my events was done badly this term. That is something I take the blame for, and I am hoping to work on that for next term. I have learned a lot, and plan to make sure that events are better marketed in subsequent terms.

Lastly, Awn Duquom has been a great Student Life Commissioner and more importantly a friend these past 8 months. I would really like to thank him for being a great person for the past 8 months, and hope he continues to stay involved.

Fall Term Goals

I have 3 main goals for the fall term. The first goal is to make sure that events will have a better marketing strategy for the fall term. I will be working with Celine O'Neal (incoming Communications Commissioner) and Peter Keillor (incoming Student Life Commissioner) and Mariko Shimoda (incoming First Year Commissioner) to see what is a good marketing strategy to offer directors.

Next, I would like to continue interfaculty and inter-school collaborations within some of my events, and many of the directorships under me in the fall term reflect that. I would ideally aim for 3 interfaculty collaborations, but would be open to see more.

Lastly, I want to work to make the events offered to First Years in the fall would be well run, especially the First Year Conference. I hope that many incoming first years will have the space to grow and feel welcomed to the Engineering community.

Find Me

If you have any ideas for events we should do, or would like to talk about what your favorite events were,, or just want somebody to talk to, email me at *vpinternal.a@engsoc.uwaterloo.ca* or visit me at the Orifice (CPH1327) whenever you see me. Also feel free to stop me and say "Hi!" whenever you see me in campus or elsewhere. I don't bite (seriously). I will end off with a quote from my idol Steve Jobs that helped me keep going, especially during the tough times. "Don't let the noise of others' opinions drown out your own inner voice ". All the best for finals, and hope to see everyone in the Fall!

That's a Wrap!

OLA SUCHON
WILL WILMOT
VP EXTERNAL

Hey there A-Soc! It's hard to believe that this term is already coming to an end. Hopefully, things are starting to wind down and you've all had a great four months. Things have been pretty busy as the winter term comes to a close, and what a term it has been. The beginning of the term was rather conference heavy with both CFES Congress and the ESSCO First Year Integration Conference. The reports for both of those conferences, as well as all of last year's conferences, are currently being posted on the website. If you're ever interested in seeing what goes on, or looking at applying in the future, they are a great resource!

One of my major initiatives for this term was National Engineering Month, which is now just finishing up. A huge thank you goes out to all the directors who helped put the month together, and to those who came out to make all of the events a success. I hope that in future years, National Engineering Month continues to grow and that we can come up with new and exciting ways to celebrate and promote engineering as a discipline. The remaining NEM patches will now be on sale at Novelties until they run out, so be sure to pick one up before they're gone! Hopefully the hard hat wearing goose logo will stick around in the future.

And finally, we have raised over $2000 for charity this term! I'm super proud of everyone who helped sell pancakes, grilled cheese, patches, and of course everyone who donated as well!

With that, my term as VP External is also coming to an end. I wanted to take this chance to thank everyone I had the opportunity to work with over the past 8 months. You guys are awesome and I am so grateful for all the hard work you put in this term. I've had a lot of fun being your VP Ex for the past little while, but with that, I'm now passing the reins onto Will, who will be finishing up the term with his commissioner team. Steven Jia is the Outreach Commissioner for the fall and will be overseeing all of our outreach and charities effort,s so be sure to look out for ways to participate in that. Also, Calvin Kwok will be the WEC Commissioner and will be responsible for putting together the Waterloo Engineering Competition! Unfortunately, I won't be around in the fall, but I'm sure they will all do a wonderful job! If you ever have any questions about any of these portfolios, feel free to reach out to them or Will at *vpexternal.a@engsoc.uwaterloo.ca*.

Jake Harvey

The winter 2016 EngSoc leadership team

Looking Forward

ADELLE VICKERY
PRESIDENT

As the term gets closer and closer to wrapping up, it means that A-Society is getting ready to head off to co-op and fourth years are getting ready to enter the real world! However, we will continue moving forward and serving the engineering student body. In this article, I would like to outline some of the things happening over the Spring term!

Joint Annual General Meeting

First up is the Joint Annual General Meeting (JAGM)! The meeting will be on Sunday June 26th. At JAGM, every EngSoc member receives a vote, can submit motions, and can speak about issues that matter to them. This is the most important meeting of the Society and it is very important that we have a strong voter turnout.

For those of you traveling outside of the area for co-op, I am very excited to say that we will have a system in place to allow you to remotely attend and vote at the meeting! Keep an eye out for details on how to register to attend remotely and other specifics. I would like send a huge thank you out to Jeff Gulbronson and Akshay Joshi for helping me get this implemented.

Agenda items can be sent to president@engsoc.uwaterloo.ca. If you are unsure of how to write a motion or what can be added to the agenda, a manual can be found in the document section on the EngSoc website. There are three different types of motions that can be brought forward: stances, mandates and policy changes. As a member of the Society, you have the power to mandate the Executive to shift their priorities, work towards a particular goal, or express an opinion based on general members' consensus. All this can be done by bringing forward a mandate or stance. Policy change motions include anything related to changing our governing documents. These motions can be submitted by anyone with an opinion on wording, who has ideas for new content, or disagrees with our current policies and procedures. If you have any questions about writing a motion, please email me at *president.a@engsoc.uwaterloo.ca*.

As a sneak peek, the major agenda item so far is a proposal to completely restructure the EngSoc council. The Council Review Committee has been working since September and has developed a new structure that we will be proposing at JAGM. A full report will be released at the end of May. Food will be provided to all who attend!

If you can't attend the meeting (or know someone who can't attend) keep an eye out for the proxy forms at the beginning of the Spring term, or for more information about remote attendance.

Elections

My team will be done our term as exec in December, so we're having an election in the Fall! Over the co-op term, I will be working with our Chief Returning Officer, Sameer Chitley, on planning the elections and working on ways to get a better voter turnout. If you have any ideas on how to improve the election process, or encourage more people to participate, please email Sameer at cro.a@engsoc.uwaterloo.ca.

This election will be for 6 positions: President, Vice-Presidents Academic, Finance and Operations, Communications, and Student Life, and WEEF Director. For more information about the positions available, visit engsoc.uwaterloo.ca/society/elections; here, you can find the full position descriptions, eligibility requirements, as well as the full report prepared about the change to this new structure. If you're at all interested in running for one of these positions, please email executive.a@engsoc.uwaterloo.ca

Fall Term Goals

I'd like to end this article by briefly talking about what myself and my exec will be working on going forward! We will be working on a more complete list of our goals to be released on the mailing list during May, but some of them include creating a Student Experience Survey, more website improvements, new Novelties swag, and "Rate-My-Co-op"! See the other articles here for more! If you have any ideas for improvement or things you would like to see implemented, let me know so we can look into it before our term is done!

That's all for this term! It has been a pleasure, and I can't wait to be back for the fall. Have a great co-op, and see you in September (or at JAGM)!

A Term Well Spent

ABDULLAH BARAKAT
VP FINANCE

Where, oh where has this term gone. Time sure has flown by quickly, but as we all know, time is money, so it's time to get down to business. I came into this term with a lot of ideas and thankfully so many of them have come to fruition. Moving forward there are some goals I have in mind for my last term as VP Finance.

Novelties

This term, my main focus when it came to Novelties was to sell as much of our old inventory as possible in order to make room for new things. We ran two fire sales this term, which were a massive hit. I would like to say that it was a success and we managed to sell most of our inventory, especially clothing items, and now a focus moving forward will be to introduce a lot of new Eng Swag into Novelties. I am already in talks with the B-Society VP Finance, Don, as well as the Novelties Directors for the Spring term, and we already have some ideas for what we plan to bring in. Come the Fall term, my plan is to have Novelties be full of brand new inventory and to bring more Engineering Spirit to Waterloo!

External Sponsorship

In the Fall term, we will be running the First year Engineering Leadership Conference, and in order to provide a great experience for the attendees, we would need to acquire some sponsorship in order to fund everything. One of my main focuses for the co-op term is to reach out to external organizations in order to get the ball rolling for sponsorship and make sure that we can provide as great of an experience as possible to those attending. Other than the Conference, EngHack will also be occurring in the Fall, and will also require funding, so getting the ball rolling on that would also be great!

E7 C&D

Since we are confirmed to have another C&D in Engineering 7 once it opens, a lot of planning and logistical work needs to be put in place in order to assure a smoother transition into the new building, while not affecting or being detrimental to the current CPH C&D. My plan is to work more in depth with our business manager to have a plan ready long before the building opens, in an attempt to make life easier when the time comes. That will be one of my essential goals for the Fall term.

That is all for now, but please shoot me an message at vpfinance.a@engsoc.uwaterloo.ca if you have any questions, comments, or concerns about anything under my portfolio, EngSoc as a whole. or if you just want to chat. Stay Awesome, Waterloo! Hope you have a great co-op term, and I will see you all in the Fall!

Title	Requested	Allocated
Faculty Proposals		
Replacement for New Balances (Scales)	$4,100.00	$3,250.00
Ika 5 Position Magnetic Stirrer	$1,718.00	$1,718.00
Test Frame Accesories	$5,035.00	$5,035.00
ECE - 10Gb Server Networking	$1,400.00	$1,975.00
Expanded Computer and Electronics Laboratory (Church Lab)	$60,040.00	$25,555.00
Display Monitor Upgrade and Replacement	$5,210.00	$0.00
High-quality Magnetic Coil Sets for Nano Undergrad	$7,400.00	$3,700.00
Handheld LCR Meters for Nano Undergrad Labs	$3,000.00	$1,500.00
New Sensors Lab Equipment - GENE123	$3,000.00	$3,000.00
SE Lab Peripheral Equipment	$460.00	$230.00
WATER, WATER, WATER	$4,911.00	$0.00
Design Fabrication Lab Upgrade	$7,500.00	$2,500.00
Total	**$96,274.00**	**$48,463.00**
Misc. Proposals		
UV Water Sanitization System Funding	750	$0.00
Waterloo Engineering Society	9000	$1,000.00
Camera Equipment for EngSoc	1197	$0.00
Engineering Society Campus Garden	$2,500.00	$0.00
Equipment for Engineering Orientation Media	$1,279.00	$0.00
Total	**$14,726.00**	**$1,000.00**
Student Team Proposals		
UW Baja Team W16 Proposal	$3,200.00	$700.00
Midnight Sun Solar Rayce Car Team Winter 2016	$3,500.00	$875.00
Waterloo Hybrid - Motor Controllers & HV Wiring	$2,400.00	$1,800.00
University of Waterloo NanoRobotics Group (UW_NRG)	$150.00	$150.00
Vehicle Handling Scale	$1,610.00	$1,177.00
UW Robotics Proposal	$1,227.00	$395.00
Waterloo Rocketry Team - W16 WEEF Proposal	$400.00	$400.00
Waterloo Aerial Robotics Group Proposal	$1,700.00	$1,200.00
WatSat WEEF Funding Winter 2016	$400.00	$300.00
Formula Motorsports Wheel Shell Set Proposal	$750.00	$750.00
UW Aquaponics Mobile System	$2,614.00	$0.00
UW Eco Marathon Dynamometer	$200.00	$200.00
Concrete Canoe W16 Proposal	$1,310.00	$200.00
WatSub- Winter 2016 WEEF Proposal	$3,200.00	$0.00
Waterloop Sponsorship Proposal	$1,500.00	$1,100.00
ATLAS-Biomechatronics Design Team Proposal	$795.00	$455.00
Student	$14,445.00	$0.00
Vending machine in DWE	$6,200.00	$0.00
Geo Eng Design Team Proposal	$1,694.00	$927.00
brUW	$3,030.00	$0.00
Total	**$41,225.00**	**$10,629.00**
Grand Total	**$152,225.00**	**$60,092.00**

WEEF Report

ERIC SHI
WEEF DIRECTOR

Every term, WEEF uses money earned on the interest of the principle (now over 14 million dollars) towards improving undergraduate engineering at the University of Waterloo. This term, WEEF has donated $60,000 towards funding proposals submitted by faculty members and student groups. The allocations and proposals can also be viewed digitally at www.weef.uwaterloo.ca/proposals.php. To view proposals in detail, download the term proposal booklet which has a detailed overview of each proposal that was submitted.

This term, WEEF received a total of 58 funding proposals. The funding council, made up of up to two class reps from each on-stream class, votes on which proposal should receive funding. Each proposal is accompanied by a presentation and Q&A session with the funding council. The donation amounts towards each proposal is decided by the funding council through majority votes.

The allocations this term include new high-quality magnetic coil sets and new handheld LCR meters for undergraduate nanotechnology labs. The Civil and Environmental department will be getting a new balance and a magnetic stirrer. Electrical and Computer Engineering students can look forward to server upgrades that will enable faster networking to the ECE Linux computing servers. WEEF will be supporting the Church Lab upgrade through funding a set of oscilloscopes, soldering irons, and fume extractors. These stations will be implemented in an extension to the Church Lab in E3. Software engineering labs will be getting new peripherals. An architecture machine shop will also be receiving new equipment. These are just a few of the many projects WEEF has funded this term.

If you have any questions or concerns about this term's allocations or WEEF in general, please get in touch with me at *weef@uwaterloo.ca*.

Continue tradition. Continue your support to WEEF.

Catalyst Code Squad Conference 2016

TIFFANY CHANG
1N CHEMICAL

As a first-year university student, it's fair to say that there are plenty of things I have yet to experience. However, last week, I got to check off something off of my university bucket list.

For those of you who have attended a conference, you have only touched the tip of the iceberg.

Last week, I had the opportunity to run the Code Squad Conference with Claire Heymans, Outreach Coordinator for Women in Engineering. This conference is hosted under Catalyst, a Faculty of Engineering initiative aimed at engaging high school students to be future STEM advocates and leaders. Specifically, the Code Squad Conference is targeted towards Grade 10 girls to spark their interest in computer science and software. With the financial support from TD Bank Group and Google, this conference was a once in a lifetime experience!

To clear up any presumptions about this program, no, Code Squad is not meant to persuade female youth to become software engineers. At the very least, it is intended to introduce young women into various topics and applications of computer science, and hopefully, it will inspire them to pursue technology as a lifelong passion—and if it encourages them to further their education in this field, that's an added bonus!

The conference began on Sunday evening, which was spent assembling the girls' Pi-Tops. A Pi-Top is a build-it-yourself DIY computer kit that comes equipped with a Raspberry Pi which powers the bright green laptop. With much patience and perseverance, all our girls succeeded in assembling the laptops that they would be using for the duration of the conference.

The next couple of days were a whirlwind of workshops and lessons learned; for example:

Monday morning was a workshop well spent on introducing the concept of object-oriented programming (OOP) with Python. OOP basically uses minimal code to provide a profile of different "objects" you want to assemble. Yet, as simple as Python is compared to other programming languages, it's still the smallest errors in syntax that make you tug at your hair. I discovered that if you mix spaces with indents, you will question your sanity (I didn't realize this until I was helping the girls troubleshoot their code). When writing the initialization method, never, ever forget the two underscores before and after "init."

On Monday afternoon, we visited BoltMade—a software company that works with its clients to develop the most end-user friendly software possible. Katie Cerar, a UX Designer and UW graduate from System Design Engineering, led our girls in a rapid prototyping workshop. Together, we walked through how to brainstorm and innovate, and by the end of the workshop, our girls had created their own new and improved social media apps.

Tuesday was a hard-core hardware day—breadboarding, soldering, and Arduino. I learned these skills rather informally, so being responsible for "formally" instructing the girls was a bit challenging. I learned that—unlike me—tenth-graders don't really care how an LED works—that is, until they wonder why it turns on when it's put into a breadboard one way and stays off the other way. Rather than trying to explain how to solder, it's more efficient to pair someone who hasn't soldered before with someone with soldering experience.

On the same day, we also tackled a wearable electronics project. I think that most of our girls thought that sewing is really simple—until you're the one who has to actually do it. But to be fair, I couldn't imagine my 15- or 16-year-old self being proficient at sewing either. The first test is being able to thread the thread through the needle. Looking back even today, I still have no idea how to explain how to sew to a group of girls who have sewn before other than making the needle go in and out and in and out. Besides, the only experience I've had with sewing is sewing my patches onto my covvies… I was even wearing my covvies this day, so I easily could have showed our girls how to sew by adding on another patch or two.

Thankfully, the evening before, I had made a quick cheat sheet to show how connections between LEDs, pushbuttons, and digital pins worked and some sample code for lighting up an LED, so it provided our girls with some additional guidance.

Wednesday was an introduction to what I like to call "advanced Scratch"—a neat website called App Inventor to create your own Android applications. Like Scratch, it is also a creation courtesy of MIT and makes use of block programming—dragging and attaching blocks to each other to make the code work its magic.

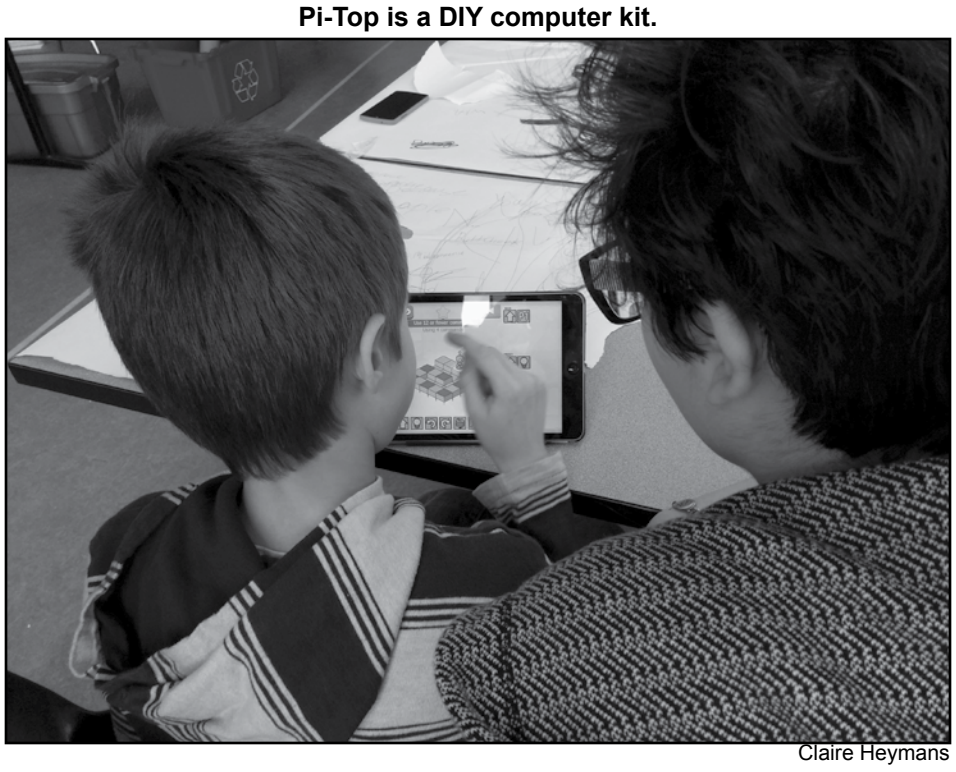
Unlike Scratch, it has many additional functions, so it was a bit more of a hassle to find the blocks that you actually want to use. However, the girls quickly learned how to navigate the search for blocks. With a handy online tutorial and me around to ask specific questions about syntax, the girls were hosting their own pizza parties within no time. I really hope that they'll continue to tinker with their apps when they get home—it would be sweet to see everyone's orders via geotagging on a map! The possibilities are endless!

Wednesday was also a special day because

Continued on page 17

Claire Heymans

Pi-Top is a DIY computer kit.



Claire Heymans

Lightbot teaches young children to think computationally.

Rob Ford: The Passing of a Titan

DONOVAN MAUDSLEY
2T MECHANICAL

Rob Ford, former mayor and city councillor of Toronto, passed away the morning of Tuesday, March 22nd after being entered into palliative care. Ford may have been best known for his antics and questionable choices, but he will be remembered for the way he changed local Toronto politics. I wasn't a huge fan of Ford or his policies, but recognized his strange magnetism and charisma. Ford styled himself a self-made man, even though he was born into a wealthy family, and his outward charisma reflected this. A true street level politician. Even with his awkward style and ill fitting suits he managed to be the warmest person in every room.

A true champion of the people, Rob Ford always campaigned for lower taxes. He thought that any dollar that was taken from the taxpayers was a dollar wasted. Under his leadership Toronto had a hands-on leader. He was known to respond personally to small personal complaints, like overhanging tree branches and broken municipal pipes. Although he didn't have much of a head for the technical side government, he was always glad to lend a hand to a cause.

Ford's career will be forever marred by his sometimes questionable behaviour. In 2013 a video came out showing the then mayor of Toronto smoking the street drug crack. After the inevitable cover up came his admission of guilt, and his assurance that he only smoked crack because he was outrageously drunk. This broke up his tenuous support with his more traditional voting alliance. The real surprise in this whole mess was just how much his supporters stood by him. Ford nation, as they're known, stuck with him through everything even after he fell ill and needed to withdraw from his re-election race in 2014.

The real tragedy is the personal loss of the Ford family. Rob leaves behind a wife, two children, three siblings, and a large extended family. A public visitation was held at Toronto city hall on Monday, March 28th and Tuesday, March 29th. There have even been rumours floating around about a statue of Ford to be erected on the steps of city hall! One of the best lessons we can learn from Ford is perseverance. His stick-to-it attitude and jump-in-head-first mentality were truly to be admired.

Tragedy in Belgium

CAITLIN MCLAREN
3T CHEMICAL

On March 18th, a piece of good news began to circulate: Salah Abdeslam, one of the organizers of the Paris attacks last year, had finally been captured after four months in hiding. He was tracked down and shot by police in Brussels. However, there were immediate worries about retaliatory attacks, and four days later, those fears came true.

On the morning of March 22nd, two nail bombs went off at Brussels Airport. A third was later found and detonated in a controlled explosion. Immediately afterwards, Belgium went to the highest terror threat level, but mere minutes later another suicide bomber hit the Maalbeek metro station. In the attacks, more than 30 people were killed and several hundred injured. Belgium declared three days of national mourning, and many around the world mourned with them.

The attackers—identified as brothers Khalid and Ibrahim el-Bakraoui, and Najim Laachraoui, all Belgian nationals of Moroccan heritage—had connections to terrorism and to ISIL; they were suspected to belong to the same terrorist cell that carried out the Paris attacks, but had evaded capture during the raids where Abdeslam was apprehended. ISIL immediately claimed responsibility for the attacks.

CCTV footage showed an unidentified man in a light-colored coat and a hat accompanying Laachraoui and Ibrahim el-Bakraoui at the airport; that man remains at large. Fayçal Cheffou, a freelance journalist, was arrested on suspicion that he was the man in the footage, but he was soon released due to lack of evidence. He is still suspected of terrorist activity. Several other suspects were also arrested.

In the wake of the attacks, Belgian authorities received a great deal of criticism for failing to arrest the bombers earlier. All of the attackers were known criminals and suspected terrorists; Ibrahim Bakraoui had been arrested in Turkey and deported on suspicion of terrorism last year, and Khalid actually had a warrant out for his arrest since he had rented a house where two of the Paris attackers had been staying. Meanwhile, Laachraoui was not only implicated in the Paris attacks—his DNA was found on the suicide vests used—but he was also known to have travelled to Syria back in 2013. At the time, he had been removed from the voters list, but the authorities took no further steps. Meanwhile, in the apartment rented by the Bakraoui brothers, the chemical smell was so strong that neighbours had repeatedly called the police, who did not investigate. As these dots were connected after the bombings, Belgium's Interior Minister, Jan Jambon, and Justice Minister, Koen Geens, offered to resign; however, Prime Minister Charles Michel did not accept their resignations.

While it is easy to criticize after the fact, and it may be justified and useful for the future, it does not change the situation for the victims. There are 32 known dead, more than 60 critically injured, and hundreds more with lesser injuries. The attack was the deadliest in Belgium's history, and many of the casualties were from countries other than Belgium.

The Brussels Airport has still not reopened at the time of writing. It will be a long time before things go back to normal, both in Belgium and around the world.

Teaching Awards

PAT DUONG,
PETER KAVANAGH
ENGSOC TEACHING AWARDS
MEMBERS-AT-LARGE

The Engineering Society Teaching Award was started in Fall 2014, and is geared towards promoting and celebrating phenomenal professors, lecturers and lab instructors who go above and beyond for the students and their learning experience. The winner and runners up are chosen for how they implement non-conventional teaching techniques, allow opportunities for experiential learning, and exemplify commitment and dedication towards ensuring academic success for their students.

The winner of this term's Engineering Society Teaching Award is Derek Wright. Derek Wright is a lecturer in the ECE department who focuses on bringing hands-on learning to the classroom, in addition to industry exposure and independent decision making. He is an engaging professor who fosters students and their learning by exploring different options and approaches to solving particular problems and ultimately gives students the independence to choose their own solutions (whether or not the solution is ideal). In addition, he relates materials taught in class to his past experience in industry and has even arranged events for his classes to meet current members of the industry. By varying content and using diverse teaching media (e.g. whiteboards, videos, guest lecturers etc…) he is able to keep the class interesting and relevant. He keeps an open mind when asking for and incorporating student feedback to improve how his class is taught and run. With many terms of teaching experience and great teaching reviews, Derek Wright is revolutionizing the ECE department's teaching style while incorporating much needed and wanted practical experience.

The first runner up for the Teaching Award is Dr. John Saad. Dr. Saad is a lab instructor for an upper year nanotechnology engineering labs. Over the past four years, he has completely changed and improved the way some courses are taught. He skillfully translates theoretical knowledge that the students have learned into practical activities that help ground their understanding of the concepts. The design projects that he developed for the lab incorporate elements that can be used in the real world. The projects are difficult but rewarding, and result in the creation of a quality device built from scratch. He encourages students to be autonomous and promotes the analysis and correction of mistakes. He encourages extra learning for his classes by hosting many extra tutorials and help sessions. Not only is he dedicated to ensuring his students succeed, but Dr. Saad has grown the Nano program as a whole through implementing a variety of new projects. Dr. Saad is a professor that any student would love to have, and the amount of passion and dedication that he has shown is remarkable and which in turn makes the University of Waterloo that much better.

Professor Derek Rayside is the other runner up for the Teaching Award. Professor Rayside of the ECE department teaches one of the most difficult ECE courses. He shows dedication for the success of students by making himself readily available after labs and classes, and is always willing to have discussions about material not covered in the curriculum. He also implemented a unique collaborative-lab working scheme that encourages collaboration and optimizes learning. Derek regularly communicates to the class for feedback and positively welcomes it. Professor Rayside clearly communicates with his classes and teaches in a very structured way, which optimizes the understanding of the students. Derek Rayside has a passion for teaching and deserves recognition for his teaching excellence.

The winning instructor will have their name added to the EngSoc Teaching Award plaque in the CPH Foyer. Packages will be made on behalf of the winner and the runner up to submit their names towards Faculty and University-wide awards.

If you have or know amazing professors, lecturers and lab instructors committee, remember to nominate them for the EngSoc Teaching Award next term!

Continued from Code Squad

Mary Wells, associate dean (outreach) and mechanical engineering professor, paid Code Squad a visit. Along with our girls, we got to tour TD's innovation space in Communitech and discover what TD's employees do in this unique space.

Before I forget to mention it, they did all of this within Communitech—tech hub of companies like Christie Digital, Deloitte, and, of course, TD Bank Group. I think our girls caught the entrepreneurial spirit while developing their apps in a legitimate boardroom.

On Thursday,—the last day of our conference—our girls also got to share some of their knowledge with little ones back at ESQ's March Break camp. They played Lightbot with the first- to third-grade students—coincidentally, Claire had also arranged for them to meet with Lightbot's developer, Danny Yaroslavski (UW graduate from Computer Science), the day before. Lightbot was one of his undergraduate projects, intended to teach young children how to think computationally.

Needless to say, every day was jam-packed with workshops, many questions, and a lot of troubleshooting. But, like our girls, I learned a lot as well. On top of nitty-gritty details that would cause errors in Python/Arduino/App Inventor code, I also learned a thing or two about interacting with high school students and teaching.

I really wish that I had taken advantage of the fact that high school students are completely competent at reading instructions on their own—unlike the elementary school students that I'm so accustomed to working with. However, by providing one-on-one support, I had the opportunity to talk with our girls and get to know them—which I found fascinating because I was their age only a mere three years ago.

Special thanks to TD Bank Group and Google; without their financial support, none of what we did would have been possible.

Thank you to my co-workers, who were always there to answer my silly questions about hardware/software and readily provided me with psychological support during my weeks of learning/prep leading up to the conference. You guys rock and totally nailed March Break camp!

Finally, a big thank-you to Claire for entrusting her brainchild with me. Never would I have ever got to experience what behind-the-scenes work goes into a conference without this opportunity. The passion you have for your job is awe-inspiring—you're the real MVP!

For those of you with younger siblings who are in Grade 9 or have yet to enter high school, encourage them to participate! It's a fantastic way to work on projects relating to trending topics in computer science and to meet like-minded peers.

For those of you who have attended conference,s before but have yet to be on an organizing team for a conference, give it a shot! I'll admit: It's a lot of work, but you'll realize that it was all worth it once you see the smiling faces on delegates' faces!

Justice League Part Zero

DONOVAN MAUDSLEY
2T MECHANICAL

I can't tell you if you're going to like Dawn of Justice. I did, but I'm a huge Zack Snyder fan and loved his previous effort, 2013's Man of Steel. The more sombre, gritty tone was a nice alternative to its comical Marvel counterparts and it left me eagerly anticipating more.

Ben Affleck's casting as Batman was one of the most talked about points of this movie, and easily the most moot point now. Batffleck is a triumph. Affleck had his first turn at playing a superhero way way back in 2003, playing Marvel's Daredevil. For those of you who don't know, Daredevil was horrible. The story, direction and script were all botched, but Affleck is a great actor and has proven it many times since. Batffleck is terrifically close to the source material, specifically The Dark Knight Returns which Snyder used for his main inspiration. Dawn of Justice picks up the Dark Knight's story 21 years along. Tragic things have happened through his career. The Batman portrayed carries the weight of the world on his shoulders in the most brooding, impressive way possible.

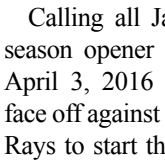
On the other side of the coin is Superman, played by Henry Cavill, and Dawn of Justice picks up 18 months after Man of Steel left off. The Son of Krypton has become a controversial figure after his battle with Zod that leveled Metropolis. Citizens and politicians alike blame Clark for the destruction, even though he really just wanted to help people. He keeps true to his morals throughout the movie and to his character, jumping up to save both his mother, his girlfriend and his city without a single thought of the consequences. His school boyish charm from his first outing is gone though, and you're kind of left wondering how he doesn't get fired from his day job.

Where Dawn of Justice really steps up to the plate is its setup for future DC films. Step one was Wonder Woman, the third member of DC's holy trinity. Gal Gadot gives a memorable performance as the mysterious Ms. Prince, and in the final action sequence she really steals the show. The part of the movie that surprised me the most however was the blatant Justice League setup. Honestly, they pretty much spell out the future of DC's cinematic slate right before your eyes.

Critically, there was a lot of jumping around between scenes. Keeping up with what was going on and what you need to focus on was mentally taxing. There were also an absurd amount of dream sequences. Lastly, as a fan of the comics, I usually know what's going on but if you aren't familiar with the source material there were a few things that will go right over your head. All roads lead to Apokolips.

I'm very excited for the future of the DC universe.

Blue Jays 2016: Let the Bird Watch Begin



ELIZABETH SALSBERG
3T NANOTECHNOLOGY

THE BENCHWARMER REPORT

Calling all Jays fans, new and old—the season opener is a just a week away! On April 3, 2016 the Toronto Blue Jays will face off against division rival the Tampa Bay Rays to start their defense of the American League East division title. The core of the team that was just shy of making it to the World Series last season is here for another year, so buckle your seat belts—it's going to be an exciting season! Before things get rolling, let's take a look at the ups and downs of the Jays roster heading into opening day.

Starting Rotation

Arguably one of the biggest controversies of spring training, Gibbons and company had their work cut out for them nailing down the starting five.

The first (and opening day) starter will be Marcus Stroman. The 24-year-old will be the Jays ace. Ask him whether he's ready for the role, he'll tell you he's more than good enough. After recovering quickly from ACL surgery last season, Stroman stormed back to posting a miniscule 1.67 ERA and 4-0 win-loss record in his four starts before the playoffs. He also pitched well in the ALDS against the Texas Rangers, where he started the final game, (the Jays would go on to win it 6-3).

Marco Estrada will fill the second spot, followed by knuckleballer R.A. Dickey, returning Blue Jay J.A. Happ, and finally, supposedly the most difficult decision, Aaron Sanchez. Sanchez is where the so-called controversy comes in: It took Jays brass until the end of spring training to finally name Sanchez as the final starter. His two major competitors were former Cleveland Indian Gavin Floyd and 2015 opening day starter Drew Hutchison.

It is possible that Floyd was strongly considered because of his relationship to new Jays President Mark Shapiro and his "yes man" general manager Ross Atkins. Shapiro is the former President of the Cleveland Indians; Atkins also had a leading role in the Indians organization. There is not much to say on Floyd's recent numbers, given that the now-33-year-old appeared in a grand total of nine games last season, posting a 2.65 ERA over 13.1 innings pitched. Though his ERA is not bad, this is a miniature sample size on which to pick a starter.

Also, it clearly makes much more sense to develop the younger, flame-throwing Sanchez who can still improve his already strong numbers.

As for Hutchison, he has been solid throughout spring training and should probably have been given more consideration for the starting rotation—perhaps pushing J.A. Happ into the three spot and moving Sanchez up to the four would have worked. It would not be surprising if he was called up from triple-A Buffalo to start at some point down the line, particularly if either R.A. Dickey struggles, or Happ cannot find the form he displayed in Pittsburgh.

The Bullpen

Down in the playpen, the two guys to watch will be newcomer and expected closer Drew Storen and 2015 closer and youngster Roberto Osuna. These two will be locks for the eighth and ninth innings without question. The issue arises when addressing the middle innings. Lefty Brett Cecil is still around, and he will be critical—after him, it's basically a bunch of nobodies. Aaron Loup struggled badly in 2015, and he will need to rebound this year to take some of the load off of Cecil. Jesse Chavez is a new acquisition; it remains to be seen how he will perform. Gavin Floyd has also been relegated to the bullpen.

These four will have to manage most the middle innings well to avoid stretching out the starters too much over the course of the season. Should the bullpen require fortification as the season wears on, Sanchez would almost certainly be moved, which could bump Drew Hutchison back into the starting rotation.

Position Players

The major change is here is that Michael Saunders will start in left field instead of speed machine Ben Revere, who was shipped to the Washington Nationals in exchange for closer Drew Storen. Saunders has had a solid spring training, posting a .293 batting average with 3 homers and 10 RBI's. He will likely fit in near the bottom of the order in the eight spot.

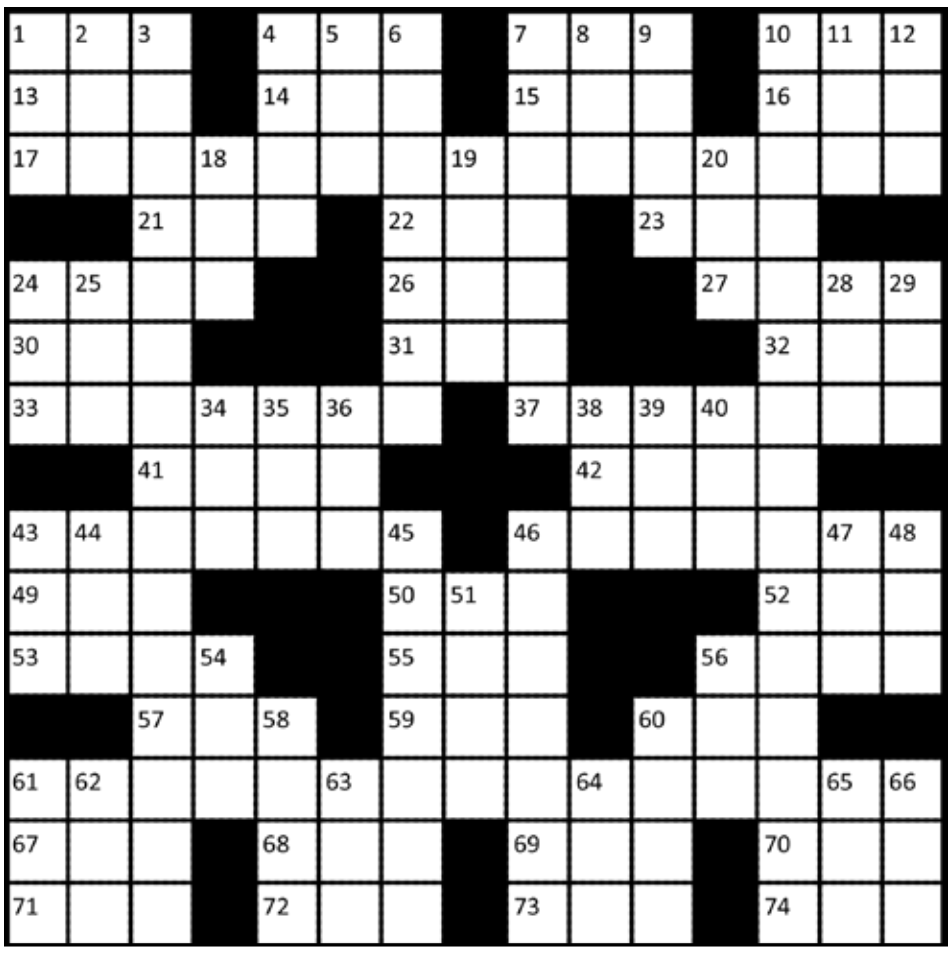
It seems likely that Kevin Pillar will take over in the lead-off spot given Troy Tulowitzki's lack of production there last season. If Pillar struggles though, it would not be surprising to see Tulo give it another shot.

Ryan Goins will start as the full-time second-baseman. 2015 Rookie sensation Devon Travis is not expected to return until May at the earliest. Before his season-ending shoulder injury, Travis posted a sparkling .304 batting average with 8 homers and 35 RBIs. If he is able to return to the lineup successfully, he could very well become the lead-off man as well.

Connected Rogers under fair dealing

The Iron Crossword: Springtime

CAMERON SOLTYS
3A MECHANICAL



ACROSS
1: X-man who can pass through solid matter
4: Celebration that occurs after engineering students receive ferrous bands
7: ___ Man, size-changing superhero
10: Plastic foam used in takeout trays (abbr)
13: The central bank of Canada (abbr)
14: Grain often used in cookies and cereal
15: "YES ___ EDCOM ___!"
16: Medical practitioner for animals
17: American missionary famous for planting apple trees in the Midwest
21: A web syndication format that lets websites and blogs share updated content
22: The gain an investor receives from their investment (abbr)
23: Code for money used in most of Europe
24: ___ Solo, rebel leader in Star Wars
26: Computer network for anonymity
27: "L'eggo my ___"
30: System (abbr)
31: An infection of the urinary system (abbr)
32: File type that can be opened by WinRAR
33: Where pugs can be obtained, for instance
37: For trees or infants, perhaps
41: Brutally wound by scratching and tearing
42: A superior (abbr)
43: "Romeo and Juliet" but not "A Midsummer Night's Dream"
46: Middle-Eastern country bordered by Israel and Syria
49: Symptom of parents who's children move out (abbr)
50: Publisher of "The American Economic Review" (abbr)
52: Scottish for "Not"
53: Annoying summertime flying pest
55: Computer component that transforms wall power to DC (abbr)
56: Japanese for "Cat"
57: Ontario-government educational TV
59: For each
60: Status of a long-held library book
61: Comedy about an Australian in New York
67: Gas mixture that covers the Earth
68: Buddhist school associated with tranquility
69: Jean-___ Picard, Star Trek Captain
70: Lieutenant General (abbr)
71: Young male
72: Preceding H I J
73: A drunkard
74: Medial test that shows the heart's electrical activity (abbr)

DOWN
1: US President after Kennedy's assassination (abbr)
2: Land of Jake and Finn
3: Fable about an angry old man on Christmas
4: An___ and cat___, for instance
5: A straight line, particularly of light
6: A small company with big potential
7: Pain medication derived from willow bark
8: Zero or non-existent
9: Large green-and-brown organism
10: The type of leaf of pines and spruce
11: Urine
12: Disease transmitted through very intimate contact (abbr)
18: American agency accused of massive breaches of privacy (abbr)
19: Less vulgar way of saying "fart"
20: Take legal action against
24: Purple alien royalty living in 2 Down
25: Seeing organ
28: A fish covered with hard scales
29: suffix meaning "pertaining to"
34: Droop
35: Colour
36: Existed for a long time
38: Employ or take advantage of
39: Massage by hand
40: A resort with a mineral spring
43: Work leather by beating or kneading
44: Single-stranded form of biological information storage
45: The sound of a small dog, perhaps
46: Shrubs with dark green glossy leaves
47: Tree that produces acorns
48: Hero of "The Matrix" trilogy
51: German word for "Donkey"
54: Type of plastic often used in pipes
56: A holy woman under a of vow of poverty
58: Slow trickle
60: Used to carry air for heating or cooling
61: Increasingly obsolete pre-Uber service
62: Location of upcoming Olympics
63: Meaning, of a word perhaps (abbr)
64: Pair
65: Used to end a non-inclusive list
66: Sold by the dozen

Sudoku

#2016-05

CAMERON SOLTYS
3A MECHANICAL

Easy

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

Medium

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

Hard

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

Solutions for previous crosswords can be found on *The Iron Warrior*'s website at *iwarrior.uwaterloo.ca/distractions*.

THE IRON INQUISITION
Vince Magas, 3A Management

"What is Your Pre-Exam Ritual?"

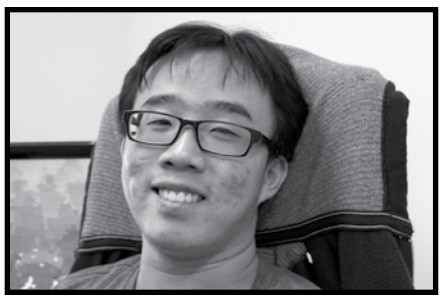
"Play Pokemon rather than study and ~~hope for the best~~ be the best there ever was."
Jessica Keung, 3A Civil

"Get stressed out, eat donuts, and cry."
Sarah Price, 3A Civil

"Listen to 'Down With the Sickness' to get pumped up"
Jenn, 3B Chem

"Just not do work for a little while... Relax for a bit."
Baraa Al-Rawi, 1B Management

"Have power nap, then study 'til exam"
Abdullah Barakat, 3A Mechanical



"Sacrificed 5 goats to the ODEs Gods"
Alex the EIC, 5A At last

$2million in funding available for student entrepreneurial ventures

Waterloo Engineering has partnered with Spectrum 28, a Silicon Valley venture capital firm to establish a student venture program for **engineering** undergraduate and graduates students who are seeking ideas or have an idea for an entrepreneurial venture and need cash, mentoring and resources to make it happen.

Pop Up Classes	Pitch Event	Demo Day
May & June 2016	June 2016	April 2017

If you're a winning team at the Pitch Event you move on to further idea development with mentoring opportunities until Demo Day in April 2017. At that time successful companies are awarded funding by Spectrum 28, founded by Waterloo alumnus Lyon Wong, Systems Design Engineering '03.

WATERLOO ENGINEERING | SPECTRUM 28 STUDENT VENTURE PROGRAM

For more information and deadlines visit:
https://uwat.ca/ZZA

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