Iron Times

October 2010

The Official Publication of the Carleton Student Engineering Society

BRIEFS

C-Eng: Welcome to The Family

As I sit in my office after running into the frosh on their way to the market scavenger hunt, I can't help but contemplate how much has changed at Carleton since my EngFrosh week... 10 years ago

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Engineering A Living

I am deep undercover in enemy territory. It's been three long years since I first left the comfort of english class and drama behind and began a life surrounded by computers, calculus books, and crushed beer cans.

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Punch a Hole in the Sky

It is a well-known "fact" that the first person to break the sound barrier was Col. Charles E. "Chuck" Yeager, who did so while piloting the rocket-powered Bell X-1 on October 14, 1947. As with much of history, however, the real story behind supersonic flight is not so simple.

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Throwing A Party

I'm here to give you a checklist to make sure you don't fail in hosting parties. I'm one of the co-creators of the "Clubhouse" and still currently living there. We have had our fair share of parties from having people thrown through walls to having 221 people inside the house and finishing 6 kegs in 1.5 hours.

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EXEC REPORTS

President

Suzanne "Ducktub" Swaine
- AERO VI -

Hi C-Eng! Hopefully by now you've all settled in to your year at Carleton and are beginning to get involved and come out to our society events! It's been a busy month for everyone on Council getting into the swing of things. I started off right away during EngFrosh doing my best to publicize all the services and opportunities CSES offers and I had a great time talking to all the first years about us. As soon as EngFrosh was over I packed my bags and headed down to York with Kevin (VPX) to attend the ESSCO Presidents' Meeting. The EngSoc Presidents from across Ontario had an excellent session discussing Dean Relations, Student Associations like CUSA, and how to run effective Council meetings. Speaking of Dean Relations, Jamie (VPI) and I had our first meeting with our new Associate Dean, Dr. Heng Khoo. The meeting went well and I am looking forward to working in partnership with the Dean's office to continue improving C-Eng this year. October promises to be an even busier month with the C-Eng Presidents' Meeting, First Year Elections, Fall General Meeting, and plenty of social events to keep you busy. Don't forget to come out to our Fall General Meeting on the evening of October 14th as we will be discussing society business, introducing the new First Year Reps, and electing our new VP Social! All Carleton engineering undergraduate students are CSES members which means you all have a vote, so come on out and help change your society for the better! If I haven't sold you on the idea yet, two words: free food. How could you resist?

VP Pubs

Kaitlyn "Topless" Stockermans
- CIVE IV -

I hope the first month has treated everyone well. I've been busy wrapping up payment for the passports and handbooks, making sure the website is up to date and getting this issue of the Iron Times to hit the stands. Other than those big ticket items I've been going to my office hours and starting up the new ad campaign for next year's handbooks. Also, the process for getting ads in the Iron Times has (re)started; the less budget I need, the more can go towards other awesome things!

Stay tuned for the next edition of... Bananas in Space!

VP Social

First Name "Callsign" Last Name
- Stream Year -

This position will be filled at the Fall General meeting on October 14th. The position includes intramural teams, planning Whirlwind, Reflections, and all other non-academic CSES events. For more information about this position drop by our office at 2090 MC.

VP Internal

Jamie "Invisible Man" Baressi
- SYSC III -

Hey C-Eng! Hope your first month back has been great. So, some of you might want to know what has been going on so far on the CSES front. Those of you who did frosh week, thanks again for coming out and signing up for the Announce list at the pancake breakfast; hopefully you enjoyed eating those pancakes as much as myself and the other members of Exec enjoyed cooking them. Hopefully you all have been getting the Announce emails; if not, come find me around campus/in the office and we can fix that. Fall general meeting (FGM) is coming up on October 14th. Show up, see what's going on and have your say. First year elections are also under way, so if you are in first year and interested in a council position, you should run.

VP Academic

Josh "Canadian Pie" Coulbeck
- ELEC IV -

Hey guys! I hope you all survived the first month of school, but seriously: don't forget there is more to university than partying. If you haven't already, you should stop by and check out the Text Book Trade. This program, which runs until October 8, is a great way to get the books you need at cheaper prices than the book store. My Text Book director and I are currently in the process of reorganizing the CSES Text Book Library; we will hopefully have it all finished by the end of the month. If you are not sure what the Text Book Library is, stop by the CSES office and check it out. I am also looking for students interested in helping with National Engineering Week. If you are interested or just want to become more involved, send an email to academic@cses.carleton.ca with the subject "NEW."

VP External

Kevin "Assbeard" Atkins
- AERO II -

Conferences, conferences, conferences: that's been my life as VP-External. Recently, I attended the Engineering Student Society Council of Ontario President's Meeting (ESSCO PM), hosted by York University (Shout out to them for doing a great job with their first conference!). At ESSCO PM it was decided that the Lobbying Initiatives and Action Committee (LIAC) would lobby for more soft skill development in engineering curricula. Over the coming months, I will be looking for numerous delegations to come with me to various conferences, including the Professional Engineers Ontario Student Conferences (PEO-SC), National Conference on Women in Engineering (NCWIE), CFES Congress, and First Year Integration Conference (FYIC). If any of those conferences interest you, feel free to e-mail external@cses.carleton.ca with any questions. You can also apply to be a delegate at http://getinvolved.engsoc.org/conferences/.

VP Finance

Jordan "Crack" Briggs
- AERO IV -

The past month has been a busy one what with EngFrosh and the academic year getting into full swing. I hope that everything is going well for all you C-Engers out there, especially first years. Be sure to keep your heads in the books, for midterms – your first trial by fire – are coming up. Remember: a poor midterm usually results in a poor final and a poor grade later on. Trust me, I know this fact all too well.

With that said, I am happy to announce that the application period is now open for CSES's Student Group Funding. We're right on the ball this year and are running it slightly earlier than last year so that we can help out our many student initiatives sooner and hopefully more generously than in years past. Paper application forms are available at the CSES office (MC 2090) during regular business hours and electronic copies were sent out in the CSES Announce email (they are also available on the CSES website). So what do you need to have in a proposal? Well, just READ the application form for details. Also, there is an excellent example of a proposal by the Blackbird UAV project on the CSES website available as a template. Remember, proposals are due on Friday, October 22nd at 5pm. Another big thing: make sure you submit BOTH a paper version to the CSES office AND an electronic version of your group's proposal to finance@cses.carleton.ca. While still on this topic, I am also looking for a Director to handle both SGF and treasury details and invite all interested parties to apply. Your work would involve helping me review proposals and allocate funds to SGF applicants as well as helping with some basic accounting duties. If you are at all interested in learning how CSES runs from the financial side of things, or are perhaps interested in running for the VP Finance position next year, I would encourage you to apply!

VP Services

Chris "Pretty Boy" Nicol
- AERO IV -

Hello All. For those of you returning: welcome back. For those of you new to Carleton Engineering: welcome to the C-Eng community. My name is Chris Nicol and I am your VP Services for the academic year. My portfolio covers a lot of the services that the Carleton Student Engineering Society offers. This summer, Leonardo's Lounge was renovated to accommodate the larger population of students using it throughout the day. Another service we offer is Alexander's Office, located at 2090 MC. Throughout the day, exec and council will be there to answer any questions about CSES or engineering in general. In addition, we have a Student Group Resource Centre which is available to student groups as a meeting or work area. Finally, there is an equipment loan program which has various types of electronic equipment available for borrowing. So that's it for me; if you have any questions about what's going on with my portfolio or if you have any ideas to make CSES better, email me at services@cses.carleton.ca.

Iron Times

The Iron Times is a free publication of the Carleton Student Engineering Society.

Submissions are welcome from articles to photos, from news to entertainment to opinions, and everything in between. Anyone may send their submissions, complaints, questions and concerns to irontimes@cses.carleton.ca

Editor-in-Chief
Nolan Hunder

Thanks to all the writers that contributed.

Editors
Josh Newman
Bharat Bhaga
Gilles Messier

Why does my facebook friend count keep going down?

EDITORIALS

C-Eng: Welcome to The Family

Matt "Tank" Cross
- AERO GRAD -

As I sit in my office after running into the frosh on their way to the market scavenger hunt, I can't help but contemplate how much has changed at Carleton since my EngFrosh week... 10 years ago (*GASP*). And yes, I still have my EngFrosh 2000 shirt. Course codes were 91.100 instead of ECOR 1010. Student email addresses were @chat.carleton.ca. Internet registration was just a dream for those still using the nebulous tele-reg process. That same tele-reg system also gave you your final marks and the female voice made it difficult to differentiate between a "B" and a "D." Beaver Foods was the campus provider of unidentifiable rice fiestas. There was a student-run bar in residence and CSES was just proposing to buy Oliver's from CUSA. Student numbers were 6 digits. The Minto CASE had just 4 floors. No O-Train. No Flightsuits. No asinine rules and regulations. And EngFrosh was wet. Very, very wet.

During one of the admin orientation sessions, we were given the typical lecture by some VP to the effect of "look to your right and look to your left: one of you will not be here by 4th year." While I outright disagree with those odds, I have greater concern with the message it conveys. If I were giving that orientation session, I would probably say the following to the frosh:

Look to the person sitting to your right. This is the friend you met in your frosh group. You are lucky to have met someone like-minded so quickly and someone whom you will be able to study with and have as a lab partner. While some schools rank their students so you are in open competition with everyone, C-Eng fosters a sense of community that allows you to readily seek help from your peers. During those long nights of compiling code or finishing a fluids lab, you will be fortunate to have amassed a close group of study partners to help you succeed in your classes. You will be cramming for finals and drinking away your sorrows with them. When your significant other turkey-dumps you, they will be there for you. If you are from the other side of the country, they will invite you to their family home for some proper food. Carleton Engineering attracts some quality people, so make sure you meet them.

Look to the person to your left. It's Super Frosh. They still won't take that cape off and you can only imagine what they have done with it. They convince you to come out to all the events and join a few clubs. Getting involved is not only a great way to meet people, have fun, and take a break from studies, but it also looks good on your resume. When I first started work at the European Space Agency, they told me that everyone who applies has an engineering degree and thus there no real way to tell the difference between applicants. They instead look at all the soft skills acquired through involvement in other activities. That doesn't mean being the one to go out and get drunk the most. Nor does it mean coming back after you graduate to feed alcohol to minors year after year. It means being meaningfully engaged in the engineering community. As fun as GNCTR is, I got more practical engineering experience from it than from some of my course work. Volunteering in Leo's or for National Engineering Week may not seem like a big deal, but it is to those who benefit from your service. Leading a group – be it a frosh group, a moon buggy project, or stream society – resembles the real engineering world more than churning out problem sets (still do your problem sets, however!). Get involved to be engaged in your community, not just to collect passport stamps. Besides, being book smart won't necessarily make you a good engineer.

Look to the person sitting in front of you. This is the arts student from your residence floor that ended up in the wrong lecture theatre. You feel the urge to mock them because they are an arts student. Don't. During my frosh week we were taught to make fun of the artsies and the commies and the hums majors because, really, what do you with a B.A in English? By the time I was a head facil I was trying to beat that mentality out of the frosh. Universities are institutions of learning, not job training centres. Why do engineering students study engineering? Because our brains are naturally wired in such a way to comprehend and apply that form of learning and reasoning. Just because someone pursues a humanities degree doesn't mean they aren't smarter than you (and they very well could be). It's simply a different way of learning. Is everyone from my graduating class working as engineers? No. Some went to teacher's college, law school or med school. Some used the degree to get government jobs that required a tech background. Engineering students should be proud in their chosen profession, but also practice modesty. The iron ring on my little finger serves to remind me of that. C-Eng has always embraced anyone that wants be involved in the community, and should continue to do so. So what can you do with a B.A in English? Teacher's college, law school, med school and government - just like you. Don't put off good people due to your attitude towards others.

Look to the person sitting behind you. You also met them during frosh week; in fact, they were one of your Facils. They failed a course or two. It happens. Engineering subjects aren't easy. Don't let anyone tell you that they are, especially your TAs. There will come a time when you fail your first assignment, your first mid-term, or even your first course. What is important to remember is that the sun still rises the next day, which is what my P.Eng father told me when I failed my first assignment, my first mid-term and my first course. There will be times when engineering doesn't go very well for you. There may be times when it seems that everyone around you is getting it but you. There may be times when you feel like quitting. There may be times you think you are the only one that feels that way. You aren't. Everyone goes through difficult times in engineering. The C-Eng community – or whatever community you find yourself in – is there to support you in those times. Besides, not being book smart doesn't make you a bad engineer.

You look to the cute one sitting in the front row who is the source of your unrequited love. Good luck, because I can't help you there!

While much has changed since I first started, I hope some things have remained the same. To all those frosh out there reading this, let me tell you as someone who finished his degree (two of them, actually): you have started out on an amazing journey and have chosen your university well. Carleton Engineering is not only a great academic institution, but is also a fantastic community. Take the opportunity to meet the people and become involved. Be proud of your engineering program but not at the expense of others. Don't spend every hour studying a text book: get involved in extracurricular projects and activities. Engineering is hard work; don't go through it without all the C-Eng support.

And, for the love of Godiva, be kind to us Grad students with iron rings!

University Strike

Evan Heyes
- MECH IV -

The right to strike is a fundamental negotiation tool for labour groups. Regardless of whether you are for or against this type of aggressive bargaining, it cannot be denied that strikes are disruptive to the people unions serve.

In the last few years, Carleton has been on the receiving end of two separate strikes and is now facing a third. The first was a Support staff strike, which was annoying but not dangerous to our degrees. Life carried on. The second was a transit strike, which was highly disruptive to our lives. This new one however appears to be even more so: a Professor strike which could devastate our year.

I refuse to fault one side over the other; Carleton has been known to be a tough bargaining participant. This is beneficial to the students, as the cost of these Professors comes from our tuition; as wages goes up, so too does our tuition. However, the unionized workers do have the right to be paid and promoted equitably for their labour. Whether this is currently the case or not, is a matter of debate, and is beyond the scope of this article (consult the Charlatan or Leveller for bashing of this kind).

The question then becomes: will the students become lost in the strike? Will we, like the students in York University last year, be forced to fight for the return of our fees? Will the loss of mandated instructional class hours (if I understand our Engineering accreditation requirements correctly) effectively nullify our courses?

I can only hope that our incompetent University student union – and our wonderful engineering society – will actively support and defend us if that fight ever occurs. I have every faith in CSES: they have yet to fail me. CUSA on the other hand, well I think everyone knows my opinion on them. (If not re-read the beginning of this paragraph).

For those of you intending to rebut this article: feel free. I freely admit I may be wrong on many a point; if this is the case, go right ahead and correct me. Much of the preceding is my own fears and worries rather than hard facts. (Yes I know that sounds like an arts student. My solution: blame the editor.)

In construction, I kid you not, there exists "erection drawings."

ME 3275

Matt "Mic Stand" Belanger
- ELEC III -

The room 3275 ME is by far the worst room in existence to have a class in. Here are my reasons why:

The location: This room is a whore. Every student from every faculty apparently has to have at least one class in this room, and this room only, in ME. There are other rooms close by, but NOOOOOOO, it has to be 3275... Since every student has a class there, the hallway is always PACKED. I end up groping around 40 people just walking through that block, so I just end up avoiding it all together because I don't need any more law suits.

The size: Most awkward size ever.... its not BIG but its not..small. Either the class you have in it had 100 students and are on top of each other the entire time or you have a tutorial of 10. FML

The seats: There is no room! The seats are super squished so you have to sit straight up the entire time and if you slouch your knees hit the back of the chair in front of you and it makes you want to kill babies. The only "sitable" row is the 3rd from the front as it actually has leg room, BUT you are too close so you can't fuck off. They are also too close to each other so when you put your arm on the arm rest, you give the person beside you a reverse hand grenade.

ALSO, every time you try to walk to a seat in the middle you have to crowd surf your way across and end up smashing your leg on one of those fucking stupid side tables.

The colour on the walls look like puke and make me want to do so. The only outlets for your fucking laptop are at the sides of the room and there are only 4 of them and when someone does use them you always end up fucking tripping over their god-damn cord.

You can't sneak in because the doors are loud as fuck and everybody looks over when its opened or closed like they are fucking stupid deer.

I hate this room so much I usually just skip it because I'd rather stab myself in the face with a steak knife then go to class.

Engineering A Living

Lasia "Orange Lemur" Kretzel
- JOUR IV -

Mission date October 7, 2010.

I am deep undercover in enemy territory. It's been three long years since I first left the comfort of English and Drama class for a life surrounded by computers, calculus books, and crushed beer cans. That's right: a life with engineers. During my exploratory mission I have lived with upwards of six of this unique breed of male. Of course, with Popsicle bridges and welding equipment, adventure and mayhem are sure to ensue.

I am an artsy female among engineers. This is my story.

A bit about myself first, though. In many ways I'm your typical fourth year journalism student: I like politics, media, writing, reading, photography…the whole lot.

However, living with - for a lack of a better word - geeks in residence for three years has not been without side effects. I am one of a select few of artsies who can follow a conversation about network mapping and can sing every engineering song by heart.

So with my eyes set on becoming a journalist, it seemed very odd that I would surround myself with computer, civil, aerospace and mechanical engineering compadres. But, and as you'll see, having these industrious chaps on hand has proven useful on multiple occasions (and provoked more than a few facepalms on others).

As a side note: artsies (if any of you are reading this), I highly recommend having an engineer as a friend. If your computer ever goes down or you're freaking out because your coffee machine won't brew your favourite starbucks mocha latte, having an engineer around could mean the difference between pulling that all-nighter essay or flunking your First Year Seminar. And it's cheap too. I pay mine in candy bars and coffee.

So now that you know a little bit about me, here's my harem of sturdy gents. Names have been changed to protect the guilty:

Moss: BIT
Jack: BIT
Sheldon: Computer Science (technically not engineering but whatever)
Xavier: Aerospace
Adam: Aerospace
Walter: Mechanical

Now on with the shenanigans!

Episode 1: Cooking with Engineers
Or: The Science of the Orange Noodle

It is the meal of university and particularly engineering students everywhere: Kraft Dinner. Its cheesy goodness makes a regular appearance on our plates at breakfast, lunch and dinner. It's quick, simple, and cheap… well, at least it's cheap. You'd think making a meal like KD would be an event-free process, but not when you live with six engineers. In those cases, it becomes an experiment.

It started as a new tradition called Midnight KD. Moss and I would watch an episode (or four) of LOST as he desperately tried to get me interested in the series. Like any good university students, our bed time wasn't until well past 1am and around midnight we would be craving a midnight snack. This is where the KD comes in. But making KD just around midnight is never enough for the precision-minded engineer; it has to be ready at midnight. And so began our quest to perfect the art of culinary KD.

The experiment consisted of calculating the time it takes for:

-The water to boil
-The noodles to cook and,
-The cheese, milk, butter to be added and stirred in.

But in science, a single result is never enough to confirm a fact; the experiment must be replicable and return the same results every time. 14 boxes of KD and a case of orange skin later, we had perfected our method. I can now time KD down to the stroke of midnight.

Did you know it takes, on average, 7.5 minutes to boil the water with a standard dual hot plate system, and exactly 11 minutes to cook noodles if you stir them eight minutes in? It also takes approximately 1.5 minutes to add the cheese and other ingredients. Add another 15 seconds if you want ketchup.

Whoever thought engineers made bad chefs must have never cooked with one. While we arts students tend to fudge the directions in an attempt at 'artistic interpretation,' engineers follow recipes to the letter and are meticulous about every aspect of the "process". Now if only we could get them to do the same with directions and IKEA furniture…

So if you are looking for a way to kill some time and produce lots food, here are some other fun-filled cooking ideas you and your engineering friends can try:

-Rice
-Microwave burritos (available to Leo's and Rez Commons)
-Hot dogs
-Soufflé
-Lobster
-Chicken wings
-Trifle

From: The Editors <irontimes@cses.carleton.ca>

"An editorial is a piece of writing intended to promote an opinion or perspective." We would like to seriously emphasize this definition (pulled straight from Wikipedia) and reiterate that these opinions belong to their respective author and do not necessarily reflect the opinions of CSES as a whole.

These editorials are meant to voice an opinion and are not meant to be malicious. In extension, none of the articles presented in the issue or this publication as a whole are intended to be malicious in any manner.

Whoever wrote that they love me on the whiteboard in SGRC from the writers meeting:

NEWS

CMAS - The Safe Student Society

Jordan "Crack" Briggs
- AERO IV -

Recalling last month's issue of the Iron Times, I wish to remark that the Carleton Mechanical and Aerospace Society did not receive enough recognition of their excellence from certain members of CSCE, including one who may or may not be named Greg Harrington. CMAS is one of – if not the – largest stream society within the engineering faculty and a proud affiliate of the Canadian Aeronautics and Space Institute (CASI). CMAS caters to those undergraduate students enrolled within the renowned Mechanical and Aerospace Engineering programs here at Carleton and provides numerous services and initiatives to its members throughout the year. These include printing, a textbook library, microwave, fridge, couches, computers, and T-shirts like our friends at CSCE offer. In addition, CMAS also offers MAAE course manuals, the SMART peer mentoring program, the in-house magazine Geared Up, and fantastic events such as movie nights and catapult and rocket competitions – things CSCE doesn't offer.

While our office may not be wheelchair accessible, all of the chairs in CMAS are equipped with multiple wheels and provide adequate mobility throughout our office space. Although we don't typically put our CMAS membership numbers on our resumes, we do provide our members with CaIRP –the Carleton Industrial Relations Program, where we actually SEND packages containing student resumes and other relevant information about the MAE program to numerous companies across Canada. This program has proven time and again to land our members good permanent and co-op jobs in their field.

CMAS is also proud to offer its members access to a fleet of staplers, the flagship of which is the Swingline® Optima® 70 Reduced Effort Stapler, which is capable of handling anywhere from 2 to 70 pages of 20lb office paper. CMAS's Optima® stapler can staple up to 50% easier than a conventional stapler, regardless of the sheet count, and its sleek design allows maximum carpal comfort while still being aesthetically pleasing. The Optima® also features a military-inspired Quickload™ magazine, which allows users to quickly and effortlessly reload it with another strip of Swingline® #35550 Optima™ High Capacity Staples. This fine piece of equipment certainly draws attention as there seems to be a steady stream of Civils invading CMAS to use it.

At CMAS, we are also very proud of our society's progressive attitude towards safety. It is safe to say that CMAS is simply the safest stream society serving students. Having recently established the CMAS Supreme Safety Council over the summer months thanks to the forward vision of Adam Cook, Ian Pace and Erik Willis, CMAS has implemented an audit system known as "Safety Points" whereby points are awarded for initiatives, items, actions, or behaviours which promote the safety and well-being of society members. Points are also detracted for things which are deemed to be detrimental to societal safety, such as blindfolded parkour. Some of the current CMAS safety initiatives include the addition of lifejackets to the CMAS office, which will enable patrons to survive events such as flash flooding. CMAS is also looking into procuring some new safety devices as a high-pressure fire extinguisher, a solar flare detector, and a jock strap. It should also be noted that each of the CMAS office chairs is equipped with an SRS airbag system to protect the occupant in the event of a massive collision, and can also provide an instant pillow should the occupant fall asleep.

I hope that my words have changed a lot of the negative opinions people may have had towards CMAS and perhaps enlightened those who are ignorant or indifferent towards our delightful society. We Aeros and Mechs are a pretty kind, compassionate, and generally outstanding bunch who always go the extra mile to serve others. In fact, just the other day I kindly gave directions to a young and innocent Civil looking for the civil lab in Minto (from the Minto Lobby, I might add). It's kind of ironic, really, how a civil engineer is trained to design a building but damned if they know how to find their way around in it.

So first years, be sure to come get a CMAS membership... and remember, stay safe.

SREEduce, SREEuse, SREEcycle

Kati "Spicy Beaver" Sidwall
- SREE III -

When you think of Carleton's Sustainable and Renewable Energy Engineering (SREE) program, a few images come to mind: the cacophonous and verbose clump at the back of your lecture hall; the inseparable pack migrating toward Leo's; the matching shirts emblazoned with a light bulb.

What might not be strikingly apparent about the SREE kids is the unbeatable passion and ingenuity behind the scenes. The upcoming Carleton University Green Energy Symposium (CUGES, as a more manageable acronym) is a phenomenal showcase of this dedication.

The SREE Society is hosting this day-long, on-campus event with the goal of developing the attendees' interest in – and understanding of – green energy technologies and policies. CUGES is set to take place on Saturday, November 6th, 2010 in the Bell Theatre auditorium. The extensive list of invitees spans all Carleton students and faculty, high school students, representatives from sustainability-driven enterprises throughout Ottawa, and the general public. Of course, the event is absolutely free and lunch is included. This means that there's no excuse for you to miss out on a fantastic day of knowledgeable speakers, hands-on workshops, and networking opportunities.

SREE Society is planning a whole slew of other events for the year, and is generally a magnificent communication and educational tool for new and advanced students alike. If you would like to learn more about anything we are planning, shoot an e-mail to carletonSREE@gmail.com. We'd love to hear from you.

SREE you later, Carleton.

What First Years Have to Look Forward To

Alexa "Cuddle Slut" Boch
- ELEC II -

First year university is a terrifying thing. Being in a new place with new people and new routines can be strange and at times very confusing. However, being a first year has its perks: there are always certain things you can count on as a first year engineer.

Firstly, you can count on most upper years. If they say that an older copy of a textbook would work for a certain course, or if they tell you there are no labs or tutorials the first week of class, chances are they are right. Upper year students are not out to ruin your life. We are far too busy to plot anything intelligent like that. Most upper years are simply passing on the favour.

As a first year, you can also count on CSES to keep you entertained. Whether it is social events such as Yuk Yuk's comedy night or sports related events such as Engbowl, CSES has creative and fun events for all students – and yes, that does include first years. Attending these events is also a great way to make new friends and meet older engineering students who are always willing to give out valuable advice. Posters for these events are always placed in and around Leonardo's Lounge and the CSES office, so keep an eye out for them.

To earn a Flightsuit, you must attend many of the Flightsuit Committee and CSES events offered throughout the year. Each event that you attend will result in one stamp in your engineering passport. If you have enough stamps at the end of the school year, you will be given the privilege of owning a Flightsuit. Not only are Flightsuits sexy, but they are also a symbol of status and pride for Carleton Engineers. You can also sew your own patches on them, which makes them something of a fashion statement.

Academics-wise, most first year classes are fairly easy as they are simply a review of high school. However, if your high school curriculum was not up to par, first year can be quite a challenge. Attend all your classes – yes, even ECOR 1010, though the TSE lectures are the only necessary ones to attend – and try to pay attention. If you simply cannot learn from your professor, do the assignments or study for the tests in class. Be as productive during the day as you can, so that your nights can be dedicated to something other than relearning lectures you slept through. Your easier classes, such as CHEM 1101, still require some effort and attention. Remember, your CGPA is based off all the program courses that you have taken in previous years at Carleton, therefore failing something in first year will affect your average for years to come.

Another thing first years should consider is joining a stream society. Stream societies are a good way to meet other people in your program. The society offices are usually available to all members (as well as non-members to a certain extent), and usually have very useful utilities such as couches, computers and printers, which are available to members at no charge.

These are my final words of advice to all first years: Party hard, but also study hard. Don't forget the second part, as tempting as it may be. In order to have fun at university, you need to remain enrolled in university. Learn how to manage your time so you can have fun and pass your classes. This is the key to having a great university life.

I love you too.

Punch a Hole in the Sky: The True Story of Breaking the Sound Barrier

Gilles "Nightstalker" Messier
- AERO IV -

It is a well-known "fact" that the first person to break the sound barrier was Col. Charles E. "Chuck" Yeager, who did so while piloting the rocket-powered Bell X-1 on October 14, 1947. As with much of history, however, the real story behind supersonic flight is not so simple and clear-cut.

An Unfortunate Test Pilot

In mid-1945, Nazi Germany was in dire straits. Daily Allied bombing raids had decimated German cities and factories, starving the Third Reich of the resources and manpower it needed to fight a war. This desperate climate bred countless outlandish proposals for Wunderwaffe ("wonder weapons") that could beat back the aerial onslaught. Among these was the Bachem Ba-349 Natter ("Viper"), essentially a manned surface-to-air missile. Built of wood and other non-strategic materials and powered by a Walter HWK-509 rocket engine, the Natter would be launched from a vertical rail and guided by autopilot to the altitude of approaching bombers. The pilot would then guide the aircraft towards the armada and deliver a salvo of unguided rockets stored in the Natter`s nosecone. Once his fuel was exhausted, the pilot would separate the cockpit with explosive bolts and parachute to safety. The rocket engine would parachute to earth separately for reuse.

The first and only manned test flight of the Natter took place on March 1st, 1945, with test pilot Lothar Sieber at the controls. At first the launch went perfectly, but at 500 metres altitude the Natter's canopy detached, knocking Sieber unconscious. The pilotless aircraft went out of control and fell to the earth in a ballistic arc. Sieber was killed instantly on impact.

Interestingly, telemetry collected during the test suggests that on the way down, the unconscious Sieber may have been the first human to break the sound barrier. As he did not survive the ordeal, however, the claim remains invalid.

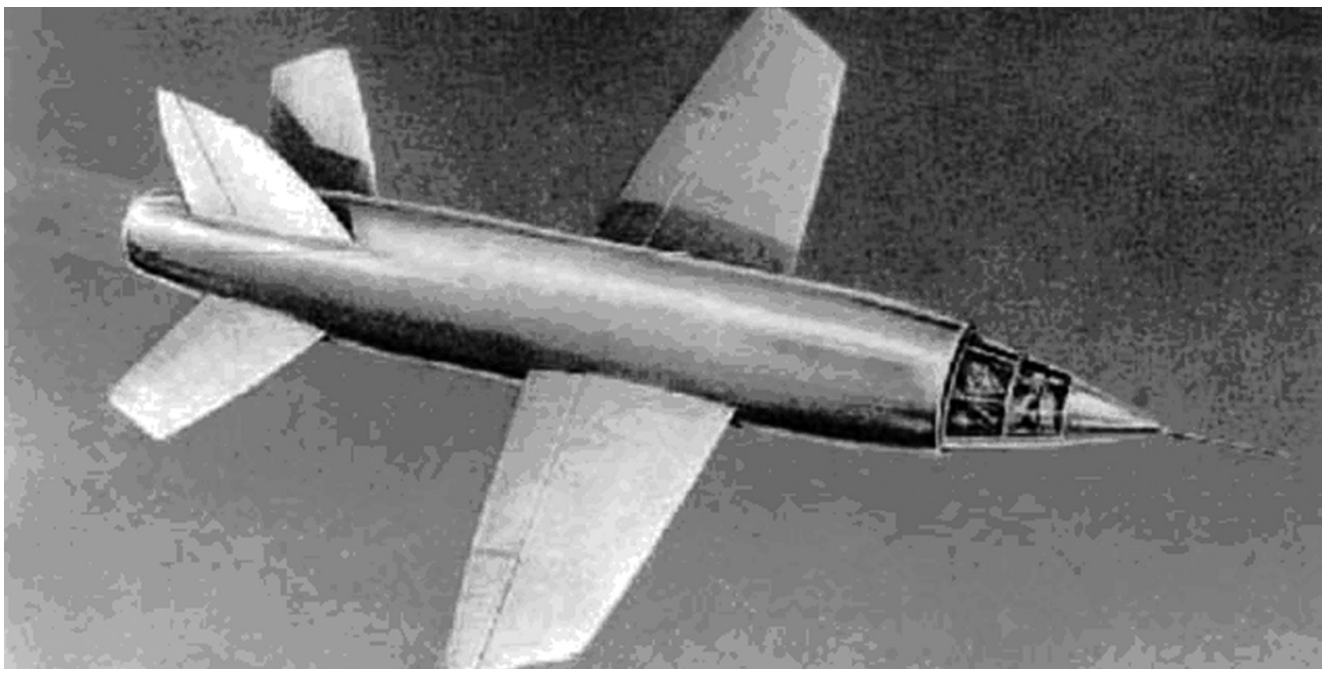
Evasive Manoeuvres

One month later, on April 9, 1945, Luftwaffe pilot Hans Guido Mutke was flying another German "Wonder Weapon": the Messerschmitt Me-262 jet fighter. When his training flight was suddenly ambushed by P-51 Mustangs, Mutke plunged into a steep 40° dive at 12,000 metres. The aircraft soon began buffeting wildly due to compressibility effects, causing Mutke to temporarily lose control. The airspeed indicator needle jumped past the maximum 1,110 km/hr mark. Rivets began popping. His regular controls unresponsive, Mutke controlled his dive by varying the incidence of the Me-262's entire tailplane. Then, something bizarre happened: without decelerating, the aircraft ceased buffeting. The controls became responsive once more. Moments later, Mutke's engines flamed out. As the aircraft decelerated, it began buffeting anew and remained uncontrollable until it slowed to below 500 km/hr. Mutke managed to restart his engines and limp back to base, where massive structural damage was found on his aircraft.

At the time, Mutke had no idea what had caused these strange phenomena. It was not until much later, after reading about Chuck Yeager's X-1 flights, that Mutke began to suspect he had actually broken the sound barrier. The pattern of uncontrollable buffeting followed by temporary recovery of control without deceleration fit the profile of supersonic flight perfectly. Furthermore, Mutke had only been able to retain control using a variable-incidence tailplane, a feature later added to the Bell X-1 and all later supersonic aircraft. Though many have claimed that the 262's Junkers Jumo 004 engines were incapable of the requisite thrust, post-war test flying and modern computer analysis revealed that the 262 could theoretically go supersonic in a dive. As Mutke's wartime flight was not officially recorded, however, his claim remains unofficial.

The British Project

Following WWII, both the British and Americans became interested in the problem of supersonic flight. While the American supersonic X-plane program is well-documented, less well-known is the British effort to break the sound barrier: the Miles M.52 project. The Miles M.52 was in many respects more advanced than the American X-1. Unlike the rocket-powered X-1, the M.52 was to be powered by a Power Jets W.2/700 turbojet engine with one of the first afterburners ("reheat" in British parlance). An auxiliary fan in the inlet supplied extra air to the afterburner, making the engine a primitive turbofan. Like the X-1, the cigar-shaped fuselage imitated the design of high-powered rifle bullets, known to be stable at supersonic speeds. The pilot sat in a small glazed cone in front of the engine intake which doubled as a "shock cone" to decelerate incoming air for the engine. The straight wings were clipped at an angle to fit inside the conical shockwave generated by the nose. As frictional heating was poorly understood, the entire aircraft was built of stainless steel rather than aluminum.



Artist's Concept of the Miles M.52

Perhaps the most advanced and essential of the M.52's design features was its all-moving tailplane. Shocks forming along the hinges of conventional control surfaces cause them to jam, leading to a loss of control. As the shift in an airfoil's centre of lift during supersonic flight creates a forward pitching moment ("Mach Tuck"), such loss of control would lead to uncontrollable, fatal dives. It is believed that the idea of an all-moving tailplane was stolen from the British by the Americans. Early in the M.52 project, Britain and the U.S. agreed to exchange each other's research data on supersonic aerodynamics. Soon after the British submitted their data, the U.S. designated their supersonic project Top Secret and reneged on their side of the bargain. The Bell X-1, originally designed with a conventional tailplane, was soon redesigned with an all-moving stabilizer.

In February 1946, the newly-elected Labour Party suddenly cancelled the M.52 in favour of a project involving unmanned, remote-controlled missiles. Less than two years later, Chuck Yeager broke the sound barrier in the Bell X-1. At the time of cancellation, the first M.52 prototype was 82% complete and would likely have attained Mach 1.07 by the end of 1946. The British eventually broke the sound barrier using the De Havilland DH.108 Swallow on September 9, 1948.

More Disputed Claims

On October 1st, 1947 – two weeks before Yeager's record-breaking flight –North American test pilot George Welch entered a high-speed dive at 35,000 feet while flying the XP-86, the prototype of the famous F-86 Sabre. Despite being ordered not to do so before the X-1, Welch broke the sound barrier. Because his aircraft carried no NACA instrumentation, however, his claim remains unofficial. Welch repeated his feat on October 14, 1947 – the same day as Yeager's historic flight – by diving from 37,000 feet. Yeager officially broke the sound barrier only a half hour later. Despite the unofficial nature of Welch's flights, the Air Force designated them Top Secret in order to justify its investment in the X-1 program.

Free Steak at Pancho's

The true story of Chuck Yeager's historic flight is somewhat different from the romanticized film The Right Stuff. Firstly, Yeager was not the only X-1 test pilot: civilian pilot Chalmers "Slick" Goodlin completed 26 test flights before control of the X-1 program was passed from NACA to the Air Force. The test flight program for the X-1 was also extremely conservative, beginning with a series of unpowered glide tests followed by powered flights increasing in speed by only 0.02 Mach per flight. The October 14th flight was not especially dramatic, either: in fact, except for his instrument readings, Yeager was otherwise unaware that he had broken the sound barrier. It is even believed that the previous day's flight had gone supersonic as well; the onboard instruments, however, were not sensitive enough to tell. Thus, the daring, swashbuckling image of the whole X-1 project is largely false (it is true, however, that Yeager conducted the October 14th flight with two broken ribs, sustained in an equestrian accident. He smuggled a sawed-off broom handle on board to allow him to close the hatch with his good arm).

The U.S.Navy disputed Yeager's claim, claiming instead that their D558-1 Skystreak was the first true supersonic aircraft because it took off and landed from the ground under its own power. The X-1, by comparison, was air-launched from a B-29 bomber and glided to earth. To counter this claim, Yeager flew the X-1 from the ground on January 5, 1949, firing all four rocket chamber simultaneously. Despite losing its flaps due to the acceleration, the X-1 reached Mach 1.03 at 23,000 feet only 80 seconds after takeoff. It was the X-1's only ground takeoff.

As you can see, there is often more to history than meets the eye!

It's great that I got so many articles sent in for this issue.

How Engineers Could Save Politics

Alyssa "Naked First" Gladish
- ENVE IV -

In November 2008, I was fortunate enough to attend the 2008 National Conference on Women in Engineering (NCWIE) at Western University in London, Ontario. For those of you who have ever been to an engineering conference, you know the drill: CSES gets you to the venue, covers your accommodations and gets you into the conference. The only cost to you is about 20$ to cover your SWAG – and the promise that you will submit an article or summary to the Iron Times about your experience at the conference. Not too much to ask, right?

I did not get around to writing this article before the end of the term. A year-and-a-half later, I still yearn to share some of my experiences from the conference with all Carleton Engineering students. Better late than never… NCWIE 2008

As the first National Conference on Women in Engineering to be hosted by a school other than the founding school (Queen's), 2008`s event was a diverse, educational, and empowering event. Needless to say, it was also a teensy bit shaky on the finer points. For example, having the formal dinner at a sports bar was nothing short of awkward. The bar's "regulars" were getting way more than they paid for when hundreds of delegates arrived dressed in heels, cocktail dresses and … well, you can imagine the gawking stares. On the bright side, the bar offered mixed drinks by the pitcher. To top it off, the Mayor of London was our waitress that evening! It was ironic that at a women's conference, the most influential woman in the city was working as our waitress. For the first time in my life, an elected official actually provided me with a worthwhile service.

Don't get me wrong: I do not mean to insult London's lovely mayor, Anne Marie DeCicco-Best (who by the way, is still in office!). The reason she was serving that night was because her husband owns the bar and needed extra help to accommodate the conference. Meeting Anne was very memorable, not because she was an engineer (she wasn't), not because she was our server, but because she was a politician.

Anne was, and is, a politician, and that demands a great deal of respect. What better way for women to be empowered than to become involved at the political level? It can't be denied that Canada needs more female politicians, and meeting one of them made it seem all the more realistic. It wasn't the first time I'd thought about the need for women in Canadian politics. It was, however, the first time I'd thought about the need for more engineers in politics. The idea was introduced during the keynote speech from political policy advisor Howard Brown. His persuasive public speaking and experience as a political advisor made the case for engineers in politics very convincing.

Most engineers plan to work in the private sector, for municipal, provincial or federal governments, and some even go on to become doctors or lawyers. Few engineers become involved with politics. In fact, most engineers turn tail and run at the mere mention of the word. So why should an engineer delve into politics? Well if you need convincing beyond the current state of our chaotic, three-ring circus government, here are the top five reasons from Howard Brown's speech:

1. In a world where policymaking, crisis response, and growth are dependent on highly specialized technologies and sciences, these issues should be addressed by specialists trained in these fields, who can appreciate and understand advice from other specialists.

2. Politicians (assumedly arts majors) have been trained to be debaters. That is why nothing gets done (except juvenile squabbling) in our current caucus. Engineers on the other hand are trained to be problem solvers. Hence, we're better prepared to get it done!

3. Due to our heavy academic workloads, engineers by necessity must be succinct, efficient and (relatively) organized. As a result, we are better equipped to perform economically and meet deadlines. With more engineers in parliament, things would take months to accomplish rather than years.

4. The existence of political parties divides parliamentarians by their opinions, preferences and emotional biases. When belief gets involved, rarely can anything be agreed upon. Engineers are capable of objectively reviewing an issue based on data, existing or developed methodology, risk assessment and optimization. Consequently, engineering solutions more often lead to compromise, which would help bridge the gaps between political parties.

5. We are simply better. ☺

So if you haven't considered politics – its time you gave it some thought. Engineers are needed in the political ring. According to Howard, there are a number of steps to determine if politics may be right for you.

Check out the different political parties, and see where you feel most comfortable; but remember that you don't have to be affiliated with a party to get into politics. Also, consider the level of involvement you'd like. Would you like to be involved municipally as a councilor? Provincially as an MPP? Or nationally as an MP? Finally, build leadership skills. Get involved with charities, social issues and student societies.

Consider politics. Consider it for yourself and for all Canadians. We will all benefit from having more Engineers in politics. Let's usher in a new generation of Canadian politics. Bring in the Engineers.

Defacing Campus? GTFO

Nicole "Knickers"Waldrum
- SOFT IV -

Advertising events in unique ways seems to pose a challenge on campus, so much so that there seems to be a pressing need to deface our campus to this end. Each new building or extension that goes up seems to last only about a year before it looks as drab and ruined as the rest of campus. Posting on painted doors, painted walls, or glass will just accelerate this process.

While it is difficult to control the individual students responsible for these disasters, the solution is a simple one: fine the groups in charge of the events being advertised. For example, CUSA each year runs the "Drop Tuition Fees" campaign. This campaign in no way affects Engineering and Design students other than making the campus we attend look ugly and unpleasant. CUSA's response to previous complaints has always been that they cannot be held responsible for the individual students that support their campaign. That may be so, but they should ensure a clean-up of campus or else not be permitted to run their campaign. Or perhaps they should be fined if Physical Plant has to do the clean-up.

In addition to this, the defacement might even be localized to campus. For example, The Leveller and an independent union are distributing stickers to people on campus and these stickers are ending up everywhere. They are on walls, windows, bathroom stalls and worst of all, all over OC Transpo stops and on OC Transpo buses! This incident has not only ruined several walls and windows on campus but also shows a complete disrespect for OC Transpo and the citizen of the City of Ottawa. Afterall, it is their tax dollars that pay for cleaning it up.

This responsibility should fall squarely with The Leveller and the union distributing the stickers should pay for the clean-up. Can't control people? Don't give them stickers! While I am neither for nor against these campaigns, any advertising method that results in the defacement of campus should have you be shown the door and barred re-entry for business pertaining to the campaign in question.

Seriously, the lack of consideration shown to the cleaning staff, students and administration demonstrates that too much leeway is given. Any student or group wishing to distribute anything on campus should be held responsible for any damage that occurs as a result of their event.

The less money the University spends on repairs, the more money there is for important things such as: better computers, more comfortable student space and perhaps even updated photos in MacKenzie Quad.

Top 5 Reasons Not To Give Andrew Campbell Pie

Alexa "Cuddle Slut" Boch
- ELEC II -

5. He has too many patches on his flightsuit.

4. George can make him a pie; he doesn't have a real job anyway. Plus, George making food would be entertainment for the entire household. It's a win win situation.

3. I am born on Pi day (March 14th: Do the math, people.) Therefore, all pie should be given to me and not him.

2. A certain person may or may not have painted a ten by ten foot mural for Andrew, complete with toboggan ramp and flags, and he blocked it with a square,

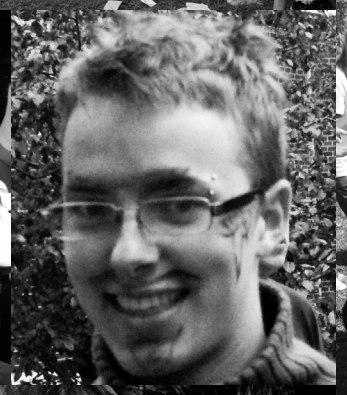
wooden house. So much for artistic creativity.

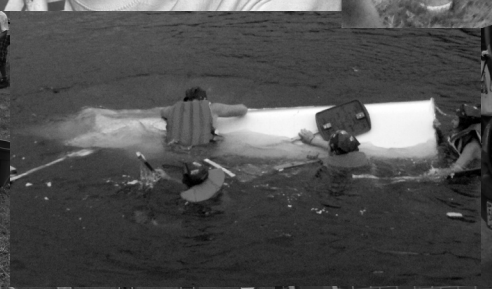
1. The cost effectiveness of making pie versus consumption would be unequal, particularly if the pie were made completely from scratch by someone else and then consumed by Andrew. The argument "Alexa(bakes pie) = Andrew(consumes pie)" makes no valid sense. In order to balance the equation, we must replace the function 'Andrew' by the function 'Alexa', in order for the equation to be equal. This appears to be the only solution unless, of course, my math teachers have been lying to me for the past seven years of my life. But that's unlikely because let's face it, math teachers know everything.

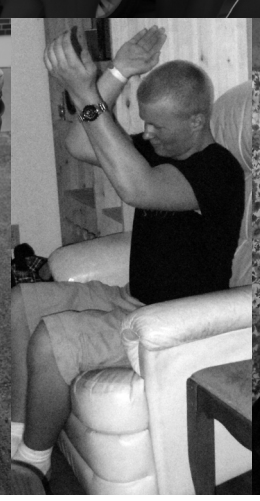
It's not great that I got most of them during the week I was hoping to print.

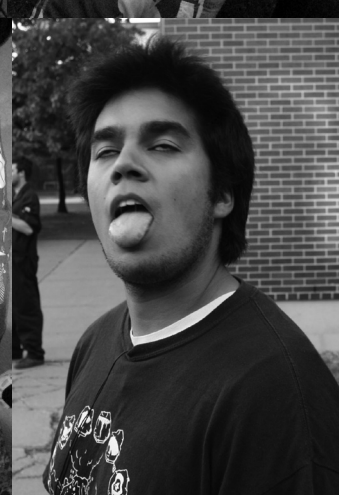
GALLERY

Because of their yellow shirts, the heads now look like frosh.







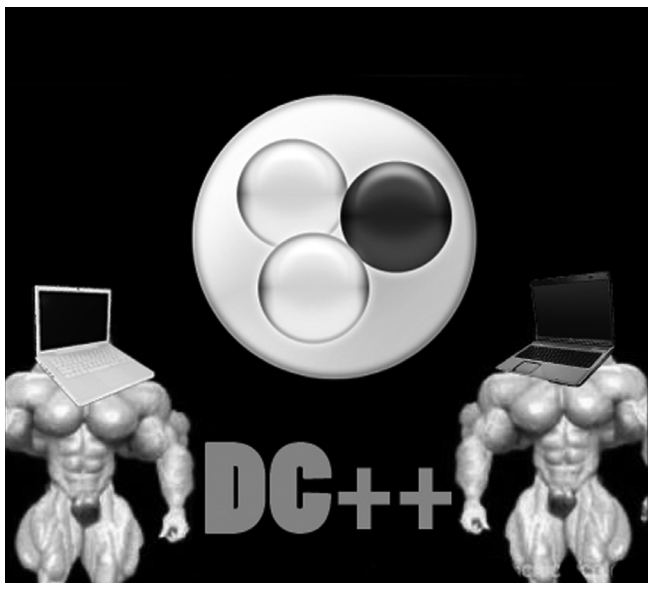


23 of these photos originally had time stamps on them, guess which.

ENTERTAINMENT

Gratuitous Amounts Of Downloads

"Banwitch"
- DC++ Admin -



Hey! Do you wanna get fast download speeds? Try DC++! The file sharing software for people who need gratuitous amounts of downloads! With all new features like live chat, faster download speeds, and +cake! Sound the alarm, you're downloads are going to be uncomfortably fast!

What's that? You want Mythbusters? How about HD!? Made with Hyneman real Hyneman! Sharing! You'll be good at it! It's a program for students! Studengram! Those aren't your torrent's speeds, those are internal speeds. Turbospeeds!

Science, speed, science, speed, Megabytes, gigabytes, terabytes, more bites than your computer has room for! You're speeds will be so fast your ethernet cable will be like "Slooooowwww doooowwwnnn" and you'll be like "F-you" and kick it in the face with ANOTHER DOWNLOAD.

You'll have so many downloads, downloads just running all the time! Power clicking, power chatting, power seeding, power typing, power linking, power pwning, power watching. You'll have so many shows. 400 SHOWS. Give DC++ to your friends and they'll be good at sharing. Make your friend's shows download abnormally fast. They'll download faster than streaming video. People will watch them download and think they're streaming. They'll race against streaming video in a race with actual streams and it'll not be a tie because the streams will be deported back to THE INTERNET!

Hey, go with the sure thing. Don't gamble on your tv viewing. Try DC++, the sharing program that make you AHHHH share AHHHH!

The Carnivorous Vegetable Series

Alyssa "Naked First" Gladish
- ENVE IV -

The Carnivorous Vegetable Series is what I hope will be a monthly article in the Iron Times featuring a vegetarian or vegan recipe that pleases the palates of meat-eaters and vegetarians alike.

Before you flip the page and write this off as vegetarian propaganda, know that it is NOT my intent to convert anyone to become a vegetarian, I only wish to share my love of cooking and raise awareness of what qualifies as vegetarian food, beyond the raw vegetable.

I discovered the need for more widespread understanding of vegetarian and vegan food fifteen months ago when I first became a vegetarian. My friends and parents all became very worried. Some of them even called specifically to remind me that I needed protein. They were truly afraid that I couldn't get adequate nutrition without eating meat.

The second greatest concern for my family and friends was: what would they serve me if I came to visit? What do you serve when you can't serve meat and potatoes?

I quickly realized that there is a great deal of ignorance on the world regarding vegetarians. This is understandable. Vegetarian information is often presented in a propaganda-like fashion by PETA and Veg4Life, which is enough to make anyone run away screaming.

I have developed this series to help address some of these issues without preaching or persuading.

It is simply intended to help educate the average omnivore a bit about vegetarian foods through the enjoyment of flavour and the love of food!

If by raising awareness about vegetarian nutrition and demonstrating the variety of vegetarian options I can provide meat-eaters with the confidence to give vegetarian food a try, then that's an added bonus.

Consider the fact that if every Canadian cut meat out of their diet for only one day per week for a year, it would have the same carbon footprint reduction as taking 2.1 million cars off the road for that same year [1]. As an engineer, that was reason enough for me to give vegetarian foods a try.

Once you delve into vegetarian cuisine, you will find a world full of interesting ingredients, new cooking techniques and exciting flavours.

All of the recipes presented in The Carnivorous Vegetable Series have been created from scratch or have been reproduced with permission from my friends and family. The recipes are chosen because they are healthy, hearty, whole-food recipes that include both complex carbohydrates and protein. They are also quick to prepare, affordable and delicious.

I hope you'll enjoy each month's article, experiment with the recipes, and gain a little extra tolerance and appreciation for all things veggie! If you have any questions about whole-food choices or vegetarian eating, please e-mail carnivorousvegetable@gmail.com.

[1] Meat the Truth. Carbon Savings Chart. Available online at: http://www.meatthetruth.nl/download/20080518_US_carbon_savings_table.pdf

C-Eng Challenges

Mark Strummer
- AERO Alumnus -

Challenge #1

As many of you know, a few years ago the MacKenzie classrooms were renovated. The issues with this are: projectors block blackboard space so professors cannot lecture and do board examples, desk space is too small/too low, some rooms lost their second door and there is no other exit in case of fire, the wooden chairs are uncomfortable/don't recline, and lastly, there are too few outlets for taking notes.

The Solution: Challenge the C-Eng community for a better design. Design your own ideal classroom and submit it to the Iron Times. Top pick and however many others the VP Pubs and editors choose to publish will be unveiled.

Challenge # 2

Oh noes! The Mackenzie, Minto and new Engineering Building have all burned down! Now the Dean wants you to construct a new building complex to replace them! Castles are allowed if they can be properly justified.

The Rules:

1. Draw a sketch/picture for a new classroom/ building
2. Anyone can participate!
3. Justify your budget and what you choose.
4. Bonus points for being obscurely original.
5. Have fun with it!

2,000 mockingbirds = 2 kilomockingbirds. Just sayin.

Rise and Fall Of The Carleton Rocket

Brent "Turbo Tiger" Cameron
- AERO II -

One day in the Distant Past, the engineers of Carleton University decided to build a rocket. A flurry of activity commenced, as the rocket was designed, wind-tunnel tested, and materials chosen. An army of students worked day and night drafting the thousands of three-view diagrams necessary to build it. A launch gantry was constructed in the Mackenzie Quadrangle, and arts students were invited to paint it yellow.

At last the Big Day arrived. The rocket was carefully polished, and the last screw lovingly tightened. The countdown commenced, and the Dean of the Faculty of Engineering and Design pressed the firing button. Pumps whirred to life, oxidizer and propellant met in the combustion chamber, and the rocket soared into the clear blue sky with a deafening roar.

Electrical engineering students recorded the rocket's telemetry, and tracked its progress on a homemade radar scope. Meanwhile, back in the quadrangle, happy professors and students celebrated the successful launch and high-fived each other amid a haze of drifting rocket exhaust.

The celebrations were short-lived, however, as the tracking station reported the separation of one of the rocket's three fins. The rocket, stability compromised, nosed over and fell to earth with an earth-shattering bang in the quadrangle in front of the library. The remains of the rocket burned fiercely for nearly two days, but, as it was a weekend nobody noticed.

Post-crash analysis revealed that the loss of the fin was due the lack of heat treatment after welding the fin to the body. One of the surviving fins was removed from the wreckage and for many years served as the steel for the engineer's iron rings. The missing fin was never found. Based on an analysis of its trajectory, however, it is thought to have fallen in the vicinity of Hog's Back Falls. The launch gantry was dismantled except for part of one leg, which now functions as a sculpture in the Mackenzie Quadrangle. In addition, the tracking station atop the University Center was converted into a radio station now known as CKCU.

The remains of the Carleton Rocket may be seen to this day in the University Quadrangle, where they are often mistaken for modern art. A careful examination of the rusted wreckage, however, will reveal that no artist's name is given. The remains of the Rocket serve to remind engineering students of the importance of learning from one's mistakes, and that nothing worth doing comes without difficulty.

Author's Note: The preceding article is a work of fiction. Certain elements of the story are factual, however. Readers are encouraged to visit the various sites mentioned in the story, and ponder the history of what might have been.

How To Throw A Party

Andrew "Rocksteady" Campbell
- ERTH V -

This article is geared towards second years that have just moved into their new houses or apartments and want to throw some epic parties. Also, any upper years that have decided they should allow other engineers to trash their houses: this is also for you. Lastly, for any first years reading this, you can't really throw epic parties in Res because of security and other lame rules, so take notes and start planning for next year when you're out on your own.

Here is a checklist to make sure you don't fail in hosting parties.

Some of you might be asking what gives me the right to tell you the dos/don'ts of throwing a party. Well, let's start with my CSES experience. In the last 3 years, I have been VP Social, Adult Fun Director, and Rural Outreach Director. So from organizing little field trips that may drink bars dry to planning an event three times the price of your tuition, I think I'm good. Secondly and most importantly, I'm one of the co-creators of the "Clubhouse" and am still currently living there. We have had our fair share of parties and experienced everything from having people thrown through walls to having 221 people inside the house and finishing 6 kegs in 1.5 hours. So if that doesn't satisfy you, then I'll give you the Clap because the president told me to. So let's get started because there is a lot to cover.

1. Make sure someone living in that house has the ability to be an asshole. THIS IS KEY. When things get out of hand or when randoms show up, you need to release the fury. If you are just having 30-40 friends over then there should be no need for it, but for keggers you need to be ready.

2. Find a date that all your roomies like. Also look into school events so you don't plan your party the same night as one of theirs. This means less people and less money when dealing with keggers. Also remember people have exams and midterms, so think of that as well. Finally think when people have the most money. November and March are bad months because everyone has spent their money throughout the year. October and January are pretty good because people just received their OSAP and are ready to get their drink on.

3. Decide if the party will be a BYOB (Bring Your Own Booze) or a kegger. BYOB is the easiest party and will net you free money. The more people you invite over, the more empties you have at the end of the night. Some nights you can make over $20 in empties which you can take to Hull and exchange it for a full 24. A buddy of mine last year made each person pay a $2 entrance fee to get into the house even though it was a BYOB. This $2 builds up when people show up and can be used for covering noise complaints or damage. Since there was no noise complaint, they donated the money to a charity CSES works with. DO IT: GOOD IDEA!!! For keggers, this is a different story. These are the parties where you make a few hundred bucks in profit if you plan and advertise well. Normally buck a beer is gross to buy and drink but when it's a kegger its ok. Go out and buy Labatt's Blue Ribbon: it's only $150/keg and most engineers don't mind drinking it. Tell the ones who do to go fuck themselves.

Do not – and I repeat, do not – get UBrew. Yes it is dirt cheap, but it also tastes like ass. It tastes as good as 2 day old keg of PBS. If you are going with a kegger try to make some Purple Jesus for the ladies. Not all ladies like beer and if you say you personally made sure there was Jesus for them, it may benefit you at the end of the night. Make sure to get your kegs the day before your party so they can settle, a process that usually takes 24hrs. Also make sure you have a bucket to keep them cold (a garbage bin works great). Find an arena and steal some snow. Finally, pitchers will save you the long line-ups and are also good for when games are happening.

4. Pick a theme. The favorite and most-used theme used at engineering parties is a very simple one that everyone loves. Are you ready for it? It is... "DRINK". That's right: the theme is get wasted and wear your regular clothes doing it. Themes are things in engineering that only a few people do and when they are done, it is usually to make girls come with a very small amount of clothes on. I would suggest staying away from themes unless they are hilarious or it's Halloween because then it's obvious to dress up.

5. Tell your neighbours. They are less likely to call the cops if you were nice enough to inform them of your party. At the Clubhouse we have had tons of parties and the neighbours have been told every time; there have been no complaints yet. The more you talk to the neighbours the better and nicer they are. If your neighbours are Satan's workers then try your hardest to keep noise down and be more careful about whom you invite to your parties.

6. Advertising. Facebook and word of mouth are the best ways. Word of mouth is best for smaller parties that way you can tell the person not to invite any first years to it. Facebook is good for larger parties because people can invite anyone and if you missed someone they can see it. Just make sure if you want it to be a private party make sure the event is hidden and not public to everyone's newsfeed. Keeping track of people that are coming is also a good idea that way when you are inspecting 30 people to show up and 80 people do, you are not flipping shit.

7. Prep time. Doesn't matter how big of a party you plan on having: make sure you put away everything breakable. Because even a good friend will fall over and smash stuff when really drunk. Also, I have learned from experience that when the Clubhouse has 200 people inside, the mess is minimal. When we invite our closest 20-30 friends, that's when the house gets trashed and people go through walls. Although these are the best parties, they take hours to clean up after. SO WATCH OUT.

8. Decide where the out of bounds are. Determine if people can go outside to piss or if people can go upstairs where it's nothing but bedrooms. This may not seem like a big deal but it will save you noise complaints and maybe some stains in your bed.

9. Dealing with drunk people is quite simple. If you don't like them, throw them outside and close the door. If you do like them, give them some water and a place to rest. Once they are passed out, draw all over them in sharpie, especially where they can't see in the mirror. Also, drunk people get hungry so watch out for people raiding cabinets and fridges for food. It is up to you whether to feed them or not. I suggest not, because then the 30 other drunk people suddenly become hungry and there goes $50 in groceries.

10. Make sure you have the necessary supplies for the party: beer cups for games as well as personal use, paper towel for spills, garbage bags/bins for garbage and puke, and cleaning supplies for the next morning when cleaning up. In my mind the most important supply to have at the party is the playlist. Make sure you have a playlist that everyone will enjoy. Yes, you may like Screamo or Country but not everyone does. Mix it up – especially for guys – and make sure you put some dance music on for the girls. Because honestly guys, engineering is already a sausage fest and the last thing we need is the few girls here to run away from us. Make them happy.

So with these 10 key points I hope you are able to throw some killer parties because I'm not sure how much longer the Clubhouse can last. The Embassy and Grove are also engineering party houses that have the knowledge and experience to throw parties that don't suck.

Well that was my first of many HOW TO... articles, which I hope to have published in every Iron Times issue for my remaining years here. So keep an eye for out them and stay thirsty, my friends.

Licence to MacGyver

Gilles "Nightstalker" Messier
- AERO IV -

Since I could first swing a hammer, I have been contantly designing and building every kind of machine, tool and scientific apparatus imaginable from wind tunnels and potato cannons to Million-Volt Tesla Coils and Rocket Engines (likely ending up on every government watch list in the process). Why? As with many hobbies, this question is difficult to answer. My best answer is: because I can. There is something inexplicably rewarding and addictive about designing something and building it with one's own hands. Nothing compares to the thrill of having a device of one's own creation hum, rattle or roar to life: this rush has drawn me to countless projects over the years. Beyond pure enjoyment, however, this hobby has many real-world benefits. It teaches practical engineering and problem solving skills that no amount of University courses can truly impart. It also looks impressive on a resume: I secured my last two Co-Op work positions largely by mentioning that I had built my own rocket engines!

In my 15 years as an amateur engineer, however, I have never possessed any extraordinary funds or facilities: I have always worked on a meagre student budget using only rudimentary off-the-shelf materials and tools. Consequently, maintaining my hobby has required a great deal of ingenuity, creativity and downright eccentricity! I have had to discover alternative sources for normally expensive materials, develop new ways of using simple tools, and generally find ways of doing more with less. Having amassed a large body of tips, tricks and general wisdom over the years, I thought I might share my experience with any prospective basement tinkerers who might be reading. Thus, without further ado, here are my top 7 tricks of the trade for the amateur engineer:

#1: NEVER THROW ANYTHING OUT: This point cannot be emphasized enough, hence the capitalized heading. A large collection of "stuff" (as opposed to "junk", as your friends and family will invariably call it) is the most valuable asset an amateur engineer can possess. You never know when a certain component or piece of hardware might come in handy. Also, Murphy's Law is always lurking: as soon as you throw something out, you will suddenly need it. You might be labelled a hoarder, but this habit is more than worth it: I cannot count the number of times I have solved an engineering problem using some obscure knickknack buried in my collection. A variant of this habit that truly pays for itself over time is that of keeping loose screws, bolts, nuts and other hardware left over from projects. A small chest of plastic drawers or a multi-compartment fishing tackle box works well for this purpose. Eventually, such a collection will save you countless trips to the hardware store when all you need is a single nut or bolt. Furthermore, since driving to the store uses gasoline and trash fills up landfills, you have a ready-made excuse for your collection: "I'm not hoarding, I'm being environmentally friendly!".

#2: Rummage Through the Trash: There is no shame whatsoever in dumpster diving. In fact, the trash is the single greatest source of free parts. In this age of planned obsolescence and increasing computerization, most household appliances are thrown out rather than repaired, turning back lanes and dumpsters into a gold mine for tinkerers on a budget. Make a habit of patrolling your neighbourhood just before garbage day with a bike or wagon to carry away the spoils. Depending on the project, certain appliances are better than others. For example, high-voltage enthusiasts should look for CRT monitors/TVs and Microwave ovens: the former contain high-voltage capacitors and transformers while the latter are treasure troves of transformers, capacitors, geared motors, wire and magnets. For the mechanically inclined, old tape decks are full of plastic gears and printers and sewing machines are great sources of electric motors, drive shafts and metal gears. As a general rule, the older the equipment, the better: older appliances have higher-power components and fewer meddling safety features. They are also easier to disassemble because they were designed to be repaired: one 1970's-era microwave I disassembled contained an entire envelope of wiring diagrams, schematics and repair instructions (most modern units only have a rudimentary schematic pasted inside the case)!

For more exotic or specialized parts, search behind laboratories, factories or auto garages; rummaging through Steacie Building's trash once netted me a huge Bunsen Burner ring complete with gas controls and ignition circuits! And when passive searching fails, don't be afraid to enter the building and ask. For example, requiring a large supply of capacitors, I once asked a photography store for all their processed disposable cameras (with flashes). As these were being thrown out anyway, the store was more than happy to oblige! Be honest and explain what you need a requested item for; most businesses will be intrigued and happy to help, a fact which brings us to the next tip.

#3: Blue-Collar Workers are your Friends: If there is one thing I have learned over the years, it is that academics are of little help in acquiring information or equipment for projects. Most of the professional engineers, physicists, chemists etc. I have met were too obsessed with theory, technicalities and practicality and tended to dismiss and belittle amateur projects (especially "just for kicks" projects with no practical application). Though exceptions exist, your best bet is to seek help from one who works with their hands. Auto mechanics, machinists and other such workers are an amateur engineer's greatest allies: they are not only great sources of practical, hands-on knowledge, but are more likely to appreciate the "cool factor" of amateur projects and understand the appeal of building something "just because."

To give an example of the helpfulness of "Shop Guys", when I needed a Nitrous Oxide system for a rocket engine, I once visited an automotive parts store specializing in racing equipment. The owners were so enthusiastic about the project that they donated hundreds of dollars worth of equipment free of charge! Remember, though: if you do find someone to help you, be sure to thank them often and keep them updated on your projects. It is the least you can do to repay such rare helpfulness!

#4: Frequent DIY Websites: The best way to find inspirations for projects (or solutions to difficult problems) is to peruse the work of others. There is a huge online community of Do-It-Yourself-ers and many websites dedicated to home-built projects. Perhaps the best is www.instructables.com, whose entries include step-by-step instructions on how to build almost anything. Scientific American used to run an excellent column known as The Amateur Scientist which gave very detailed instructions on how to build nearly any type of scientific apparatus from telescopes and incubators to x-ray machines and particle accelerators! This column, however, is no longer in print, so you will have to seek out back issues. CD-ROM compilations of these articles are also available online (my source was "Dr. Shawn": http://www.scienceacademy.com/tg.html) and are very affordable. Generally speaking, older articles (1950's and 60's) are best, as they contain more interesting (read: dangerous) projects! Be careful before trying some of these projects, however: certain materials described in them (ie. Radio vacuum tubes) are no longer readily available; you may thus have to modify the plans slightly.

#5: Find Out How Everything Works / Read Product Labels: While probably cliché, it is nonetheless true that the best way to discover how something works (or how to repair it) is to take it apart yourself and reassemble it. As mentioned in Tip #1, you may be surprised what kinds of materials you find. Furthermore, taking equipment apart helps to familiarize oneself with common construction techniques used in commercial products, useful information when you begin designing your own equipment. The bottom line: find out how everything works. Such knowledge becomes invaluable when searching for hard-to-find parts and materials. For example, when attempting to build a small tabletop Tesla Coil (a high-frequency electric transformer), I realized that novelty plasma globes contain a solid-state version of this device; removing the globe produced an instant Tesla Coil! A good (if simplified) source of information on the inner workings of household appliances is www.howstuffworks.com.

For the more chemistry-oriented, read as many ingredient lists as possible on household products and research the common uses of all the elements. Almost every chemical you can imagine is often easily accessible...if you know where to look. For example, common radioactive elements include Americium (smoke detectors), Thorium (gas lantern mantles) and Polonium (anti-static brushes). Even normally restricted chemicals are surprisingly accessible: Potassium Nitrate (used in gunpowder) is sold as Stump Rot, Ammonium Nitrate (used in high explosives) is found in instant cold compresses, and Sulphuric Acid is found in car batteries [Note: DO NOT try manufacturing explosives unless you REALLY want that Darwin Award. The preceding list was for demonstration purposes only!]. In summary, if you do your research and are willing to put in a little extra effort (some chemicals need to be extracted and purified before use), almost any kind of material is within your reach.

#6: Imagine Alternative Uses for Everything: Though there is often no substitute for using the correct part or material (especially chemicals or electronics), as an amateur engineer on a budget, you will often be forced to improvise. Thankfully, almost everything can be constructed from readily available materials: all you need is imagination. Whether the necessary ingenuity is a natural skill or can be learned, I do not know; suffice to say it comes easier to some people than to others. Assuming this skill can be learned, a good exercise is to browse through a hardware store and challenge yourself to imagine at least two alternative uses for every part or tool you find. To give an example, the hybrid rocket engine I built last year was a smorgasbord of wildly disparate parts: the combustion chamber was built from a hydraulic cylinder, the nozzle from a ceramic sandblaster nozzle attached to sawed-off top of a metal water bottle, the remotely-operated oxidizer valve from a car-window motor and the igniter from a party sparkler!

The hardware store browsing exercise is especially helpful when you are stumped as to how a certain component can be built. You will be amazed at what strange and useful items you can find...which brings us to our last and final tip.

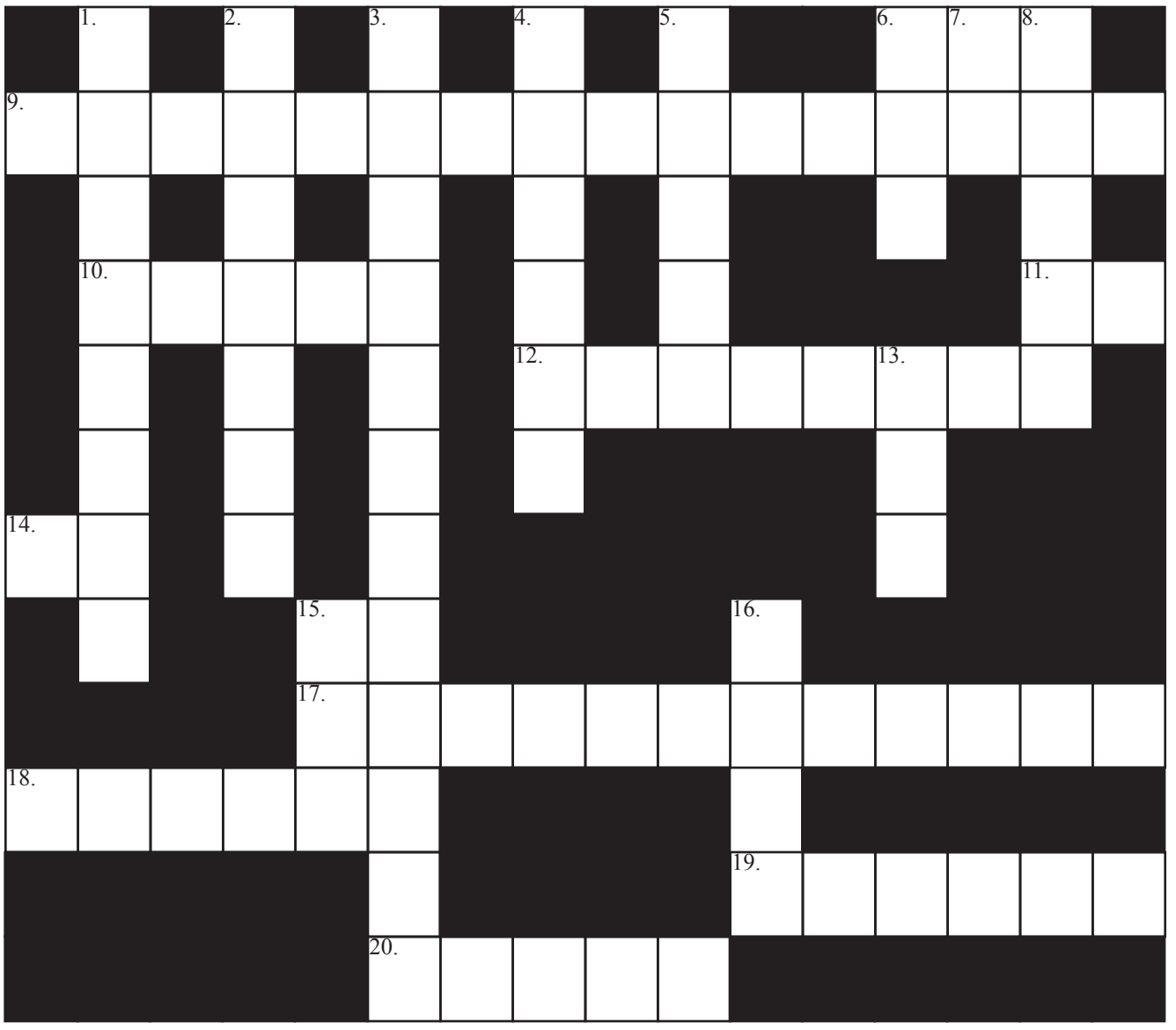
#7: PRINCESS AUTO IS MECCA: I realize that this tip essentially constitutes shameless product placement, but I simply could not finish this article without mentioning this point. Simply put, Princess Auto Ltd. is the best store for the amateur engineer: not only does it stock every kind of tool imaginable at ridiculously low prices ($35 worth of parts + a junk microwave = a working 80-Amp arc welder!), but it also features an extensive "surplus" section containing every kind of random mechanical and electrical component imaginable. Whether seeking inspiration for a project or searching for a difficult-to-find part, this is the place to go. I cannot recall ever requiring a part which I could not find at Princess Auto (that's not hyperbole, amazingly enough). There, it is, sports fans: I have officially sold out!

In Conclusion the preceding is only a general guide based on my own personal experiences; what works for me may not necessarily work for you. The best way to learn how to engineer is to try it yourself and discover your own tricks of the trade. So what are you waiting for? Get out there and create!

Choose Engineering!

In _____ terms engineers ____ problems.
(adjective) (verb)
Engineers take _____ theory and _____ ____
(type of theory) (adverb) (verb)
it to _____ world _____. They lie in the _____
(adjective) (plural noun) (adjective)
area between _____ scientists which _____
(word ending in al) (method of creation)
_____, and manufacturers which _____
(plural abstract concept) (adverb)
____ what they're _____. We are the ones who
(verb) (form of instruction, past tense verb)
know whether or not _____ might be _____,
(theoretical idea) (concept's state of being)
and then when it is, _____ how it can be
(method of determination)
_____. The two most _____ traits
(method of implementation, past tense verb) (adjective)
leading to a _____ in _____ _____ are an
(noun) (form of engineering) (job field)
obesesive-compulsive attention to _____ applied
(component of design)
toward _____ about technology, and a quality _____
(method of discovery) (adverb)
known as "the _____." "The _____" is characterized
(word rhyming with Jack) (same word as last answer)
by an _____ intuition about all things _____
(level of severity) (classification)
and _____, as well as utter _____ ineptitude.
(type of technology) (type of skill)
While those with "the _____" naturally excel in
(same word rhyming with Jack)
_____, those without can ____ this
(engineering skill) (verb)
intuition. Individuals have been known to _____
(verb)
engineering _____ because they excel in _____ but
(adverb) (highschool subject)
find doing _____ for _____'s sake _____. Engineering
(same highschool subject) (same highschool subject) (adjective)
is advantageous due to the ____ opportunities it
(activity)
offers by comparison to other less _____ programs.
(program description)
For those who believe that they can _____ the
(verb)
_____ dependance, sacrifice of social life,
(legal drug)
_____, and constant _____ references,
(medical condition) (Science Fiction genre)
engineering is _____ right for you as nowhere
(adverb)
else will _____ those _____.
(verb) (plural noun)

Crossword, This Time It's Actually Edited



Across clues

6. Support Change for Change
9. Engfrosh Winners
10. #1 Greenhouse gas
11. The __ Crowd
12. The Earth's _____ is 152 098 232 km.
14. Received a perfect score in Bryan's "Just the Tip" game
15. A numerical classification scheme for enzymes, based on the chemical reactions they catalyze
17. President of the Canadian Space Agency
18. A day of rest
19. Amethyst causes water to become
20. Theme of Engfrosh in the year 2000. (CUSA copied it 3 years later.)

Down clues

1. DC++ Administrator
2. Superfrosh gets into engineering, Thousands _____.
3. People's Choice
4. Vote/Run for this position on October 14th at the Fall General Meeting.
5. The femur is located here.
6. During the Cansat competition, this must survive.
7. __ the willing, led by the unknowing...
8. In case of terrorist attack, do not discard.
13. Tattoos are made of this, that sometimes contain heavy metals which make MRIs fun.
15. Established in 1975, with its headquarters in Paris, Matt Cross worked for them.
16. High Altitude Research Probe

WTF Of The Month

This latest WTF of the Month is credited to the Pterodactyls during the very first day of engfrosh. While taking part on the annual bus tour of the city, driving down Bronson St, the bus stopped at a red light. A few moments one person yelled out "oh my god, is that what I think it is?"

Now everyone knows that grow ops exist and that Ottawa is not an exception, but what makes this apartment stand out from the rest is how it is out in the open, visible to one of the busiest streets in the city, and on a bus tour route.

Adding to the entertainment was how this trip was the first time some frosh had ever seen downtown Ottawa.

Like a man with no stamina and an early meeting tomorrow, he comes and goes.

COMICS & ART

Wasted Talent

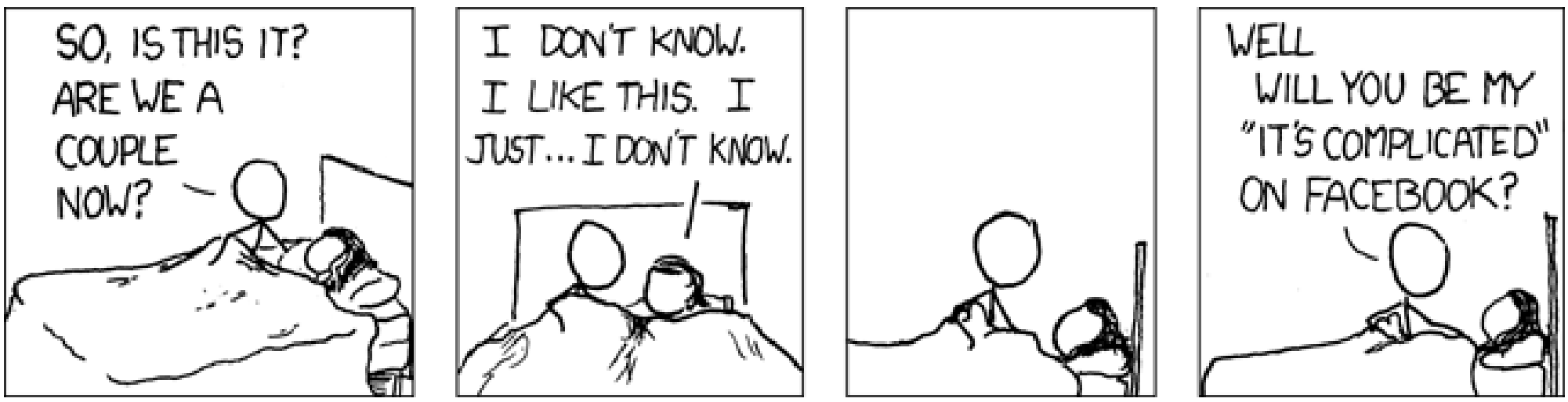
http://www.wastedtalent.ca

Machall

http://www.machall.com/

xkcd

http://www.xkcd.com



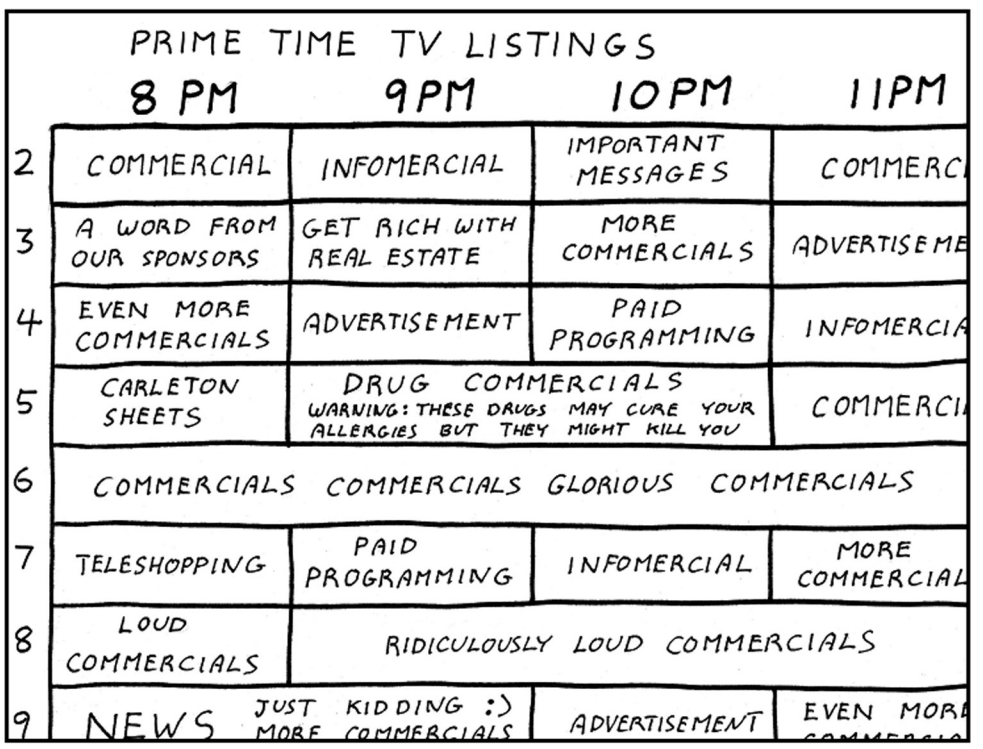
Programming today is a race between software engineers striving to build bigger and better idiot-proof programs,

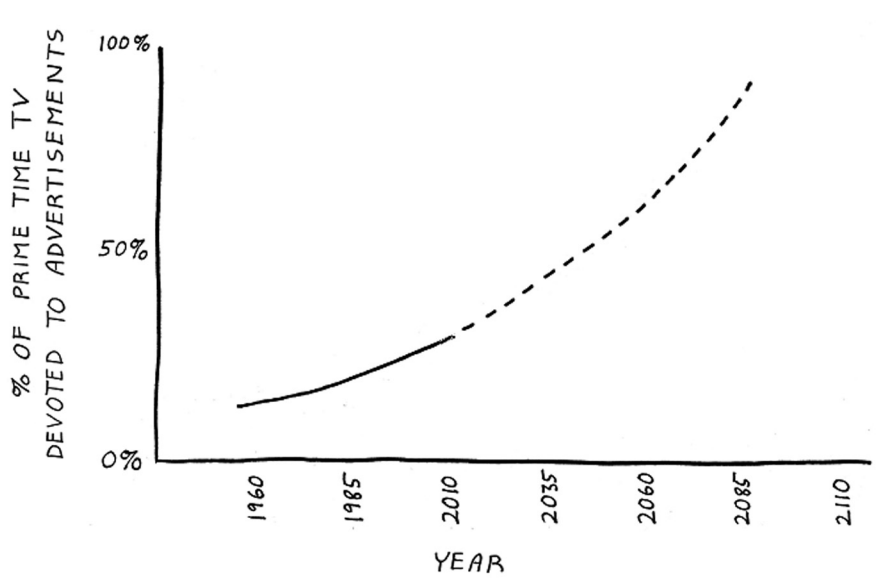
Three Panel Soul

http://www.threepanelsoul.com/

Abstruse Goose

http://abstrusegoose.com/





If the level of TV clutter continues to rise at the present rate, then prime time TV in the US will be 100% commercials by the year 2090.

Questionable Content

http://questionablecontent.net

and the Universe trying to produce bigger and better idiots. So far, the Universe is winning.

LAST WORDS

Uses For The Charlatan

- Use it to block open locked doors
- Use it as a towel when the airport loses your suitcase containing your towels.
- Spray paint over them to make extra signs giving directions to Bell Theatre
- Line your bed with them the next time you decide to go purple so you don't stain your sheets.
- It can be rolled up to make a funnel when funnels are required
- With a little enginuity, fashion a few of them into a scratching post for your grandma's new cat.
- Wrap your shoes in it when walking through mud to keep them clean.
- ~~You can read it.~~
- ~~In Soviet Russia, Charlatan reads you~~

FEEDBACK LOOP

```
for statement = 1 to n
```

Who keeps sending in the Navy jokes into the Feedback Loop?

```
next statement
```

In Soviet Russia, Iron Times shut down you.

```
next statement
```

Your mouth says, "Shields up!" but your eyes say, "Hull breach imminent."

```
next statement
```

RIP Clothesline. Your spirit shall forever live in the hearts of those who experienced you.

```
next statement
```

artsartsartsartsarts

```
next statement
```

Leo's needs to bring back wet t-shirt contests!

```
next statement
```

Yo Mama so fat she spans R^3.

```
next statement
```

(That means all points in three dimensional space are a subset of Yo Mama)

```
next statement
```

Nothing comemorates the Sept. 11 attacks like a mass burning of the Qu'ran.

```
next statement
```

I keep sending in navy Jokes

```
end
```

Want to say something? Post to the loop at:
irontimes.engsoc.org

Sleeper of the Month

This issue's prestigious sleeper of the month award goes to the other former Super Frosh named Eric. Eric Escaravage was seen several times during frosh week resting after long hours of entertaining Spirit, inspiring young frosh, and getting into lightsaber battles. Due to the fact that he was later sharpied that night, it should be noted that the sharpie applied to his face was in clear violation of the shoes off rule, as his shoes were in fact removed.

* Sleeper of the month is entirely consensual and submission based. All people appearing in this section have given prior consent and have been informed in advance that their picture will appear here.

Upcoming Events - October

26	27	28	29	30	1 Flightsuit Ceremony	2 International Day of Non-Violence
3 First Launch Of The V-2 Rocket	4 Launch Of Sputnik-1	5 World Teacher's Day	6 Ernest Walton's Birthday	7 First Photos of the far Side of the Moon taken	8 University Day	9 Leif Erikson Day
10 World Mental Health Day	11 Remembrance Day & Thanksgiving	12 Freethought Day	13 National Police Day	14 Fall GM	15 World Standards Day	16 Go Eng Girl
17 National Edge Day	18 Founding Of BBC	19 Armilustrium	20 Canada US border set on the 49th parallel	21 International Day of the Nacho	22 Engfrosh Reunion	23 Mole Day
24 World Development Information Day	25 Cuban Missile Crisis Anniversary	26 Last Natual case of Smallpox	27 Birthday Of Captain James Cook	28 Black Monday Of Stock Market Crash	29 Halloween Walk	30 Mischief Night
31 Halloween	1	2	3	4	5	6

Watch out for the next

Iron Times

November

Bonus points and a free hug go to the person who keeps the streak going by making another SuperFrosh, Sleeper of the Month.