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the IRON WARRIOR

THE NEWSPAPER OF THE UNIVERSITY OF WATERLOO ENGINEERING SOCIETY

volume 24 issue 9 | 25 July 2003

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Check us out @ http://iwarrior.uwaterloo.ca/

Canada Day a Resounding Success!

Paul Habsch
4A Computer

On July 1, 2003 about 50,000 people appeared at Columbia Lake to celebrate Canada's 136th birthday. This makes Waterloo host to the second largest Canada Day celebration in Ontario. So what makes this possible? First, a little help from Mother Nature is needed. 300 jumbo and 500 mini freezies, one large piece of plastic, lots of water and thirty great volunteers are also a good start.

From hot to cold, wet to dry, Canada Day has shown it many faces of weather. After seeing all extremes over the passed few years, it was time for the weather to be perfect. Once the struggle with the fire hydrant was over, the water slide and dunk tank attracted crowds of people waiting to get relieve from the heat.

The thirty energetic volunteers were amazing in helping EngSoc put on variety of events to be remembered. With 50,000 community members showing up to enjoy the festivities this was the University's opportunity to shine. The volunteers were great with the children as well as with the parents. Volunteers enjoyed themselves while sitting in the dunk tank and cooling off, helping kids go down the water slide, organizing events like the obstacle course, serving juice, and giving away freezies and other treats.

Upon realizing that freezies were free to participants of the events, many children ran through obstacles, pulled hard for a tug of war, and took their hand at trying to dunk volunteers in the tank. Soon the freezies became 'melties' and the children kept on coming back for more. When the day got late and freezies were free for all, a few children could be seen taking armfuls of freezies and running off as if they just found gold.

The water slide being one of the biggest successes had a line up all day. Kids of all ages would slide down enthusiastically and run back up the hill to line up again for another chance to get drenched with water. Some kids raced down the slide at full speed, while others struggled to get going. Hundreds of kids enjoyed themselves so much they were sad to see it close as the evening approached; a few children even asked "will you be back tomorrow with the slide and dunk tank?"

With the night drawing near, anticipation for fireworks could be felt. Glow sticks and candles could be seen scattered throughout the field and lots of people were all wondering how much longer before the display would start. The night finally comes and the fireworks light up the sky. Applause could be heard from the crowd during the small pauses until the next sequence was started.

A full day of events and an evening of fireworks shows pulled off successfully - another successful event, thanks to the support of EngSoc.

You too could be a TOOL Bearer!

It wouldn't be Canada Day without Tug-of-War

Being a Good Leader - What It's All About

Amy Gill
WIE Initiatives Developer

This past Tuesday evening, July 15th, in the DC Fishbowl, WIE hosted their term-annual Reception. An interested group of men and women from a variety of engineering disciplines, along with Professor Beth Weckman, from Mechanical Engineering, gathered to hear successful women in the engineering field discuss their views on leadership. The evening began with everyone being offered refreshments and a light snack. Then we settled into our seats to listen to what proved to be a very interesting an entertaining evening of knowledge expression.

Sandy Kemsley, a UW systems graduate, started out the evening for us. She highlighted the differences between leadership and management pointing out that you don't have to have great managerial skills to be a good leader. Emphasis was also expressed regarding the necessity for constant learning and passion towards what you are doing.

The next speaker, Dr. Carolyn Hansson, a professor in our Mechanical Engineering Department, began by speaking to the reasons that fewer women seem to be in management positions after their education. She offered advice about handling leadership situations and emphasized the importance of keeping one's sense of humour and remembering that not all situations are personally directed.

Both women spoke about the differences in men and women's leadership techniques and the importance of understanding these differences. A good leader that people will want to follow is inspirational and enthusiastic and, very importantly, supportive of the team they work with. The evening was a great success and could not have been achieved without everyone's help!

Participants at the Woman in Engineering Reception

"This is not the end. It is not even the beginning of the end. But it is, perhaps, the end of the beginning." - Sir Winston Churchill

Letter From the Editor

I Am a Banana!

Jonathan Fishbein
2B Software
Editor-in-Chief

Once again, the headline of this letter will have nothing to do with its content. If you're looking for an article about Bananas, or maybe an explanation of why I've been so crazy these past couple of days, I hate to say you're out of luck.

Well, it looks like my term as Editor-in-Chief of this fine publication is coming to a close. But don't fret everyone, having recently been elected Vice President Education of ASoc, I will still be around and kicking. And who knows, maybe I'll drop by the IW office and see how everyone's favourite incoming Editor-in-Chief, Jeff Henry, is doing. After all, I still know the door combination!

Let me say, being on exec has its bonuses. One being that you get to see who applies for what directorships before the final list is announced. Now, looking at the number of applications thus far, it would not surprise me to see if we have many directorships that go unfilled in the Winter term.

There seems to be a general sense of apathy around engineering student involvement lately. It's gotten to the point that a friend of mine had started writing an article on student apathy for this newspaper and was too apathetic to finish it.

Now, maybe it's just the summer that's getting to us. I know that for a good twenty years of my life I looked forward to the summer as time to relax and have fun. I've become so accustomed to having a enjoyable summer, that it's subconsciously affecting my motivation for schoolwork! It's not just my schoolwork that is being affected. In fact, my whole motivation to take on extra-curricular responsibilities has been affected too. I'm used to having fun, relaxing summers and this term has amounted to the opposite.

No we can't go blaming all of our apathy on the seasons, as I'm sure that is not the only cause of it. Rather than turn this into an "apathy = bad" lecture, let's talk about all the benefits to getting involved in extra-curricular activities.

If you read the interview with former Dean of Engineering Sujeet Chaudhuri in the last issue, you will notice that even he believes highly that students should get involved in areas outside of academic life. Why you may ask? Because former Dean Chaudhuri believes that extra-curricular activities and high grades go hand in hand.

I agree with him. There is no way that anyone can focus all of their free time on their studies and still work as efficiently. There needs to be something other than studying that you can set your mind to in order to let your subconscious absorb and work on the problem at hand. In fact, most solutions to brain teaser puzzles are often found in a stroke of brilliance once you have stopped racking your brain over the problem. Extra-curricular activities allow you to stop stressing over schoolwork and do something different for a change.

Extra-curricular activities also provide you with an added sense of accomplishment in your school work as well. It's one thing to study all the time and get good grades. But let's be honest, it's not hard to get good grades when all you do is study. Getting involved will not only help you in your studies, as we discussed earlier, but will also make you feel better about the work you do. Even if your grades slip by a couple of percentage points after getting involved, at least your grades are still around where they should be and now you get to do something you enjoy as well. This will make you enjoy school a little more and fuel your drive to learn.

So you may be asking yourself now, "OK, Jon. What should I sign up for?" Well, EngSoc conducts various activities throughout the year in a variety of areas from athletics to resume critiques. There are many engineering student groups on campus like UWAFT, WARG, and Midnight Sun who are always actively recruiting for new student volunteers. Even this very paper is looking for students to fill vacant positions in the winter.

Now, if you're still saying "Jon, I spend my whole day with engineers. Why would I want to spend my free time with them?", then I have the answer for you. The Federation of Students organizes many clubs and events for students all over campus. This would be an excellent way to get involved in student activities if you want to get out and meet new people.

Our University provides us with excellent opportunities to get involved as students. It is only to our benefit as students that we use them to their fullest advantage.

Letter to the Editor

TALk ENG

I went to TAL ENG because I enjoy listening to talented musicians play live music. Though I saw many talented musicians, I heard few. What I did hear, was the low frequency, feedback-equivalent, of a conversation choir. It is a shame that people come to a talent show to talk amongst themselves. The audience truly stole the show. Here's to all the musicians that played to an audience that was at Molly Blooms and not TAL ENG. It used to be about the music.

wall
3A mech

Well, I must say that I too am a fan of live music and do share some of your disapointment in what happened at TALEng. You are correct that one of the main purposes of TALEng is to showcase the talents of engineering students, but TALEng also provides an opportunity for engineering students to meet and socialize. Now I must say that I unofrtunatley could not attend TALEng this term, but I have to ask was this really any different then seeing a lve abnd at a bar. Sometimes venues suck for preformers but they are able to deal with it as good preformers often do. TALEng provides to groups of people to get involed in an EngSoc activity. As much as you may not have liked having that second group there, it is not right to say that they shouldn't be allowed to participate.

-Ed

(This is also the first letter I have received, and will ever receive as Editor of the Iron Warrior, so I'm milking it for all it's worth. Hope everyone has a good bout with finals and I'll see you all in the winter)

Questions? Comments?
We welcome letters and feedback from all our readers. Please email us at:
iwarrior@engmail.uwaterloo.ca

the IRON WARRIOR

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Advice

Dear LowRider: UW_LowRider@hotmail.com

Sgt. LowRider's Lonely Heats Club Band

Dear LowRider,

HELP! The balance on my Watcard is $1.22 and there's still almost a month before I'm done. What should I eat?

-Broke Bloke

Dear Broke Bloke,

OK. I took the time to write out some of my favourite recipes that don't require any money. Utensils, dishes and most ingredients are free in the V1 Cafetorium. As for the other things, I'm sure you've seen them around.

Asian Soup: 1 part plum sauce, 4 parts boiling water, dash of soy sauce, dash of hot sauce, salt to taste. Combine ingredients in bowl. Mix. Eat with spoon.

Cream of Tomato Soup: 1 part ketchup, 5 creamer packages, 3 parts boiling water, salt and pepper to taste. Combine ingredients in bowl. Mix. Eat with spoon.

Tossed Salad: Pick some grass and tasty looking leaves from somewhere they don't use pesticide. Toss. Eat.

Fried Egg: "Borrow" and egg from Sobeys and cook it on their parking lot on a hot day. Don't forget to pick up salt and pepper before you go.

Whole-Roasted Game: 1 of squirrel, duck, skunk, groundhog, etc. Clean the game animal and smear inside and outside with butter, salt and pepper. With a little Enginuity, you can rig up the V1 toaster to roast your dinner. A good-sized squirrel should take about 20 minutes at medium heat. (Don't ask how I know.)

I hope that gets you started, and inspires you to come up with some recipes of your own. Oh, there might be some kind of food bank thing, but nobody likes canned lima beans.

-LR

Dear LowRider,

I heard that you are highly skilled at solving advanced physics problems. If you can solve this one, you will have my eternal respect and gratitude.

A rocket with a total mass 5 kg accelerates vertically upwards, propelled by 4 kg of fuel, which is ejected at 150 m/s at a rate of 100 g/s. The rocket is attached to 50 m of massless, inelastic rope that runs through 4 pulleys set up at the vertices of two adjoining equilateral triangles of dimension 1 m, located 3 m above the initial position of the rocket. The first three pulleys are able to move 1 m either upwards or downward, but the motion is impeded by springs with k = 1000 N/m. The rope is fastened to the fourth pulley, which is stationary. All pulleys can be assumed to have frictional losses of 20% of their rotational energy. The pulleys are identical with mass 1 kg, thickness 4 cm and diameter 30 cm. A piece of wood with a brick placed on top of it is mounted between the first and third pulleys. The coefficient of static friction between the brick and the wood is 0.11. How high will the rocket be above its initial position when the brick begins to slide down the piece of wood?

-Smart A$$

Dear Smart,

It's true; I do have a gift for solving physics problems. I try to visualize the problem, and then use some equations, and then solve the equations to get the unknowns, one of which is always the answer. I'm guessing that you don't know very much about physics, because you forgot to include a list of possible answers for me to multiple-choice from. Nevermind, I have a hunch the correct answer is "B".

-LR

Dear LowRider,

I don't have an air conditioner, and it's really hot in Waterloo. I have trouble sleeping, eating and concentrating enough to do my homework. I feel sticky and gross whenever I'm at home. What can I do?

-Super Hot

Dear Super Hot,

Well, let's assume that you're a Super Hot Girl. Then you should come over to my place. I have a kiddie pool in the backyard and plenty of cold milk and juice in the fridge. Bring your bathing suit and some homework.

If you're a guy, then go take a shower you filthy disgusting pig. And stop whining you pansy.

-LR

Dear LowRider,

I have a problem. I graduated from UW this spring, and I now have a great job and a cool apartment in Kitchener. I used to read the IW a lot when I was a student, especially LowRider. The problem is that since I graduated, I find myself coming back to campus every Friday just to read your column. It's especially hard during the weeks when there's no IW. I tried to read Imprint in between issues, just to tide me over, but I couldn't even finish it. I need the Iron Warrior. My life is empty between issues. I need you, LowRider. I want to be with you forever. I know that you love me just as much as I love you. We were meant to be together.

Love,
Kimberly

Dear LowReaders,

You'd be surprised how common this is. I usually get about 4 or 5 a week but it is general practice to print only one of these letters every semester just to raise awareness of the issue. If you find yourself stockpiling more than 2 copies of each back issue, re-reading old LowRider columns more that half a dozen times or blowing up that little picture of me to a full-sized poster, you may have a problem. Counseling services has a lot of experience dealing with this type of obsession. I can only hope that Kimberly is able to reach out to someone for help before it's too late.

Until next time, take care of yourselves, and each other.

-LR

EngSoc

Engineering Society Executive Reports

Not Done Just Yet...

Leanne Whiteley

President

I was planning on having two more exec reports left: one to acknowledge the accomplishments of the outgoing exec; and one to recap on my 16 months as prez and provide advice to the incoming exec. I will do my best to keep this exec report as brief as possible. Please refer to my other article detailing the winner of the President's Awards for this term.

For simplicity, the following acknowledgements are in alphabetical order:

Kristen Farn, VP-Finance: Kristen has done an awesome job at keeping the Engineering Society books in order. Her conservativeness in last term's budget has allowed us to run with a minimal deficit this term. She has had to deal with a lot of directors (and exec members) asking for money and complaining that there budget was cut. However, she has done a great job at being fair to everyone. We have had more donation proposals these past two terms relative to other terms. This is due to Kristen's organization and advertising. In addition to writing cheques in a timely manner, Kristen also volunteered a couple of hours a week in the C&D to help alleviate the financial burden associated with spring terms and the lack of students, faculty, and staff on campus.

Jeff Henry, VP-External: Jeff has decided that UW EngSoc VPX isn't enough for him and earlier in the term became the President of ESSCO. If this doesn't show the extent of his qualifications, then I don't know what does. He was instrumental in helping the University save face in the aftermath of the UW-

Microsoft partnership. Jeff basically lost of month of his life dealing with the issues. In addition to

going to conferences and bringing delegates along with him, Jeff has managed to prepare a Conference Policy and entirely re-vamp the Iron Warrior policy manual. Both of which will go into affect by the time we return in the winter.

Laura Mooney, VP-Education: Since its introduction to the Engineering Society, the VP-Education has had a difficult time defining its role. Laura laughed in the face of this challenge. The biggest impact that Laura has made to the Society, has been her initiative to do a Humanity Build project. Laura was also involved in the start-up of SUBS. She organized financial planning seminars and advertised the Sir Sanford Fleming Debates. In addition to being VP-Education, Laura is also one of the Federation Orientation Committee Members who is organizing Orientation Week.

Ryan Walker, VP-Internal: Being VP-Internal is not an easy task. You have more directorships than all the other exec combined. Ryan has done an amazing job at keeping track of his director's to make sure that they are organized for their events. Ryan is able to attract new people to EngSoc and get them involved. He has been instrumental in promoting Engineering spirit, pride, and glory amongst the engineering students. In addition to handling all of the director's Ryan has also volunteered a great deal of time in the C&D.

Please note that these lists are by no mean complete, they are just some of the highlights over the past 16 months. I have thoroughly enjoyed working with these 4 individuals. I wouldn't have been able to do my job without them! I wish them the best of luck in the future endeavours and hope that they continue to contribute to the Engineering Society as they have done in the past 16 months. I may be partial, but I think that this has been the best exec ever! In light of that, I would like to wish the incoming exec the best of luck. The road ahead is not easy, but it's all worth it in the end. If I could, I would do it all over again and wouldn't change a thing. Ok, maybe just a few things, but not much.

Before I end, I have a little advice for each of the incoming exec: Laura, be prepared to get your keys on the 1st day and give them to the appropriate exec and directors; Nick, be prepared to receive applications for the FYIC from upper year students and having to explain to them why they can't go; Jon, be prepared to define your job description time and time again; Kate, be prepared to cover for director's that don't do everything they are suppose to do; and Rajat; be prepared to have director's and exec demand mo'-money.

Finally, I cannot thank my exec members enough for their hard work and dedication over the last 16 months. Your contributions have made huge positive impacts on the Engineering Society! I also want to thank Mary Bland, Betty Beaver, and Sue Gooding for providing me with guidance in the beginningmonths. If it weren't for them, I still wouldn't know what I was doing. And last, but not least, I need to thank my friends and classmates, who have had to deal with my hectic schedule. Thanks everyone!

Later Gators!

Laura Mooney

VP Education

Wow, it's been 16 months already … I guess time flies when you're having fun. And speaking of fun, on to that inevitable end of term discussion: finals.

You might ask "What does EngSoc do for me during that final crunch time?" The majority of our normal services are available: the C&D is open for your hunger needs, the Orifice is open for your cheap photocopying/report binding needs, and POETS is open for your group studying needs. The exam bank is also online at www.engsoc.uwaterloo.ca/www/exambank/, and available 24 hours, 7 days a week. Don't forget, if you have copies of old exams bring them to the Orifice or send them to me in softcopy for the next generation of students.

Finally, buzz-word of the term has been SUBS. Look for more info via e-mail in the second week of finals for how to post and search for used engineering texts online!

Thanks for a great 16 months, it's been a blast! Have a great four months away from the stress and anxiety of school!

Passing the Torch

Jeff Henry

VP External

As I was sitting around late one night in the Orifice last week, it came to me that I should probably start looking through that ancient, metallic green VP External desk. Yes, sixteen months have gone by and I've spent more than a few hours perched within arms reach of it and yet there are many nooks and crannies I've still yet to peruse.

Sixteen months and there's still so much about the history of the position, about the nuances of the various directorships in the VPX portfolio, about, well, everything that sat untouched in my desk that I just don't know.

At the same time, it was really amazing how quickly time passed this executive by. There were things that came up every now and then, and days that made more than a few of us want to just get out; but we always pulled together, got through it, and moved on to the next thing. So I'd like to thank Laura, Kristen, and Ryan for a most excellent sixteen months. Now what can I say about Leanne…

Truly I have to say I'm at a loss for words – and that's certainly a rarity. Her dedication to everything the role of President entails is so far above and beyond the call of duty that even the irreplaceable glue of the Engineering Society – our corporate manager, Mary Bland – is left looking up at her. There was no issue she wasn't there and proactive with and no petitioning student she didn't prepare to defend. And though $20,000 may have ended up in the wrong place, she kept C&D from burning down in Mary's absence – anyone who saw Leanne that last week of June knows that is no small feat.

But alas, now is the time to pass the torch onto a new executive. Nick Lawler will be your contact for conference applications, for Bus Pushes, Explorations, Shadow Day, and many more. He'll be the one to let you know all the comings and goings of our neighbouring Engineering Societies. And despite the occasional ramblings of a certain ESSCO President I happen to know, he will be your representative to the provincial and national engineering society bodies.

I have faith that Nick will pick up where I left off. In fact, I believe he will go that extra mile for you, our member students, by actually looking through the stacks of files I leave behind – organized, now – in that ancient, metallic green VP External desk.

Financial Wrap-up!

Kristen Farn

VP Finance

After 16 months, my term is over. I would like to congratulate Rajat Suri in being the next VP Finance and I wish him the best of luck in managing ASoc funds.

As I end my term, I would like to pass along a short financial report for the Engineering Society A over my two terms. It has basically been a breakeven situation. We spent fairly conservatively in Fall 2002 and we had great success with our semi-formal, engineering play and special events. While we were off-term in Winter 2003, the Engineering C & D and the Orifice were broken into and we had to replace many of our assets including the digital video camera, as well as paying to repair property damage. We also made some much needed capital purchases including a new fax/printer/scanner and a Nexus upgrade for the computers in the Orifice. This term we had a tight budget because we receive ten thousand dollars fewer from student fees in the spring term, so we had to budget approximately a six thousand dollar deficit. However, at the moment it appears that deficit spending will likely be less than this by the end of term. Overall, considering Fall and Spring are the tighter budget terms, that our photocopying fees increased this term so that we loss approximately 1 cent on each photocopy made in the Orifice, and that we are still paying back a photocopier debt for one more term, the Engineering Society A has managed to remain in a stable surplus financial position. However, changes will be needed in the future so that this remains to be true.

I would like to thank all the directors for being a great group to work with and for understanding when the budget was tight. To my fellow VPs, Ryan, Laura and Jeff, you are a remarkable group to work with and your efforts astound me. To the super prez, Leanne, the many things you manage to control and accomplish everyday, and that you have not burnt out, blows my mind. I would also like to give an extremely warm thank you to Mary Bland, our Corporate Manager. Mary does a fabulous job at keeping so much in order, including our finances. If I can give any words of wisdom to future exec, it would be to get Mary's advice.

Good luck to everyone on exams and enjoy your break afterwards.

ENGINEERING
UNIVERSITY OF WATERLOO

Engineering Society Executive Reports

Where are the Funds Going?

Marc Joly

WEEF Director

I cannot believe it has been four years already since I was elected as my class' WEEF back in 1A. Since then, I served as an Assistant Director for one year and as the WEEF Director for the last sixteen months. I am proud to have been involved in such a great student endeavour and I am thankful for everyone who helped out, especially the WEEF reps and the Assistant Directors. I will not bore you with everything that has changed over the last four years, but here are a few interesting highlights. Since 1999, our fund grew by more then 50% ($3.2 million to $4.85 million), WEEF celebrated its tenth year anniversary in 2000 and in winter 2002 WEEF spent its 2 millionth dollar on lab equipment, teaching facilities, computer upgrades and student teams.

Starting in Fall 2003, Michael Henheffer will take over as the A-Soc WEEF Director. I am confident that with his previous experience as a WEEF rep and Assistant Director, he will do a terrific job at leading the foundation.

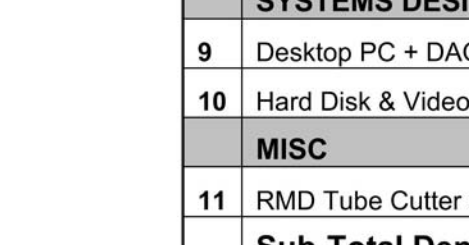
As for the current events with WEEF, on Wednesday July 16th the WEEF reps meticulously examined each proposal, during the Funding Council meeting, and a distribution of our funds was reached. Unfortunately, with a $35,000 budget we were not able to fund all proposals, which accumulated to over $83,000. If you examine the accompanying table, you will notice that over 40% of this terms' funds will be allocated towards student projects. WEEF continues to play a crucial role in the success of our student teams, by allowing them to purchase important pieces of equipment that they could not acquire with the help of corporate sponsorship. This term, the Funding Council decided to allocate more funds towards the UW's Formula SAE team, on the basis of the quality of their proposal, and the amount of Mechanical Engineering students who would benefit, as no proposals were submitted from their department.

Once this Iron Warrior issue is printed, the preliminary funding decision should have been approved by WEEF's Board of Directors on July 23rd. If you want a more detailed description of the proposals, you can download them from the WEEF homepage at www.eng.uwaterloo.ca/~weef. If you have any question related to WEEF, feel free to email me or my assistants at weef@engmail or phone us at x4893.

WEEF Funding - Spring 2003

	CHEMICAL AND ENVIRONMENTAL CHEMICAL	Allocated
1	Conductivity Meter and Digital Electronic Burette	$3,370
	CIVIL AND ENVRIONMENTAL CIVIL	
2	Dedicated Undergraduate Data-Acquisition system	$6,000
3	Thelco All-Purpose Laboratory Oven	$0
4	Velocity Meters	$0
5	Total Station	$0
	ELECTRICAL AND COMPUTER	
6	E&CE Computer Upgrade for Nexus	$3,050
7	Unix Workstation UPS	$0
8	E&CE Repair, Test and Calibration Equipment	$2,950
	SYSTEMS DESIGN	
9	Desktop PC + DAQ for Systems Design Teaching	$1,592
10	Hard Disk & Video Capture Solution for Apple Mac in Multimedia Lab	$690
	MISC	
11	RMD Tube Cutter and Notcher	$2,975
	Sub-Total Departmental	$20,627
	STUDENT	
12	Engineers Without Borders Biosand Project water testing kit	$1,500
13	Engineers Without Borders office computer and fax machine	$0
14	Advancement of the 2004 UW Formula SAE Team	$4,000
15	Concrete Toboggan 2004	$750
16	Midnight Sun VII Solar Race Car Project	$1,600
17	2004 UW Clean Snowmobile Team	$1,900
18	Solar Technology Education Project (STEP)	$600
19	University of Waterloo Alternative Fuels Team	$1,270
20	Waterloo Aerial Robotics Group (WARG)	$1,250
21	2004 Waterloo Off-Road Mini Baja Team (WOMBAT)	$1,500
	Sub-Total Student Groups	$14,370
	TOTAL	$34,997

Here's to Exec!



Nick Lawler

Vice President External Elect

The term is now over, and a new exec is now upon us! A big thanks to all those who came out a voted in the election, you proved that every vote does count! Special thanks to Graeme Baer and James Kunz, the CROs for the elections, and also to all the polling station volunteers, and vote counters. Another big thanks to the outgoing VP-X for showing me the ropes, and for doing a great job while in office.

Well on to the business at hand. Directorship deadlines are closing in fast and I have many great directorships under me that need to be filled. Such events as the Bus Push where we push a bus to help support the Big Sisters of KW Region. Explorations runs this winter, where thousands of elementary aged children are invited to tour the engineering buildings and learn about all of the amazing projects that we are working on. This is a great opportunity for us engineers to show the community what a difference we make. On Shadow Day grade 12 students are invited to "shadow" an engineering student for a day to see what it is actually like to walk the walk and talk the talk. Another big directorship under my care is National Engineering Week. This is the time for us to promote Canada's rich engineering heritage, and to show some UW pride. An enthusiastic director is needed to spearhead the week to make sure UW-Eng is the proudest of them all.

Besides directorships a big conference is coming up this January. The CFES (Canadian Federation of Engineering Students) Congress is being hosted by the University of Victoria this year. Delegates are needed from A-Soc to attend the seven-day conference. Over 200 engineering students from the 46 engineering schools across Canada will descend on Victoria to talk about engineering student issues, and to socialize like engineers do! This is an excellent opportunity to meet other engineering students, and to network and make contacts across the country. The Deans Office will be paying for plane tickets, accommodations, and conference fees. Keep a look out for delegate application forms on the EngSoc website. Well this brings a close to my first exec report, and I look forward to writing many more. Everyone have a safe and happy work term.

Let's Have Some Fun!

Jonathan Fishbein

Vice President Education Elect

Who would have thought? After a term pestering the current exec to get their exec reports in, I am now the last one to write a report. I've been told that as soon as you become exec you no longer listen to the IW deadlines. This may be hard for me to get the hang of!

Now on to the real business. Like all my fellow incoming exec members, I would like to thank Graeme Baer and James Kunz for organizing the election.

There are a lot of issues that need to be dealt with in the upcoming term. One of the most important is tuition. If you look at page 11 of this newspaper you will see the results of the faculty's debt load survey. These numbers, unfortunatley, do not look promising for the future of engineering education. There is a lot of work that needs to be done and I look forward to working with all of you.

EngSoc

Engineering Society Executive Reports

WEEF Statictics are Finally In!

They always say things are better late than never. This is especially true this term with the WEEF participation stats. That's right, I have finally been able to compile the WEEF participation statistics for this term. The total participation rate for this term is 60.4%, which is quite a bit lower than I would like to see it. To put things in perspective, our participation rate in the Fall term was about 68%. I'd like to thank everyone who made a donation to WEEF this term. Your support this term is greatly appreciated. You are truly helping maintain UW Engineering's status as one of the best Engineering Faculties in the world. You only need to take a walk through the student shop or talk to many of the student teams on campus to understand how much WEEF is helping our school. I'm hoping that many of the people who are getting their refunds will see all of the equipment covered in WEEF stickers and realize that they should be supporting WEEF.

A breakdown of the participation rates for each class can be seen on this page. I'd like to draw everyone's attention to the 3A Geo class as they once again have 100% participation. No member of there class has ever requested a WEEF Refund and WEEF greatly appreciates that. The 1B Chemical, 2B Software and 1B Systems Design classes also deserve mention as they all have participation rates around 90%. It's great to see several classes with such high participation rates.

Time for Fun!

First, my thanks to everyone who came out and voted on Election Day, and all the volunteers who helped make it happen! Special thanks go to Graeme Baer and James Kunz for all of their hard work.

I'd also like to thank the outgoing Executive. Their hard work and commitment to Engineering at Waterloo have left an incredible impression on the Engineering Society. It also leaves us incoming Executive with large shoes to fill, even to be compared to them!

As incoming VPI, I think I have the best job! I get to help run all the fun events, semi formal, TalEng, the play, athletics, and all sorts of other cool stuff! I'm really looking forward to the next few terms, and I have plans for them.

One of my goals as VPI is to communicate with the classes more, and to hopefully get more people out to all our great events. I'd like to encourage classes to set up their own events and invite fellow students to participate. As well, anyone who has suggestions about new events and directorships should contact me with their ideas.

Hope to see you all out at EOT tonight! And I hope you all have a great co-op term! See you in the winter.

So Long Old Exec!

So the story of the week was that EngSoc A decided to take the plunge and ratify me as VP Finance. Although there are differing accounts of the dramatic scene, I understand the most popular one was me jumping up on a desk and declaring a Putsch against the corrupt forces of the current exec, whereby everyone held up their imaginary beers and ratified me on the spot. I assure you this is not the case. What really happened was that I bought all the votes for 2 cents a pop in the beginning...every single one except that incorruptible Ryan Walker, who insisted I give him 3. Being a conscientious future VP Finance, and knowing our budgetary problems, I declined. See? Not even sworn in yet, and I'm already protecting you guys! (Send flowers to MKV front desk. Petunias are preferable. In desert-yellow.)

And so we must wave a hearty goodbye to our current exec, and what can I say but... good riddance! Any exec body without me is by definition silly and useless. But taking into count the lack of me, the exec did a pretty damn good job keeping the society running, even after all the hitches they experienced. As some English dude would say it... jolly good show!

Anyhoo, back to me. Since I know everything, I have absolutely nothing to learn about the system from the current VPF Kristen. Don't laugh! I don't! Ok so maybe I do. No need to panic, though, because I got it covered. I am in the process of enhancing my already extensive knowledge about finance stuff, just so I can steal from you better. Whoops. I meant serve you better. Yeah that's what I meant.

I look forward to the next 16 months! If you have any hate mail, or less likely, any questions, feel free to contact me at rsuri@engmail.

Election Wrap-Up

A week and a half ago 10% of you turned out to vote in the Presidential and VP-Internal races. And after successful ratification votes that evening, I'm happy to announce the next ASoc Executive will be:

President: Laura Mooney
(3A Systems)
VP-Education: Jonathan Fishbein
(2B Software)
VP-External: Nick Lawler (2B Civil)
VP-Finance: Rajat Suri (1B Chem)
VP-Internal: Kate Kelly (1B Elec)

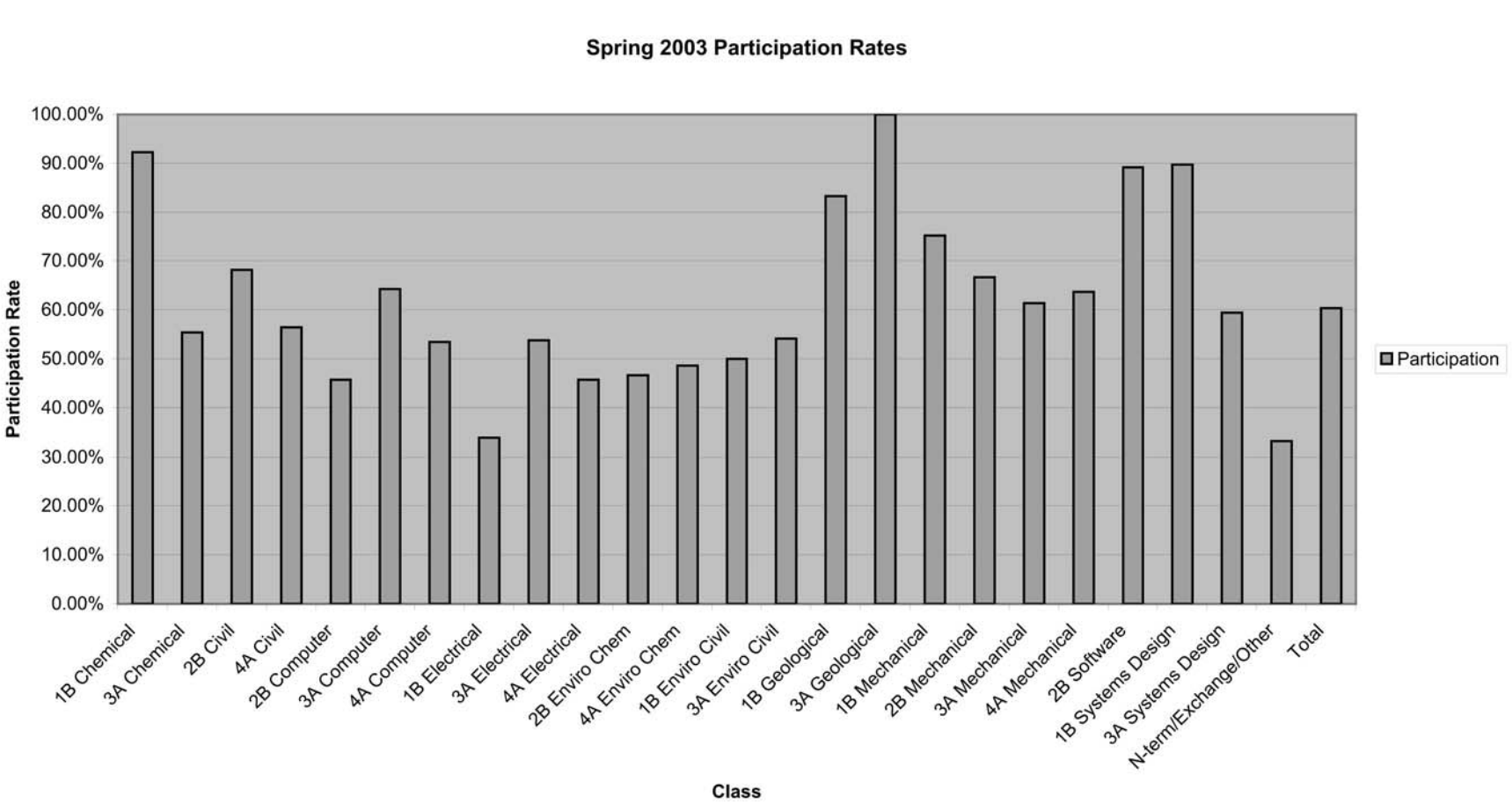
I'd like to thank all of the scrutineers, the poll clerks and of course the candidates for their work during the campaign period and on voting day.

And Now...

After writing my VP Ed report, it's hard to believe that I've signed up to write another eight to ten of these … guess I like being harassed by IW editors.

In all seriousness though, I'm very excited about the next 16 months. We have a great exec lined up with lots of great new ideas to continue improving and expanding the services and events EngSoc provides.

A big thanks to everyone for their support, and especially to Ryan Walker for a close and challenging race. Good luck on exams and see you in January!



WEEF Reports are Good!

Michael Henheffer

Acclaimed - WEEF Director

After the election issue of the Iron Warrior was released, I received several inquiries with respect to how I was allowed to run for WEEF director given that I will graduate after one term. I'll start by answering that question, as I'm sure many others wondered the same thing. Actually, it is a simple answer. The constitution and bylaws of WEEF do not set a minimum requirement for length of term for the director.

Anyway, now I will get on to some of the plans that I have for my time as WEEF director. Of course, I want to make sure the WEEF participation rate starts to increase rather than the decreasing participation we have been seeing. How do I plan to accomplish this? Well, I think it is important to stress the importance of WEEF to students as soon as they join Waterloo Engineering. For this reason, I want to work with Erin (BSoc director) to ensure that the first year students know exactly what WEEF is and receive exposure to the benefits of WEEF over their first two terms at UW. If done over a few years, it should increase the participation rate, as more of these students will understand how important their contribution is.

Another plan I have for next term is to set up weekly WEEF office hours when I would always be available to assist people with WEEF related tasks. This would include answering general WEEF inquiries, financial inquiries, and even helping groups form good proposals. This should make it easier for the various groups around campus to receive their funding, as they will always of a time when they can find me.

We (the current director and assistants) are currently working on several projects to improve the operations of WEEF. The one of most interest to the public would be the online database containing all kinds of information with respect to past and current WEEF funding allocations. A major benefit of this will be that recipients of funding will be able to easily determine the status of their WEEF accounts. We are hoping to have this up and running some time next term so I will keep you posted.

In closing, I would just like to thank Marc for his great work over the past 16 months and say that I really look forward to taking over the reigns of WEEF and continuing its success. And one more thing, "WEEF is good."

EngSoc Charity Events

Maria Simoes and Mike Henheffer
4A Computer

This past term, the Engineering Society charities directors have run two different initiatives geared at contributing back to the society in which we live. The first was a coin drive, with all proceeds going towards Unicef - the United Nations Children's Fund. This was a roaring success, with 10 classes participating to raise $440.50 in total for Unicef. The winner of the pizza drive was ComESutra.ORg, who raised a sum total of $138.51. In second place and third place were G0t Ohm3d and MaCiv, respectively. Thanks also to those who donated from their pockets without contributing to any class totals. Awesome work to all - thanks for making this event a success.

The second charities initiative is the Engineering Society Food Drive. This drive is somewhat "competitive". There are eight white food drive bins spread throughout Engineering (CPH Foyer, POETS, the Orifice and RCH basement) with the names of certain well known people affixed to the front. Now, the person who's bin is filled with the most amount of food BY NUMBER will have to perform a "reward" at the EOT pub. If you've ever wanted to see one of the following people embarrassed, and you are reading this on the 25th of July, and you have food items "available" for donation - please do submit those food items into the box of the respective person! The people who have *ahem* volunteered are:

Leanne Whiteley (Current EngSoc President)

Laura Mooney (Incoming EngSoc President as well as Eng FOC)

Kate Kelly (Incoming VPI)

James Kunz and Donna Craig (Eng FOC and Software FOC)

Liam McHugh-Russell (FEDS VPEd)

Christos Sarakinos & Christopher Deck (Motioned by EngSoc to participate and EngSoc Speaker)

Mike Henheffer & Maria Simoes (Charities Directors)

Mary Bland (EngSoc Business Manager and "C&D Lady")

Lastly, a non-competitive food drive will be occurring during the exam period. Before you leave this town for your work terms, rummage through those non-perishables that you will no longer need. Instead of just throwing them out, please bring them into campus and place them in the white food drive bins that will be available in CPH Foyer and RCH basement! There are a lot of hungry people in this world, and like your mother might've told you, it's always a shame to throw out food!

Activities

Engineering Society President's Awards

Leanne Whiteley

President

Each term individuals who have made a significant contribution to the Engineering Society are recognized at the Engineering Potluck dinner. This term, the Engineering Society Executive have decided to give out 10 awards. And the recipients, in alphabetical order, are:

Graeme "Orifice Monkey" Baer is the Chief Returning Officer this term and organized the EngSoc elections. Graeme is also an EngSoc webmaster, an Orifice director, and a course critiques director.

Jon "Notin" Fishbein is this term's Iron Warrior Editor. Jon came up with the most creative ways to remind the EngSoc Exec about their Exec report deadlines. And Jon had not lost a night's sleep trying to put the paper together!

Jason "I like minutes" Griese is one of the Canada Day directors and orgnanizers. He is also a POETS Manager and has taken care of food, entertainment and security for the term pubs. Jason is also the EngSoc secretary and takes minutes during our council meetings. Furhtermore, Jason is the small signs and poster director, the resource manual director and a task-team director.

Paul "I love to videotape" Habsch is also one of the Canada Day directors. In addition to organizing Canada Day, Paul has been videotaping events all term to get footage for the TSN video and graciously volunteered some of his time working in the Engineering C&D.

Matt "Pig Roast" Harper is one of the semi-formal directors this term and organized to have a roasted pig for dinner. Matt is also a POETS programmer and is one of the people responsible for having programming in POETS planned for the entire term.

Mike "Mr. Volunteer" Henheffer is just that: Mr. Volunteer. Wherever he is needed, he is there. Mike is the WEEF Assistant this term, a charities director, a novelties director, an Orifice director. On top of all that, Mike has volunteered some time in the Engineering C&D.

Emily "Where's my Oscar" King is the Engineering Play Producer this term. She helped produce to amazing plays this term: Hard Candy and Cards of Fate. Emily was also a Head Scunt God and organized a Scavenger Hunt at the beginning of the term.

Larissa "I hate email spam" Klypyz was the other semi-formal director this term and did an excellent job! Larissa is also the email communications director and has prevented a lot of spam from going across the engsoc A mailing list. Larissa is also rumoured to commonly take down posters that are in violation of the Engineering Society "A" poster policy.

Nick "Mmm…chicken wings" Lawler was the third Canada Day director this term. In his free time, Nick enjoys chicken wings, so as year spirit director this term, Nick organized an Iron Wind Ring Ding in POETS.

Maria "Ms. Director" Simoes had 7, that's right 7, directorships this term: Orifice director, resume critiques director, charities director, Women in Engineering director, diversity director, TSN video director, and novelties director.

Congratulations and thanks to alll the EngSoc Prez awards recipients. Thanks to everyone that has helped out this term as well. Your dedication to the Engineering Society is always appreciated!

Habitat for Humanity: A Volunteer's Perspective

Maria Simoes

4A Computer

As engineering students we do much to help out with the community. Events such as Canada Day, the Santa Claus Parade, WheelChair Basketball, Food Drives and Explorations give us various opportunities to give back to the community which we inhabit. However, as much as I have done in the past four years, I do not think I have ever felt as rewarded as the day I helped build a house for Habitat. There is something very exhilarating about getting up early and working out of doors. Even better was getting the opportunity to work alongside of Betty, the lady for whom the house was intended.

I really want to thank Laura Mooney for giving myself and all other engineering students the opportunity to help out with Habitat. I would definitely recommend it to those who have not tried it.

Here is more information about helping to build/finish the house interior:

The rest of the build for the house we have been working on is July 22-31. They are looking for people to take night shifts (4:30-9:00) during this week, or for day or night shifts from August 5-14th. If you'vealready signed up, you can just call Habitat at 519-747-0664 x23 or e-mail them at mail@habitatwaterlooregion.on.ca, and address it to Linda Keating to tell her the shifts you'd like to join.

UW Engineering Students with the Recipient of the Habitat for Humanity House, Betty

Novelties Wrap Up!

Michael Henheffer

4A Computer

As the end of another term draws near, the novelties directors once again get to wield their tiny bit of power and decide what products to add to the store. This term's directors should be discussing what to add to the store shortly. That brings me to my question for all of you. "What product ideas do you have?" That's right, we are taking suggestions for new products from you. So if there's something you would really like to be able to buy in the novelties store, please let us know. Suggestions can be sent to mphenhef@engmail. We'll take all suggestions into consideration and hopefully be able to introduce some great new products next term.

In order to make closing the books for the term easier, I would like to request that anyone who has a novelties store gift certificate try to use it this term. The novelties store should be open during its normal hours of operation next week (at least while classes are running). If you can't make it in during these times, the certificates can also be used to purchase novelties from the Orifice.

Unfortunately, due to the directors having very busy terms, we were unable to have a sale in CPH Foyer this term. Hopefully, things will be less hectic for the directors next term and a sale can take place during the winter. As something to look forward to, we may have small items to give away with every sale when that time comes.

Plummer's Pledge

Michael Henheffer

Assistant WEEF Director

The Plummer's Pledge is a way for graduates to leave behind a gift to the UW Engineering and the students who will follow them through the programs. The gift consists of monetary pledges from individual graduating students.

How will I be able to afford to make a pledge immediately after graduation?

We know that most students will be short on cash around the time of graduation due to the costs of our education. That is why the Plummer's Pledge has been set up as a commitment instead of an immediate donation. Each graduate is given an opportunity to donate money over a three-year period following graduation. The first donation does not take place until a year after graduation allowing us plenty of time to start making money at our new jobs before anything is due.

How do I make a pledge?

There will be plenty of opportunities to make your pledge in the winter term. We begin taking pledges in February around the same time as ring fittings. Keep your eyes open for pledge cards around that time. Don't worry; we will also make sure that you are given lots of notice about how to pledge at a time closer to graduation.

Where can I get more information?

We should be handing out a Plummer's Pledge information brochure during the ring fittings next February. In the mean time, fell free to find me and I will answer any questions you have.

Why should I make a pledge?

This is an easy one. The major reason is to help Waterloo Engineering maintain its status as one of the best engineering programs in the world. The donations to WEEF also allow the students who follow in our footsteps to determine how to best use the money to improve their education. Since only the interest is spent, the Plummer's Pledge is the "gift that keeps on giving" as our donations will benefit students at UW for the rest of time.

A lot of people may think that once we are out of here, the state of the Waterloo Engineering program does not matter any more. This is a bad view to have, as at some point in your career the fact that you graduated from Waterloo will come into play. Potential Employer's will judge the degree based on Waterloo's reputation at the time, not based on its reputation today. So you see, it will be important for us to keep the reputation as good as it is.

And if that is not enough motivation for you, then how about this one - let's beat Math! Math pledged more money than engineers last year for the first time. Let's make sure that doesn't happen this year!

TSN Video On Sale Now!

Maria Simoes and Paul Habsch
4A Computer

Yes, it's that time of year again - End of Term (EOT)! As such, this year's EOT video will soon be made available in the Orifice, in both DVD and VCD form. Both media will contain amazing footage from this past term, including Pub Tours, TalEng, Semiformal, EngPlay, Bowling and more! How do I buy these amazing disks you ask? Well, go to the Orifice (CPH 1327 for some of you) on July 28th and 29th where they will be available. The current pricing will be $12 for the DVD and $6 for the VCD. Remember, your EOT video is one of the best ways of remembering your time here at UW Engineering!

Interview with Dean Sedra

Jeff Henry

4A Computer

Assistant Editor

Some people may argue that Dean of Engineering at UW is a step down from your former role as Provost at U of T. Why did you ultimately decide to take this job?

That is a good question and you're right. A lot of people were surprised when I accepted the dean of engineering position here at Waterloo. Let me try to answer this a couple of ways. First of all, I never thought of academic administrative positions in hierarchal terms. Secondly, I was never Dean before. I skipped becoming Dean. Before becoming Provost, I was Chair of the department of electrical and computer engineering at the University of Toronto for seven years. Then I went on to serve as Provost of U of T for nine years. Let me give you a more direct answer. I tremendously enjoyed my time as Provost of U of T. I also enjoyed my time as chair of electrical and computer engineering. I think I am at the stage of my life where I get a great deal of satisfaction from facilitating the work of others, which I interpret academic administration to mean. When I stepped down as Provost of U of T, which was a little over a year ago, my intent was to get back to academic life and to teach and do research. Then the University of Waterloo came with an invitation to consider this position. Initially I thought, "Do I really want to do it?" The more I thought about it, the more exciting the opportunity became and the more I appreciated that it is in fact an opportunity for me to contribute and make a difference. That is why, I believe, academics should take on administrative positions to make a difference. I believe that this is a position that is suitable for me at this time. I am really looking forward to it, but I am probably getting ahead of myself.

What are your goals for your term in office?

First of all, I believe that this is a great University and a great engineering school. Having said that, you can always improve and in fact there is tremendous competition these days. You can't just be content with your past accomplishments. You have to work very hard to move forwards. I took on the position, or accepted the invitation if you wish, in order to move the faculty of engineering at the University of Waterloo a few notches forward, a few notches up and to make it one of the truly outstanding engineering schools in the world. In terms of my vision, my vision is for this faculty to count itself among the top, whatever number you want to pick, engineering schools, not in Canada, but throughout the entire world. I want to work with everyone here to achieve this objective.

Of course, following from visions you also have challenges in this role. What to do you think is the largest challenge facing you?

The largest challenge, and this will not surprise you, is resources. At the end of the day, resources alone don't achieve an objective, but without resources you most definitely cannot achieve your objective. It is assembling, putting together all the resources needed to meet that objective that will be the biggest challenge facing us.

Along those lines from a student perspective, do you have a plan or an idea how to keep education here accessible to the students in the light of the current level of unsustainable tuition increases that we are seeing?

Let me first say that, in case it doesn't come up again, that the engineering undergraduate program at the University of Waterloo, is in my view the best in the country. When I talked about improvements, because again you can always improve, we are already in very good shape. We want to maintain it this way, and work very hard to make sure we remain strong and to make improvements as needed. All of that, of course, costs money. Hiring and retaining the best faculty members cost money. The best equipment for student use costs money. Having appropriate buildings for students to work in and live in costs money. Tuition fees, as you and I know, is a very important source of revenue for all universities in Ontario and Canada. Although tuition fees have increased considerably over the last number of years, I still believe that it is a bargain in Ontario to get the quality of education that the University of Waterloo provides. The important thing is not the level of tuition fees but maintaining accessibility. The important thing is that a student who has the ability to study and to benefit from studying engineering at the University of Waterloo would not be prevented from coming here because of a lack of appropriate financial means. The flip side of the tuition coin is financial support … and I can see that is coming from your list, so you go ahead and ask the question.

We know that of the differential tuition fee a certain allotment, 30%, is set aside for financial aid. Due to problems in the student loan system from the perspective of students in co-op being able to get those bursaries that are put away for them, we see a situation where engineering students contribute to a fund that they can't get too much out of. What do you view as a possible solution to this?

Obviously, because I came here from a non-co-op school, I have not appreciated this point. I've heard about it, but I have not appreciated this point as much as I should have. I don't want to offer a half-baked idea here, but I want to assure you and assure everybody who reads this article, that this is an important issue that we have to engage. We make the rules for our own system. I intend to learn more about financial aid at the University of Waterloo and financial need from engineering, and be able to deal with this problem that you put very well. I should also mention that in addition to this 30% set aside, we intend to work hard on generating funds through the campaign and the matching program that the Ontario government has put into place under the OSOTF (Ontario Student Opportunities Trust Fund) banner. The government has just allocated another $400 million dollars to establish endowments on a one-to-one matching basis for student support at Ontario universities. I believe that this is an opportunity for us to use this and the campaign that is currently underway to tremendously enhance the student-support endowment at UW. We have, of course, to make sure that rules for the dispersement of the money can be adapted to fit the co-op students. How exactly that is to be done, I don't know yet. But we will work hard to make it happen.

You conducted a review of the university's graduate studies programs at the request of the university administration. What do you think is needed to make the UW engineering graduate program as prestigious as its undergraduate program?

I think that the graduate program is good, but I think the margin for improvement on the graduate level is much wider than that at the undergraduate level. We get very good graduate students, but I want to make sure that the numbers are at appropriate levels in all departments of engineering. I must say that the numbers in engineering are higher than they are in other parts of the university. So my review should be read as a review for the entire university as opposed to just engineering. Having said that, I believe that even in engineering we can improve graduate studies, and help research; the two of course go hand in hand. So, when we talk about improving graduate studies we are also talking about increasing the intensity of research and improving the infrastructure for research and thus enabling more of the faculty members to engage in cutting edge research with graduate students. I think that graduate student funding is an important issue. We should work towards the goal that every graduate student at the university of waterloo would be fully funded. Now, this funding could not obviously all come from the operating budget of the university, but from a variety of sources, external and internal in the university. Once you have the funding for every graduate student secured and in place, I think graduate students can concentrate on their studies and be able to complete their program in a timely fashion. I am always unhappy to see students taking many years to complete their degrees and in the process depriving the workforce of their expertise. We will have to look at the time-to degree and fully funding our graduate students. We also have to look at creating more opportunities for graduate students to work on cutting-edge research.

New Dean of Engineering Adel Sedra

Professor Chaudhuri mentioned, in the interview we conducted here before he left, that one of the things he was particularly proud of was "bringing the alumni home." How important do you see the alumni connection to UW engineering from both an administrative perspective and a student perspective?

It is extremely important. I must say that I am very pleased with the work that Professor Chaudhuri has done to intensify the relationship between the university and its alumni. The Faculty has done quite a bit of work in this regard, and I do intend to build on what has been accomplished. As you know, our alumni officer has chosen to pursue other interests. She has done a terrific job for this Faculty. We are currently trying to hire a replacement. This area is scheduled for some restructuring with the idea of making it a bigger and more effective operation that includes alumni relations, communications, development and fundraising. We can also, through them, extend our relationship with governments and industry. We have of course big events in September in terms of reunions, which will provide me with the first opportunity to meet with a large number of our alumni who hopefully will choose to participate in the program. I cannot over emphasize the importance of involving our alumni in the lives of the Faculty and not only for their financial contributions to the university, although this definitely helps!

We've heard that you were the only Provost at U of T to teach a course while he was Provost.

I have to correct something, I did not unfortunately teach while I was Provost. I wish that that were the case. I tried at the beginning and it proved very difficult. It was very difficult to keep a class schedule while I was Provost. I taught all the time while I was chair of electrical and computer engineering. I did supervise graduate students while I was Provost, but I did not teach undergraduate students. I missed it a lot. In fact, in my interview here with the nominating committee for the position of Dean, I made it clear that I intend to be in the classroom and I am looking forward to it. I also believe that it is a good idea for the Dean to be in the classroom so that he would not forget what teaching is like and to experience all the challenges that faculty and students face in the classroom. It is also good that the students know that the Dean is a faculty member, not just an administrator somewhere writing memos, but practices what he talks about to others. I am really looking forward to it. I don't think it will happen this year. My department, which is Electrical and Computer Engineering, has already done their assignments. Perhaps it is good for me this year to learn more about the Faculty and get adjusted to the university. But next year, certainly I am looking forward to being in the classroom and meeting the students.

Opinion

It's The Bomb!

André Beltempo
2B Mechanical

No, seriously, it is. The topic of the day is atomic weapons. Why, you ask? Well, I took a shining to nukes from a young age, but having seen T3 and hearing many bizarre statements, I felt that it would be appropriate to set the record straight about nuclear weapons. Basically, I'll answer the questions you always wanted to know about nukes, but were too afraid to ask.

1. Do the Americans really have enough nukes to destroy the world ten times over?

This one I hear a lot. First of all, despite what you may have heard, really the majority of the energy of a nuclear explosion turns into heat and blast immediately, NOT radiation. The only exception to this is the so-called Neutron bomb, designed specifically with radiation (more specifically fast neutrons and gamma rays) in mind. But realistically, although the Americans have built approximately 70,000 warheads of almost 70 different types, they now possess a stockpile of around 9600 warheads. Surprising as it may sound, this is NOT enough to 'destroy' the world. Even hitting every city in the world with everything in every country's arsenal would not be able to 'destroy' the world. The world is still a BIG place. Keep in mind the Russians have around the same numbers of warheads.

2. What are 'yields'?

The yields of nuclear weapons are measured in equivalent tons of TNT. So if you were to explode 1000 tons of TNT, you would produce the same effect as a 1 KT nuclear device. Nuclear weapons vary in yield. Yields from nuclear weapons range anywhere from a very small tactical weapon of 0.1KT, to the largest weapon ever detonated at 57 MT. Hiroshima was 15 KT. The largest weapon in the American inventory has a selectable yield up to 1.2 MT. Yields on these weapons have gotten much smaller, especially after the invention of satellite and stellar inertial guidance. It all stems from:

3. What are nukes traditionally pointed at?

Here is a huge misconception with nuclear weapons. The most accurate, lethal and effective nuclear weapons are almost NEVER pointed at cities. In fact, these are pointed at the other countries' missile silos, military bases, command centers, bunkers, weapons stockpiles, airfields, etc. Secondary 'strategic' targets may include specific transportation hubs, such as rail yards, fuel depots, oil refineries etc. Cities are the lowest on the targeting list. This is because cities are huge targets, and you don't have to be all that accurate to hit them. Also, back in the day, the warheads were much bigger, because the accuracy of your average missile was pretty bad. Today, since most targets can be nearly 'bulls-eyed' much lower yields can do the same job. Any 'strategic' target usually has at least 2 warheads pointed at it, because one may fail.

4. I heard all the U.S. and Russian nukes were pointed in the ocean.

This is true. Since the end of the cold war, all sea and ground based missiles have been retargeted into points in the central Atlantic. It's mainly symbolic, since retargeting a missile requires less then an hour.

5. But nukes are bad! I heard one bomb can ruin the environment!

They are a weapon of mass destruction, but the fact is that the U.S. and Soviet Union detonated over 300 nuclear devices in the open, back in the 50's and 60's, and you and I don't have three eyes. In fact, nuclear weapons cause little lingering radiation 'fallout' when they are airburst. Airbursts are when the fireball of the actual explosion is not allowed to touch the ground. That's what happened at Hiroshima and Nagasaki and explains why there is no crater. A groundburst is any explosion that gouges a crater. When this happens, all kinds of crap is sucked up into the fireball, irradiated, and affixed with pieces of the bomb. This is blown around in the wind, and will ruin your day. Of the average personal yearly dose of radiation, 1% is due to nuclear weapons or reactors. You take more rads when you get an X-ray at the dentist.

6. What's all this talk about 'strategic' and 'tactical'?

Another great misconception about nukes is that they're always massively powerful and are used solely for wiping out thousands of people. In fact, the military also thought that smaller yields would help out on the battlefield. Meaning they built nuclear artillery shells, nuclear surface to air missiles and nuclear torpedoes. These would all have 'small' yields of less than 50 KT, sometimes as low as 0.1 KT, and were intended to be fired at targets of opportunity on the battlefield, such as a formation of tanks, artillery, etc. The Americans and Russians still possess these weapons, although they are no longer fielded. 'Strategic' weapons are weapons that are pointed at 'strategic' targets, which I mentioned in question 3.

7. What's a MIRV?

MIRVs, or Multiply Independent Reentry Vehicles, are put onto missiles, to increase the number of warheads a single missile can carry. This allows one missile to go into its ballistic arc, and 'dip' into the atmosphere where it starts dropping single RV's onto the desired targets. The number of RV's depends on the missile, but the max ever fielded is 14 warheads on one missile.

8. Where are all the American nukes?

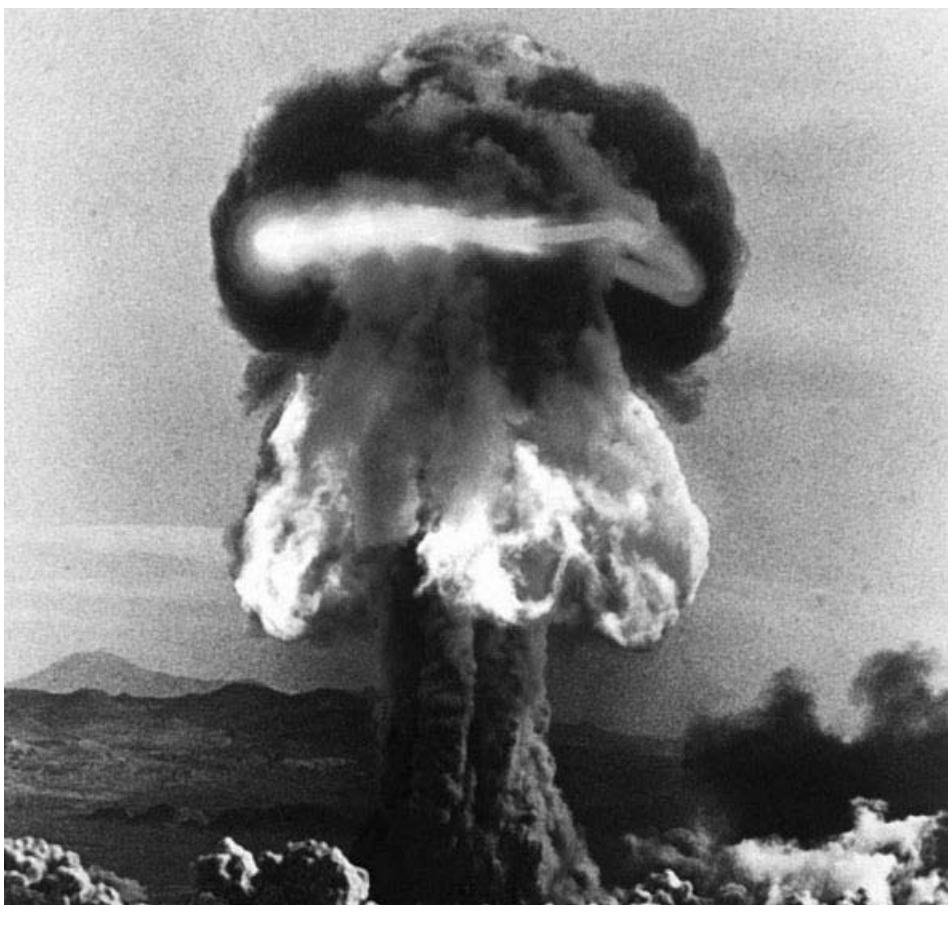
Again, a major misconception is that there are thousands of missiles in silos somewhere in North Dakota. The truth is, the Americans have always adopted what they call a Nuclear Triad. That means that they deliver nuclear devices using Strategic bombers (B-2's and B-52's), ground based missiles (Minutemen III and Peacekeeper ICBMs), and submarine launched missiles (Ohio class subs with Trident D-5 SLBMs). They only have 500 missile silos. The vast majority of their strategic arsenal is aboard Ohio class ballistic missile submarines. Each submarine carries 24 missiles, and each missile is capable of carrying 14 W-76 100 KT warheads. That's a lot of firepower. All of their 'air-dropped' weapons are in stockpiles at air bases. They also possess nuclear cruise missiles. The Russians have many more silos than the U.S, possibly more than 3,000.

9. Gee, I'm glad Canada never had nuclear weapons.

Actually, as a NORAD member, after the Avro Arrow was cancelled, Canada took delivery of BOMARC surface to air missiles armed with 1.2 KT tactical nuclear warheads, designed to shoot down Soviet bombers. Additionally the 75 CF-101 Voodoo fighter jets that we bought could fire the Genie tactical nuclear missile. Several were stored in locations in Canada. Lastly, as NATO partners, there were various numbers of 0.1 KT, 0.25 KT and 1 KT nuclear artillery shells that could be fired by Canadian M-109 self-propelled artillery pieces in Germany. These warheads were never under Canadian control, since the warheads were technically 'owned' by the Americans, and firing authority would have rested with the U.S. National Command authorities. I guess we can sleep easy knowing that we never had any 'strategic' weapons. Canada was the first country in the world with the capability to build nuclear weapons that chose not to do so.

10. Well at least there is no more chance of getting annihilated like in the Cold War.

Since the weapons still exist, that remains a very distinct possibility. Additionally, since the Russians still possess enough warheads to hit all viable military targets and every North American city with a population of over 100,000, that means that someplace in Russia, in addition to the targeting plans for Detroit, Toronto and Hamilton, there are also targeting plans which include London, Guelph, and yes, even Kitchener-Waterloo. The flight time for an ICBM RV from Siberia is approximately 30 minutes, and a sub launched missile would take anywhere from 5-15 minutes. They would probably fire at least two airbursts to ensure complete destruction of the target.



Time For Study Skills

Leanne Whiteley

4A Civil

Yes, it's that time of the term again. You've realized that you haven't done nearly enough work in order to pass. What do you do? You rely on the final exams. But how can you possible remember everything in the term in such a short time? It's a lot easier than you may think and here are some general exam study skills to get you started.

1. You need to prepare an exam schedule, where you should aim to study for 24 hours for EACH exam.

2. You should try studying in 2 hours blocks with a 10 minute break after 50 minutes. You're long-term memory stops working after 50 minutes. Anything learned after 50 minutes will only stay in your short-term memory.

3. You should alternate studying between different courses. However, each time you re-visit a course, you should review what you studied in your previous study session.

4. Always start by reviewing the notes for the entire term. This usually takes 2-4 hours/course and can count towards your 24 hour count.

5. Some people like to start reviewing from the latter part of the term and work backwards. Other people like to start with the more difficult parts of the course. This way you start studying earlier and will have an opportunity to ask your TA's and Profs any questions that you may have.

6. Maintain the same sleeping schedule through the exam period. Try to get at least 7-8 hours of sleep/night.

7. Studying makes you hungry! During your 10 minutes breaks, have something light and healthy to eat, like an apple, a nutria-grain bar, etc. Your body needs to be re-energized.

For more information, please contact Counselling Services in the Engineering 1st Year Office or at Needles Hall. They can help provide you with more information on exam study skills and how to deal with exam-associated stress. An example of a study schedule is shown below. Good luck!!

July					August	
Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
27	28	29	30	31	1	2
	2x2hrs413	2x2hrs413	4x2hrs413 1x2hrs414	4x2hrs413 1x2hrs414	413EXAM 2x2hrs414 2x2hrs542	3x2hrs414 2x2hrs542
3	4	5	6	7	8	9
1x2hrs276 2x2hrs542 3x2hrs414	2x2hrs276 2x2hrs276 2x2hrs414	414EXAM 2x2hrs542 2x2hrs276	3x2hrs276 2x2hrs542	542EXAM 4x2hrs276	276EXAM 4x2hrs403	4x2hrs403
10	11	12	13	14	15	16
4x2hrs403	403EXAM					

Commuting

David Yip
1B Mechanical

Each morning, I set off from a sleepy St Catharines at 6:30 for my co-op placement, with the sun stretching its brilliant arms over the horizon. The first few minutes are spent wrangling for a comfortable spot on the QEW – fast lane of course, preferably behind a car so I can see what's ahead. Each day I spot a few unlucky souls whose cars have quit on them, or who have been stopped by the police. In the morning the radio comes on and I listen intently for any news regarding my route. One morning a chicken truck rolled over on the QEW – 403 junction closing it for three hours. A few minutes later the chicken truck turned into a turkey truck. No word on the fate of the turkeys was given. That day I continued on the QEW, but usually I travel on the 407.

"It's time to play stop and go!"

The 407 is a different highway. It is uniformly smooth. Its concrete surface makes music with your tires. It carves the high line over the Golden Horseshoe through lush fields and silvery ponds. It's fast, and expensive - the Concorde of highways. I wonder sometimes when suburban sprawl will encircle the 407, when banks of houses will replace the sky as the background for the camera gates. This part of the trip goes well until Mississauga Road, when traffic slows to a crawl. The Top 7 at 7 is now on the radio. This is usually when I change to 680 News because the Top 7 at 7 generally sucks. A few kilometers later I reach the 427. The camera gates check me out, and I exit at Airport Road. If there weren't any accidents, turkeys, or police, then I might get there early. If I arrive early at work I grab the usual raisin bran muffin and tea from the local Coffee Time. I thought I'd have to go there every day for 10 years to become a regular – one of those customers whose order the counter ladies know by heart. However it turns out you only have to go there twice.

The afternoon drive is different from the morning one. In the morning you're still a bit groggy. Aside from keeping your car from hitting anything, there isn't really much on your mind, except for the jokes that the radio hosts are cracking. In the afternoon, you are wide awake and everyone else is also wide awake.

The first leg of the ride back home is 427 South. For most people this is the prelude to the 401. Consequently the first task is to get to the second leftmost lane to avoid the backup in the 401 lanes. A few minutes later I have to get to the rightmost lanes to avoid the Gardiner backup. Merging lanes is always a challenge with the cars and transport trucks, as the Asian-driver stereotype threatens to overwhelm my Young Drivers training while I drive. Once on the QEW it's time to settle in. Roll down the windows and get comfortable. Get to know your fellow commuters. It's time to play stop and go!

Finally, I'd get home, with five hours to work with until I went to sleep so I could be on time for tomorrow's journey.

Faculty of Engineering Debt Load Survey Results

Karen Dubois
Dean of Engineering Office

Term Total

Total Responses	640
Number of surveys sent	1752
Response %	37%

1) Does your family support you financially? (630 responses)

Yes	47%
No	53%

2) Average Cost of Living for a 4 month School Term (631 responses)

$7,821

3) Average Cost of Living for a 4 month Work Term (601 responses)

$3,527

4) Have you applied for local aid or other bursaries to pay for school? (635 responses)

Yes	40%
No	43%
Not Yet	16%

5) Have you applied for OSAP? (635 responses)

Yes & Received	27%
Yes & Denied	24%
No	49%

6) Do you have a loan for academic purposes? (634 responses)

Yes	39%
No	47%
Not Yet	13%

7) How much is the student loan? (331 responses)

1-499	8%
500-999	3%
1000-1999	8%
2000-4999	24%
5000-9999	31%
10000+	26%

8) Has the differential tuition increases caused you hardship? (629 responses)

Yes	62%
No	15%
Not Yet	23%

9) How much debt do you expect to be in by graduation? (616 responses)

No Debt	23%
<999	6%
1000-4999	16%
5000-9999	19%
10000-19999	24%
20000+	13%

10)Do you live at home while at school? (632 responses)

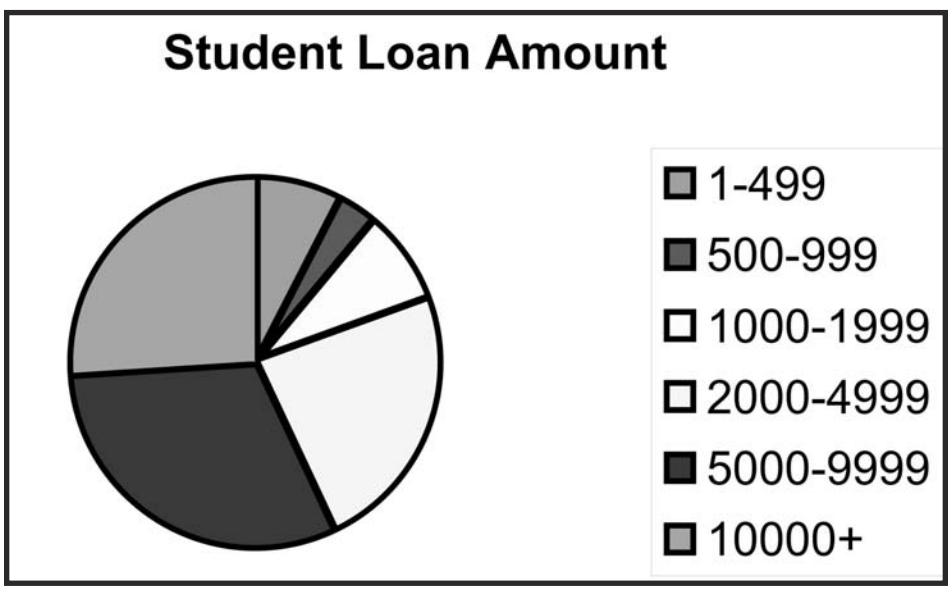
Usually	7%
Used to	2%
No	91%

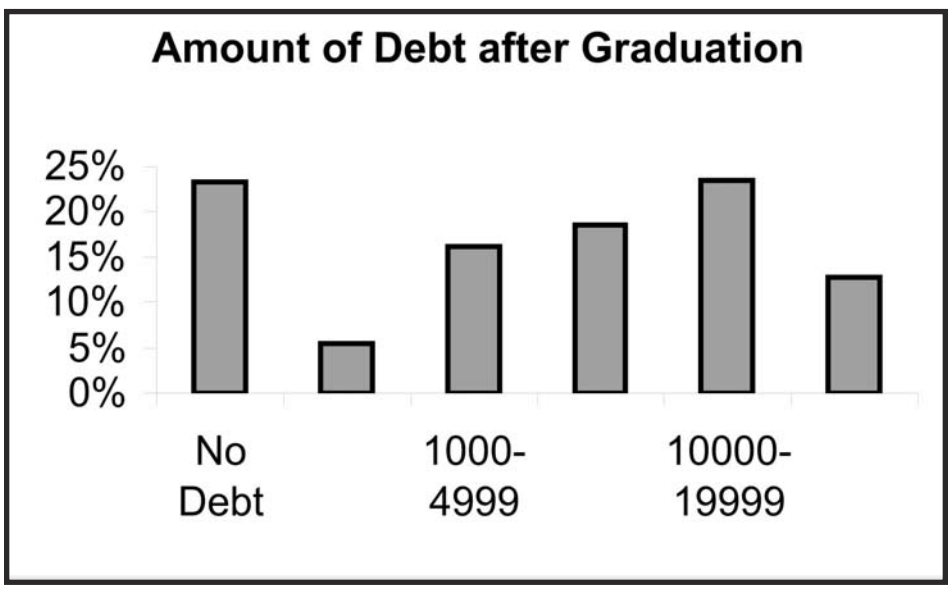
11) Have you lived at home while on work terms? (631 responses)

Always	19%
Sometimes	47%
Never	33%

12) Average of the weekly salary while on work term (567 responses)

$591





Opinion

Think you got Problems? I've got a Solution!

Rajat Suri
1B Chemical

You're depressed. You're lost. You've got approximately a million different questions and approximately zero answers. Your problems are so hard to solve, you feel like doing the Kobe Bryant/ OJ Simpson/ Bill Clinton, tossing your life away by doing something stupefyingly stupid. But you know what to do. It's the ultimate engineering basic instinct - what every engineer, from the desperate confusion of 1A to the even more desperate confusion of 4B, knows how to do. You pull out a formula sheet. But this isn't just any formula sheet. It's the Formula Sheet of Life.

Oh it's a pretty sight, it is. Twelve neat, concise formulas that together state the meaning of life on a single sheet of paper, each derived by someone more famous than the last. You know that whatever problems you have, it can be solved by using one of the formulas on this sheet. Here are a select few...

$E = mc^2$ (1)

Derived by the great thinker Einstein, this formula was commonly and mistakenly thought to represent his theory of relativity. Instead, however, it expresses one of the more fundamental meanings of life. What it really means is:

Evil = (money)(cartoons)^2

What class. What simplicity. What poetry. Einstein was truly a genius to come up with that one. While everyone knew that money was the root of all evil, no one thought to combine it with cartoons. Squared, even. As Einstein explained it in his classic book in the 30's, Why Mickey Mouse will be the cause of the Apocalypse, the idea of talking animals is simply morally unacceptable. The fact that millions of humans around the world were watching a mouse drive a steamboat signalled the end of humanity as we know it. Maybe he was right. World War II did start the next day....

F = ma (2)

Everyone knew it but only one man said it... Newton. His name found its way into every science book around the world all because he took three harmless letters and shoved an equal sign in between them. But I have found through eye-peeling research that Newton actually copied the formula from the back of a milk carton. And the milk carton formula had nothing to do with forces and masses, oh no.... it was actually:

Family = (meaningless)(annoying)

That's right folks. When you get something meaningless and combine it with something annoying, it will probably end up related to you in some fashion. It's so simple, yet so brilliant. Think about it. How often have parents stopped you from doing something you wanted to, like buying that new motorcycle and practicing Evil Knieval stunts from your rooftop? Or stopping you from killing the next door neighbour because he's a crack dealer and you want to move in on his territory? Almost every day right? Then you know just how annoying that experience is, and meaningless it ends up being. If you were Evil Knieval II today, or even just a successful crack dealer, you'd still be a lot richer than you are now. So the next time your parents tell you to do something, just shout back "F=MA, Mama! Newton said it, so it must be true! Now shut your piehole!" It works every time, even though there are certain...growing pains. Whoever said physics isn't useful?

PV = nRT (3)

While no one person came up with this beauty, it was derived as a collaboration of the efforts of our good friends Boyle, Charles and Gay-Lussac. Now, it is feverishly revered and respected by every kid who ever had the pineapples to take a chemistry course. But what no one knew was that the Ideal Gas Law isn't so ideal after all. In fact, there is a hidden, more significant meaning to it.

(Party)(Vacation) = (need)(Right)(This-moment)

I dare anyone to disprove this one. It is almost as good as the next formula, as it hardly needs any explanation at all. It solves so many problems. Would you rather be at a party right now? How about on the vacation of your dreams? If under stress (likely, since exams are coming up), undergoing emotional upheaval (likely cause you started reading this article) or even if you are a wonderfully happy human being with nothing else you could possibly want (unlikely, since you are a human being... or at least I hope so), this formula will work for you! Drop that textbook, tear up that resume, and head for the nearest pub or travel agent to get started on a good time. There is just one little condition for this equation though - it only works when T=This-moment. When T=Tomorrow, the whole equation breaks down. In that case, there is only equation you can rely on.

Life = S^u C^k S (4)

This equation, also known as the Equation of All, or The Universal Life Formula, was thought up after 18 years of experimentation by the one and only Rajat Suri. Also known as "The Great One" by those close to him, and simply "Sir" by those who were not. Suri made this fantastic leap of thought and imagination one day studying for his physics midterm after having a midterm earlier in the day and living on approximately 2 hours of sleep for the week. Not to mention he had residence food for lunch. As the story goes, it made so much sense that Suri leapt up and shouted "Who da man!" and went running around campus, stark naked, yelling "Life Sucks!" to all.

The beauty in the equation was that it was infallible and applied to every situation imaginable. No matter what happens, life will eventually suck in some way or form. All we have to do is accept it, just like Suri did that fine summer's day. Word on the street is that Surism is reaching new heights in Thailand and Southern Iraq, and four new Surism cults have started in the Bavaria Forest in Germany. They know, as we should all know, that life sucks...and that the point of life is to enjoy its sucking.

So don't let that exam mark/breakup/fall off a cliff get you down! Follow the Formula Sheet and all will be solved. Well except for how Bush got to be President. If you can figure that doozy out, you deserve a P***5 point. No, make that two.

The Decriminalization of Marijuana

Jason Verheyden
2B Mechanical

So it's final. Or is it? The fate of the federal government's proposed decriminalization legislation is unknown. Its passage was nearly guaranteed as part of the Prime Minister's legacy, until last week when parliament decided to end session early.

The First Nations Governance Act, along with other bills including the proposed legislation to decriminalize marijuana, is now delayed until the fall.

Now before anyone starts to light up in E2, this is decriminalization the government is talking about and not legalization. What the act would do, is make possession of less than 30 grams of marijuana a finable offense as opposed to the criminal offense it is today. If you're caught with less than 20 joints on you, you get a ticket. If you have more than 30 grams - the regular rules apply. It also allows individuals to grow up to 30 grams of marihuana for personal use.

However, with the approaching Liberal leadership convention, a new Prime Minister will replace Jean Chretien potentially with a different agenda. Whether or not the bill passes depends on what the next Prime Minister wants, as well as how much authority Chretien will have left over his own government. Already Jean Chretien has a tenuous hold on his government at best. There are constant rumors that Liberal Leadership front-runner Paul Martin has more control over the government than he does. Regardless, Jean Chretien will be a lame duck and no one will want to go against what his successor will say or do.

But how does decriminalization affect Canadians? Not much, or a lot, depending on who you talk to. There are really two sides to this issue, and the case can be made for both sides.

Decriminalization would certainly free up resources of the police to fight the drug traffickers themselves and other crime. It would bring uniformity to possession sentencing. Right now if you're caught with a joint you'd be better off with certain judges who will only give you fines. Others aren't so lenient. And plus pot is no more addictive than alcohol or tobacco. Just notice the number of polls that consistently show that a large percentage of Canadians have tried marijuana at least once in their lives. If marijuana were truly that addictive society would be crumbling into a bunch of pot crazed lunatics. But there is also an economic argument to be made for decriminalization. The proposed legislation would put a fine on marijuana use. Effectively we would be putting a tax on smoking pot. If we could tax pot, we could pull in revenue that could be used to offset the costs of smoking marijuana on the health care system.

But then again, there are the economic consequences to consider. We would pretty well tick off the Americans like you won't believe - and they would stop at nothing to turn Canada into a northern Mexico. Potentially Canada's image as a respectful, responsible nation could be tarnished. This could lead to a reduction in trade with the US. Your possibly looking at a few less co-op postings each term. But marijuana is unhealthy, as common sense will tell anyone. For someone to say it isn't is, to me, like saying cigarettes don't cause cancer. Pumping hot smoke into your lungs a few times a day for a few minutes has to decrease your life span or else nothing in this life makes sense. It also leads to greater numbers of auto accidents, since it impairs your motor skills. Decriminalization could also send the message to young people that drug use is safe, and acceptable. A perception the federal government has desperately tried to change. And decriminalization opponents also claim that Marijuana is a starting point for people to try worse drugs like cocaine and heroine.

These are all good points but what it boils down to is this: whatever someone wants to do in the privacy of their own homes is their own business. If someone want to do some life span decreasing - then they he has every right to do it. So long as they aren't harming me, I have no problem with it. Let's have ride patrols not just check for drunk drivers, but for high drivers as well. The truth is though is that the police already do those types of checks anyways. What we need to do is to make sure that smoking pot while driving is a crime just like drinking and driving. I don't want high drivers getting pulled over and only getting a fine. As to the US economic impacts, we can minimize that by decriminalizing 5 grams instead of 30. After all, 20 joints are a little excessive, and it's 5 times the amount allowed in Holland despite their Liberal drug laws. This would aid in making sure that the Americans don't think were just a big northern pot factory. And maybe one day the US may follow suit and we can talk about real legalization. But until that day comes, I think we should tread carefully. Someone told me when I writing this article that "this will make possession further from being legal." I respected his opinion, but I would disagree with that statement. It's the right direction to take. I know a few fewer co-op postings a term is not a big deal to most people that can find a job in a snap, but that's 4 less students with a job. And not everyone is so lucky to find another job in snap. To be frank my financial security is more important to me than the freedom to smoke a joint in public without getting a criminal record.

For those of you that disagree with the whole concept of decriminalization to begin with here's on sobering thought: according to the Drug Policy Alliance 58% of people under the age of 24 have smoked pot at least once in their lives. That probably means about 58% of the very same people reading this article right now have smoked a joint or two in their time. The question you have to then ask yourself is do you want to go to jail? If not, decimalization is the way to go. If you're in that minority of 42% don't worry, my guess is you will be getting larger over time. The truth is that pot has become a narcotic of the past, when hippie's still pranced around with daisies. Today cocaine, heroin and crystal meth are the real hard drugs. Maybe that's the point. With pot no longer an issue, we could focus on the hard drugs instead of fighting a loosing battle with marijuana. But that would mean complete legalization - decriminalization would still have cops going around handing out numerous fines.

That was exactly what was initially proposed to Justice Minister Martin Cauchon. But he didn't follow through opting for decriminalization instead of the extremely mucky legalization. Apparently I'm not the only one that worries about my financial security.

Sigils: Magic or Hypnosis

Matthew Harper
2B Computer

I'm sure that all of you have a preconceived notion of what practicing magic is like. It's all witches' cauldrons with obscure animal body parts for ingredients or it's devil worshipping and demonic summoning. But there is another definition for magic, which is simply "applying your will to change your reality". Now of course this very general definition of magic encompasses many techniques for altering our environment that are completely explainable by science. But, does the fact that science explains why something happens, make those events any less magical?

Anyhow, I want to talk to you about a method of supposedly practicing magic, that allows the practitioner to apply their will to alter their reality. This has recently been popularize by the enigmatic, but brilliant writer Grant Morrison, who currently writes the New X-Men comic book for Marvel comics. His writing, while sometimes impersonal, never fails to deliver big, mind-blowing ideas. One of his recent themes is that in the near future people will abandon single personalities for controlled multiple personalities, which can be changed like clothes for amusement, or used to hijack free will. Many of the ideas and themes in the Matrix movies, created by the Wachowski brothers, are very similar to those found in Morrison' the Invisibles. One other thing to note is that Morrison has recounted in interviews his experience of alien visitation after smoking the hallucinogenic DMT. So, be sure to take all of this with a grain of salt.

"There are many possible means of clearing ones mind. You could use deep mediation...Another ...is by spinning around in a circle"

Morrison describes the process of sigil magic through some essays on his website. The really striking thing is the simplicity of the magic. One need only represent their desire into a unique geometric shape, the sigil, and then clear their mind of all extraneous thought, save the form of the sigil. That launches it into the ether. Let me provide a few more details about the process. First, write down your desire in full caps. Then, cross out all the vowels and repeated consonants. Treat Y as it is used in the word. Now, from the remaining letters, construct a geometric shape by combining the letters into something that you think looks right. It can be druidic or elaborate, whatever you think embodies the letters best that describe your desire. Then, you fold up the sigil and put it away somewhere so that you forget about it. This is the important part. You are not supposed to consciously know what the sigil means when you decide to launch it somewhere down the line. So, try to construct it in a way that hides the forms of the letters contained within, but don't leave any letters out. Put the sigil away somewhere safe, where you won't regularly see it and accidentally refresh your memory.

Then, hopefully a few months later you find the sigil, and even though you have no idea what it means, you trust your earlier instincts and decide to launch it. So, how do you do that? The means to invoking your sigil is to clear your mind of everything, except the shape and form of it. This is no easy task for many of us. I mean, how does one banish the thoughts of "Is this really working?" and "Why the hell am I doing this?" There are many possible means of clearing ones mind. You could use deep meditation or "visual chanting". Another popular means is by spinning around in a circle. In fact extreme physical exhaustion or orgasm are other good methods for achieving clarity of thought. I'm no anthropologist, but it seems that tribal ceremonies, involving body painting and hours of dancing would suggest a certain universality of sigil magic.

So is it really magic? Well the funny thing about magic is that it defies explanation, so you can't really prove or disprove it. But that doesn't invalidate it. After all, rational human beings take a lot on faith, all the time. But, for arguments sake, is there a rational explanation for any results you may see from a sigil spell? Well, I'm not a psychology major, much less a psychologist, but I do have a somewhat scientifically sound theory. Maybe, the act of crafting you sigil, commits your desire to that shape in your memory. Now, even when you have forgotten what that the desire represented by the sigil was, your subconscious mind never really forgets. Then, in turn perhaps the sigil activation process is something like a self-hypnosis technique that invokes the desire stored in your subconscious mind. Then, you end up being more inclined to make decisions that bring your desire closer to fruition.

"...the funny thing about magic is that it defies explanation..."

Some of you might be saying, "Wait a minute, if you're forgetting what you're wishing for, how would you know if the wishes are coming true?" Of course that's a difficult question to answer. I suppose it may be that one never truly forgets what their dearest desires are, and if you find that something truly great has happened to you after launching a sigil, well there you go.

CD Review: Birdland, Yardbirds

Joseph Fung
3N Computer

With such names as Clapton, Beck and Page passing through the band's ranks, very few bands can boast as prestigous a history as the Yardbirds. Although such a reputation has its benefits, it has also proven to be drawback for the bands other members. Pile that on with the death of lead singer Keith Relf in 1976, it seemed increasingly unlikely that this version of the band would spark public interest (especially considering the lack-luster response to Box of Frogs, a band in the mid-80's featuring three of the original Yardbirds).

The "new and improved" Yardbirds are down to only two of their original band members (rhythm guitarist Chris Dreja and drummer Jim McCarty) and have released Birdland - their first studio recording since 1967. "The album is new marterial," claim band members - unfortunately a lie as they spend a large part of the album covering themselves.

Although the entire album rings of the orignal Yarbirds' sound, there were some differences - changes for the worse. Birdland starts off strong (the opening track is a fantastic rendition of "I'm not talking") but has a few stumbles with the guest musicians. "Mr. you're a better man than I" featured some spectacular solo work by Brian May of Queen, and "Shape of things" was inspired by Stevie Vai. Unfortunately, the cover of "For your love" was bogged down by the less inspiring skill of Goo Goo Doll's Johnny Resnick. Most ironic, however, was having Jeff Beck play on "My blind life" - quite possibly the most engaging track on the album.

All together, this album sounds likes like one produced by a functinonal, cohesive band rather than on by a crippled manifestation of a 60's hit so many of us were afraid of. Not only was it dynamic, but the remakes and covers were able to allude to their previoius hits while incorporating some new musical styles and artists. This album was a great effort by a hobbled group and gives proof that even though the original members are scarce, the rock world will always welcome the Yardbirds.

New Music Reviews with DJ Strangehold

DJ Strangehold
3A Environmental

The New Pornographers - The Electric Version - 3 out of 5 stars

Their name is funny enough to make Letterman make a running gag of it when they appeared on his show recently, yet they wish to be taken seriously with the sophomore release, The Electric Version. To those unfamiliar with the band, TNP is comprised of several of Canada's underground Indie stars (Dan Bejar, the dude from Limblifter, etc.) and Neko Case, the alt-country chanteuse who tags along for the ride who is probably the hottest woman in rock (OK, my opinion, but seriously, she's smokin').

Unfortunately, The New Porno's suffer by trying to make an album as good as their debut, Mass Romantic (2000). Miss Romantic just had the right chemistry and musicianship that made the record stand out like a Laurier student in the Math building. However, Case takes a backseat in the vocal department, leading me to shout out loud to the world, "Why? Why can't I hear more Neko?" Fortunately, there's more then a few songs on this album to make it listenable (Chump Change, Electric Version) but the album just flows along the same path, never deterring from its main course or striving for that spark of originality it found on their debut.

Notable Songs - Electric Version, From Blown Speakers, Chump Change

Metallica - St. Anger - 3 Stars out of 5

Ah, Metallica. The name evokes a lot of emotions, depending on who you ask. Personally, I like Metallica. They've veered off-course musically with the last few releases (Load, Re-Load, S&M). St. Anger is a bold step in a new direction. With a new bassist and James Hetfield emerging from a (hopefully) successful rehab stint, Metallica's got all sights set on returning to their mid-80's sound. As much as they try, the magic just ain't there. The songwriting process was admitted different this time around, focussing more on heavy jams then any sort of progressive melody. Piecing together random jams may work in theory, but the flow is missing.

Needless to say, Metallica's a fine bunch of musicians that can make a Kid Rock song sound like a winner. The lyrics powerfully reflect the struggle Hetfield faces throughout his recovery from addictions. The guitars, well, the guitars kick some major ass, as they should. The drums are probably the one single thing about this album I can't stand. They ping. Drums shouldn't ping. Drums should thump, pow, thrash, but not ping. I keep saying this, but maybe Metallica will get it right, the next time around.

Notable Songs - Frantic, Invisible Kid, St. Anger

Mondo Generator - A Drug Problem That Never Existed - 3.5 out of 5 stars

Queens of the Stone Age just can't sit still. Riding off the success of their last major release, Songs for the Deaf, the band is releasing 4 side project albums within the year's end. One of them is the new Mondo Generator album, Queen's bassist Nick Oliveri's baby. With a harder punk edge to it, Oliveri embraces influences like Black Flag and Fugazi in shaping an album that stands out from anything QOTSA has released. Hard rockers Jr. High Love, Do The Headright and So High, So Low are proof of Mondo Generator's simplistic, yet effective song writing abilities. Oliveri also shares his love of unbridled carnage on tracks like Open up and Bleed for Me and Me and You.

But this album isn't full of songs to torture your parents with. There's a soft side to Oliveri, who showcases his acoustic guitar skills on Day I Die and Four Corners, a song that features Mark Lanegan (ex-Screaming Trees, current QOTSA vocalist) crooning about a life that feels cornered and isolated. If you enjoyed the past QOTSA album or enjoy a really edgy album that works on a variety of levels, pick it up.

Notable Songs - So High So Low, Four Corners, Detroit, Do the Headright

You can hear DJ Strangehold, Monday nights @ 12 midnight on 100.3 CKMS FM Radio Waterloo.

Arts and Entertainment

The Heir of Ardun: Conclusion

Mike Moffet
Guest Writer

Mostrick led his men over a small rise in the land, the walls of the city within site. He still had a handful of men amongst the enemy, who didn't want to leave their families to the mercy of Borgh and be labeled traitors. He had sent word to them the previous day, asking for their assistance tonight, and what he was waiting on now was for the moment that they decided which side they were on. Looking up at the waning of the moon, and the first light of the sun coming up over the horizon, he realized that any moment his plan would be set into action. A lantern suddenly shone out from atop the battlements, and quickly went out. Mostrick held his breath as he waited, and exhaled as it shone twice more.

Leaving them behind with their orders, he disguised himself as a peasant and waited for the gate to be opened for the merchants. As they began setting up shop for the day in the town square, he strolled past them to the royal grounds. Turning right from the entrance to the palace, he entered a small alley, at the end of which was a sewer drain. Raising the lid, he covered his nose as the smell drifted up...taking a deep breath of fresh air, he lowered himself down into the hole.

Winding his way through the tunnels, he guided himself by a mentally projected map. A left turn here, right curve there...he just hoped he remembered the way correctly. Soon he proved he did, however as he came to the stairs leading up into the dungeon. Removing the false floor as quietly as possible, he raised himself up into an empty cell and took in a big gulp of air. Opening the door to the abandoned cell (For prisoners were given the same options as everyone else that disobeyed Borgh) he made his way towards the stairs going up to the main floor.

The dungeon was underground beneath the basement, and only one set of stairs leading up. The first floor was divided into the north wing and the south wing. The south wing, closest to the entrance housed the palace guards while the north wing housed palaceservants. The second floor was filled with guest rooms for various noble visitors, and the top floor was reserved for royalty. Mostrick slowly began making his way up to the third floor, and to the royal bed chambers. He opened the door slightly and peered in, as he braced himself for what he would see.

Inside his father lay on his death bed, all blood drained from his face. To Mostrick's eyes he was but a pale shadow of his former self. His breathing was shallow and raspy, and eyes sunken and red. A couple of servants stood around him, tending to him the best they could. One looked up as the door opened, and with a slight smile on an otherwise grief stricken face, motioned Mostrick in. Coming closer, he took his father's hand and between clenched teeth, said "How much time does he have left?" Looking down at her feet the servant in a low voice said, "A day, a week, we don't really know really. Borgh hid exactly what he did to well." Nodding, Mostrick bent down and kissed his father's brow, and whispered a promise of vengeance in his ear.

Leaving swiftly, he entered the sleeping chambers of Borgh. There he was, lying their peacefully asleep, face as smug and sadistic as ever, and at the foot of the bed was a black cat. Resisting the urge to kill him right then and there, he took out the bow and arrow he had prepared earlier. Aiming carefully, he let the arrow fly with the parchment tied tightly to it. Disappearing quickly, he smiled with grim satisfaction.

Not even a hour later, Borgh woke up. He sat up, and shook his head. His dreams were becoming more and more real every night. Why hadn't he killed that boy when he had the chance? Why did he have to transform him as well? But before he could finish the next thought, something caught his eye. Turning, his eyes narrowed to just slits as he saw the arrow protruding from the skull of his cat. Tearing the parchment off, his eyes closed in on the name at the bottom. Mostrick.

* * *

"Dear Borgh,

You should remember me. The boy who you tried to murder? The boy you kidnapped and sent to the dungeon while telling my father I had run away? Well guess what? I'm back. Except now I'm no longer a boy. Now I am a man who has an oath to fulfill, an oath of vengeance. I swore I would see your head on a pike for what you did to Ardun and its people, for what you did to my father and I. We could drag this on with a long war, costing the lives of many. Or we can cut right to the chase, which is my preferred method, and I'm sure it's yours. Meet me alone two bow-shots from the city walls at noon tomorrow. Come alone. If you don't, well by then we'll be on MY turf, and we'll just see how you do with several hundred arrows being shot at you. Just so we're clear, come alone with one weapon to the designated spot at noon tomorrow. Oh and Borgh, don't disappoint me.

Mostrick"

He read that letter over and over, his rage growing each time he did. How dare that insolent fool challenge him? Well he would be there all right, and he would teach that kid a lesson that would make him beg for mercy before it was over... "yes this could be quite fun," thought Borgh.

Mostrick stood there, sword drawn, armor shining. He was nervous yet excited; for this was the day he would end it all...or die trying. Several of his men had tried to talk him out of it, but he refused to be persuaded. They didn't have the men or the resources for an all out attack on the capital without Bruen's reinforcements. If it was just Borgh's men, perhaps...but with countless skeletons at his beck and call, they could easily be overrun in a full scale battle, which is why he challenged him to one on one. When one man tried to tell him Borgh wouldn't play fair, he simply said, "Of course he won't. I'm not counting on him to. What I am counting on though is his pride being damaged enough to give me the upper hand."

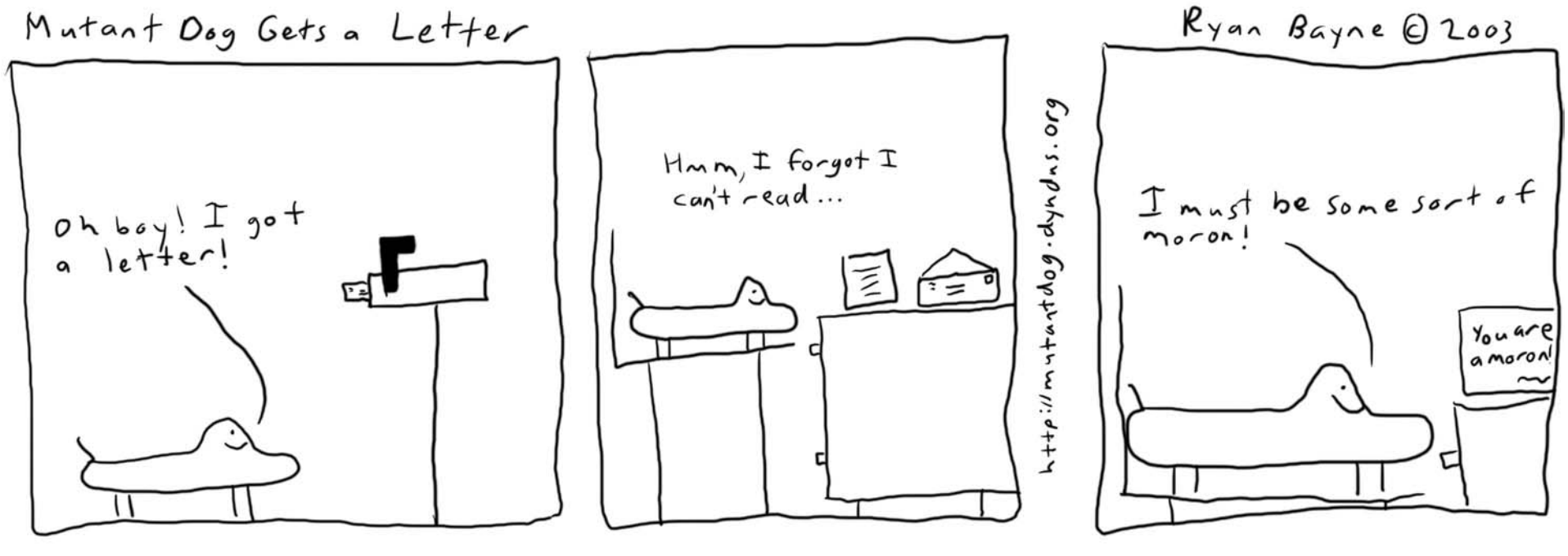
Borgh marched out of the city walls, banners flying and a personal guard of 15 following close behind. The rest of his troops positioned right within the walls, if things went poorly the rebels would be overrun immediately. Black robes hung over his body, face hidden by the cowl of the hood. As he approached the enemy, he noticed the hatred in their faces. Smiling wickedly, he dismissed his guard and walked the last fifty feet alone. Standing only yards from his nemesis, he pulled his hood back revealing his face. Black hair, with pale skin, his eyes were sunken and his lips thin. Holding a black skull-topped staff into the air as he muttered ancient incantations, the robes disappeared. In their place black plate mail appeared, and what was a staff now was a two-handed sword. His skin peeled back, shriveling off his face as his eyes sunk in until they were only glowing red orbs. The guards were transforming also, turning into skeletons themselves. Stunned, but no less determined Mostrick held his sword and shield ready, and waited for Borgh's move. He did not wait long, for when the transformation was barely completed, the last patches of hair still disappearing, he charged, and metal clashed on metal as the prince braced himself for the rush.

One parried, the other thrusted, and then they launched counter attacks. Blows where eventually landed on both sides, however and Mostrick was losing strength with each new blow. Daunted by the fact that his enemy had no visible wounds, he prepared himself for one final attack. Swinging in a downward arc, he cut across the plate severing one of the joints. Borgh went down, part of his armor hanging loose. Mostrick stood back with a disbelieving stare, desperately trying to regain his breath. Quicker then an adder bite, a dagger flew from Borgh, impaling the hand Mostrick carried his sword in. Dropping his weapon, Mostrick collapsed as Borgh approached for the kill. Suddenly, as Borgh raised his sword, a loud crunch was heard as metal hit bone, a flail appearing out of the middle of Borgh's head. Collapsing, Borgh's eyes slowly extinguished as Bruen pulled his weapon of choice out of Borgh's head. The last thing Mostrick saw before his eyes closed was an entire army of elves and men fighting countless skeletons.

Mostrick eventually woke up, and learned all that had happened. Bruen had returned with the elven army the day before the duel. Reading the journal entry of Mostrick, the army made a forced march all night to get to the capital of Ardun. Coming upon the city just as the duel began, he ordered a halt, not wanting to interfere. Seeing his friend about to be defeated, he ran as hard as he could to help, barely making it in time. By this point Borgh's army had issued from the city, driven by a hatred for all living things. Without the leadership and control exerted by Borgh, they were quickly dispersed and routed, with elven hunting parties still chasing down the remains.

Mostrick recovered, and took the throne in the place of his dead father. He ruled for several years before desiring to see his old friend Bruen once again. Taking up his stuff from his days of being a rebel, he journeyed to the kingdom of Threlain. Unbeknownst to him, however was a pair of red glowing eyes watching him as he went.

Editor's Note: *The Heir of Ardun is a 5-part short story written by Mike Moffet. The Iron Warrior will be publishing one of the 5 parts sequentially in each of our 5 issues. Be sure to check the next issue of the Iron Warrior for the coninuation of the story.*



Staff Appreciation

Iron Warrior Staff - Spring 2003

Jonathan Fishbein

2B Software

Editor-in-Chief

Well, another term of the Iron Warrior has come and gone! Since all the hard work is now behind us, I'd like to take this opportunity to thank both the members of this terms editorial board and the Iron Warrior staff members for all their hard work this summer.

First off, this terms editorial board has done and amazing job. From dealing with random issues that popped up in the beginning of term to giving me guidance on basicly every aspect of the newspaper, this terms editorial board has been amazing. Jeff has been indespensible in terms of getting another opinion on important issues. Jason has done an excellent job at making sure there were always pictures to publish in the paper. Matt has proved to be ireplaceable in terms of showing me the ropes of how to get four issues of this nwspaper off the ground. Maria has always been there to write numerous articles about her even more numerous directorships to make sure there is always enough content for the paper. Katherine was always there to make sure that the issues content went up on the web in a timely manner. Rajat was always quick to put his many opinions down on paper for his regular column.

This terms Iron Warrior staff always made sure that every newspaper section was covered with artcles. Whether it was writing about EngSoc activities, about various opinions around campus, or about arts and entertainment, this terms staff proved to deliver excellent content

With that, it is now time to hand over the reigns to Jeff Henry who will be the incoming Edirot-in-Chief for the winter term. Thanks Everyone!

Jonathan Fishbein - Editor-In-Chief

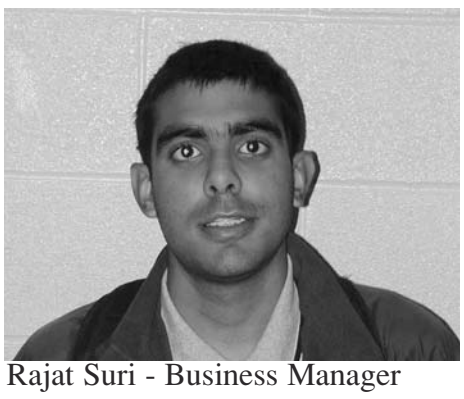
Jeff Henry - Assistant Editor

Jason Griese - Photo Editor

Matthew Harper - Layout Editor

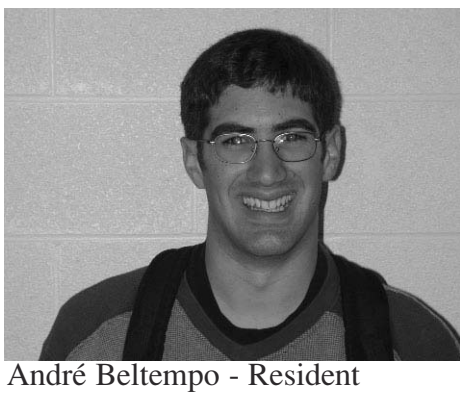
Maria Simoes - Technical Editor

Katherine Chiang - Webmaster



Rajat Suri - Business Manager

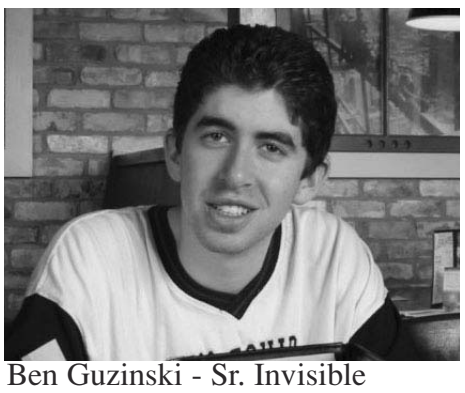
Joseph Fung - Offstream Editor-in-Chief



André Beltempo - Resident Foreign Correspondent

Ryan Bayne - Mutant Dog Editor

Niki Czerniak - Poetry and Crosswords Editor



Ben Guzinski - Sr. Invisible Fiction Editor

Dan Foong - Chief Athletics Correspodent

Matt Gagliardi - Resident Lego Columnist

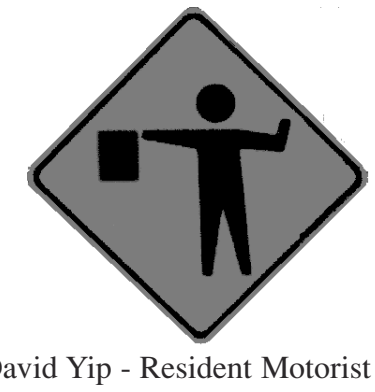
Kristina Hotz - Sr. Sunglasses Editor

James Kunz - Resident Frosh Week Insider

Chow Lin - Mysterious Culinary Expert

Christos Sarakinos - Sr. Editor Who Drives All the Girls Wild

Michael Silagadze - Chief Political Analyst



David Yip - Resident Motorist

Play Review: Appropriately Entertaining

Joseph Fung
3N Computer

Appropriately entertaining. That's how I answer when asked what I thought about the most recent incarnation of the Engineering Plays. Although less than spectacular, "The Cards of Fate" and "Hard Candy" were very entertaining for an extra-curricular activity organized by a faculty of time-pressed students.

It's that last part which is most relevant to the impression given. The errors and shortcomings smack more of a lack of opportunity to practice than of any serious flaws in direction, acting or script. To elaborate, in "The Cards of Fate" the scene transitions were noticeably slow, causing the play to be stilted and erratic. Although this hitch was also obvious in "Hard Candy", the transitions were fewer and less involved, and the cast was able to recover with sufficient adroitness to minimize the problem.

The lack of practice was also evidenced by the somewhat unnatural and unpolished performance of some actors. It felt very much as if corners were cut and someone had to say "ok guys, this is good enough". A few performers displayed what appeared to be ill-disguised laughter when horror was intended while others' attempts to over-act their parts (to emphasize the fantastic nature of their roll no doubt) resulted in unintelligible lines and uncomfortable timing of delivery.

The final flaw in the performance had more to do with the venue than with the plays themselves. The lack of raised seating and the lack of adequate stage resulted in obscured views and missed details. The secretary's aging transition was nearly impossible to notice if you were not near the front of the audience, and as much of "Hard Candy" took place with the actors in seats, this problem was compounded. Luckily, at one point in the action the players resorted to the waving of flags to assure the audience that they were indeed on-stage and performing. Another dilemma with the venue was the lighting. Lights intended for the stage also illuminated the audience, and the house lights seemed to lack any dimming facility, resulting in a blinded audience both at the intermission and at the closing.

But earlier I stated "very entertaining" - and that sense may have been lost amongst my criticisms. Both plays made me laugh. Several times.

Between the stilted transitions and occasional hiccoughs were gems of hilarity. The critically important comic elements were delivered perfectly. The semaphores were enthusiastically presented, the possible roommate enticingly coy, the faux hypnosis sharply sarcastic, the boxers exaggeratedly colourful and the seduction elegantly timed. Not one member of the audience will be able to forget cheers of "OTTO! OTTO!" nor will they be able to forget the terror of a young man who's only defence was a stapler and epithets.

A week ago someone told me "you're going to love 'The Cards of Fate', it's very, very, very dark humour"; a month ago I had the opportunity to read the script to "Hard Candy". I was eagerly awaiting the performances, and I was not disappointed.

Yes there were hitches and snags, yes the performances could have been a little more polished - but for something assembled, practiced and delivered in such a short time-frame, both were entertaining.

If you were expecting a production worthy of a Mirvish playbill, then not only would you be dissatisfied, but also irrational. I went to both "Hard Candy" and "The Cards of Fate" expecting to see engineering students performing for an appreciative group of friends and peers. And I was appropriately entertained. I laughed, I clapped and I congratulate everyone involved on a successful performance.

The Girls of Hard Candy

The Tech Director, Assistant Tech Director and Director Preparing for a Stellar Perfromance

Loungin' at the Luau Semi

IW News Bureau

The Engineering Society Hawaiian Luau took place on Saturday, July 5th. Many people were in attendance who were treated to a dinner of a roasted pig as well as vegetarian delights. Although the weather looked glim at the start, it promptly turned around and became a beautiful night. The evening then continued with a round of raucous dancing followed by door prizes. When asked for a comment to whether they had a good time at the semi, both James Kunz and Luara Mooney responded "Yes I did." As you can see, a fun time was had by all.

Semi Participants Enjoying Themselves on the Grad House Patio

OEC Call for Participation

Prof. David A. Clausi
OEC Faculty Advisor

The 2004 Ontario Engineering Competition will be held at Queens' University during February 6 to 8, 2004. The competition consists of six different events:

Editorial Communications of personal viewpoints on social, economic and environmental consequences of current technological issues;

Explanatory Communications of complex technical issues or processes;

Parliamentary Debate of a previously-undisclosed resolution;

Corporate Design of a solution to a problem faced by a recognized Canadian corporation;

Entrepreneurial Design of a marketable product or service not currently available in Canada; and

Team Design by 1st- and 2nd-year engineering students presented with a previously undisclosed design problem.

Each student is allowed to only compete in one category. For more information on competition categories, compositions of teams, and awards, please see the OEC 2004 website:
http://engsoc.queensu.ca/oec/

The Office of the Dean will sponsor up to two official UW teams in each category. At present, the application deadline is unknown, but undergraduate UW engineering students interested in participating should plan to submit a hardcopy of the following information to the faculty advisor by December 8, 2003, along with names, prior experience and e-mail addresses of team members:

Editorial Communications: a 200-word summary of the topic to be addressed (teams of 1 or 2);

Explanatory Communications: a one-page summary of the topic to be presented and a list of audio-visual requirements (teams of 1 or 2);

Parliamentary Debate: a summary of prior debating experience (teams of 2);

Corporate Design: a 200-word abstract and the name of an industrial contact (teams of up to 4);

Entrepreneurial Design: a 200-word abstract (teams of up to 4);

Team Design: up to 4 team members.

Please send any questions or comments electronically to dclausi@engmail, by phone at (519)-888-4567 ext. 2604, or in person at DC 2611.