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WARRIOR **IRON**

THE NEWSPAPER OF THE UNIVERSITY OF WATERLOO ENGINEERING SOCIETY

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Ontario's Power Industry A View From Within

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http://iwarrior.uwaterloo.ca

Former Prime-Minister Speaks at UW

SUNNY NG 4B COMPUTER

Former Prime Minister Paul Martin made a relatively lowly publicized and brief visit to the University of Waterloo campus on the Friday before reading week (February 13) to talk to students in the Student Life Centre. He was introduced by former Liberal Kitchener-Waterloo Member of Parliament Andrew Telegadi, who served as Parliamentary Secretary for Aboriginal Affairs. During the hour he was here, Mr. Martin spent the first ten minutes to discuss the issues he has been focusing on recently and then opened the floor for students to ask questions.

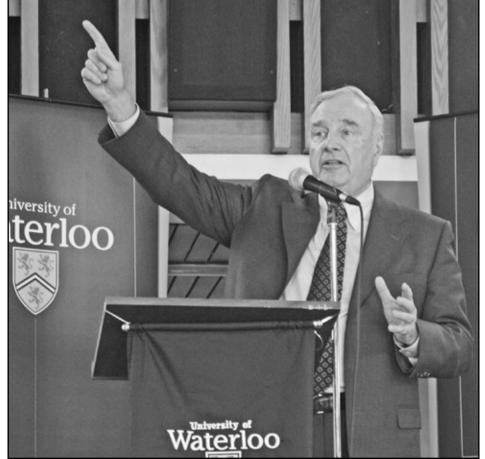
Since stepping down from the government, Mr. Martin has been focusing on initiatives in three main areas: Aboriginal issues, Africa and the financial crisis. When touching on Aboriginal issues, he first mentioned an overview of the problems the Aboriginal people are facing in Canada. These statistics included high infant mortality rate, shorter life expectancy, and higher secondary and grade school drop-out rates, which resulted from years of attempted assimilation and discrimination by the rest of the country. Mr. Martin pointed out that while Canadians tend to speak out against injustice in third-world countries, we should do something about the third-world we have in our very own nation.

Mr. Martin spoke of an experience he had while visiting a First Nation reserve in northern Ontario. One day, he saw a young girl who was sitting outside the front step of her house. He learned that her brother had committed suicide the day before. Mr. Martin went up and expressed his condolences to her. She remained expressionless and did not react to what he was saying. He wondered why she had become so emotionless until he later learned that it was the third brother of hers in two years that had committed suicide.

Mr. Martin strongly stated, "It is not right that young Aboriginal Canadians do not have the access to the same high school and primary school as the rest [of the Canadians]. If you're asking yourselves 'why aren't there more young Aboriginal Canadians at the university', the reason is because they're not graduating from high school."

On Africa, Mr. Martin talked about the troubles the continent will face from climate change. The continent is home to the poorest people of the world who will suffer from their agriculture being dried up. Mr. Martin emphasized, "Yet there is no people who is more innocent of the cause of the climate change, than of course the African people." The British and Norwegian governments have asked Mr. Martin to head up a fund to preserve the African rainforests and the Congo basin that contains rich resources as well as countries that were in conflict in the

Mr. Martin talked about another project he was involved with, which was to per-



form a study that would ultimately create a common market for Africa, similar to what European countries did with the EU. He believes that African countries' markets are currently too small to attract investors, and

if a common market is formed in Africa, it can be doing what China is currently doing

See MARTIN on Page 4

Waterloo Delegates Attend OEC 2009

KEVIN LING 2A ELECTRICAL

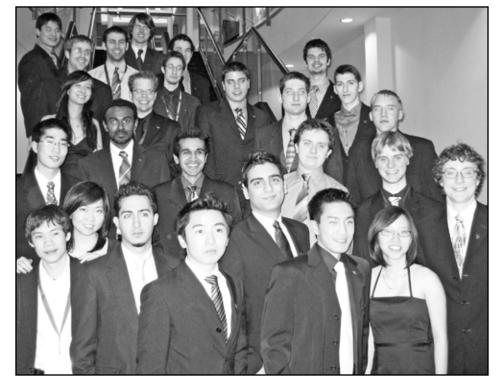
This year's Ontario Engineering Competition (OEC) hosted by the University of Guelph School of Engineering took place over the weekend of February 6 - 8. The year 2009 marks the 30th anniversary of the competition and the event was a huge success. Participants from all engineering disciplines and numerous engineering schools across Ontario competed in the event. The main events at the competition were Junior Design, Senior Design, Consulting Design, Innovative Design, Parliamentary Debates, and Engineering Communications. Representing Waterloo were delegates from both the A-Society and B-Society. Every third participant at OEC was a Waterloo Engineering Undergraduate.

Some of the design competitions are similar to the Junkyard Wars event during UW's Engineering Frosh Week, in the sense that teams must design and build a working prototype to accomplish a given task with limited resources. In the Junior Design category, participants were required to build a device to pick up water from a container at the top of a ramp and safely transport it to the bottom and deposit it in another container. The winning design was built by a team

of Laurentian University engineering students. Their design was essentially a siphon with a homemade "pump", and was quite impressive given the materials provided. The Senior Design team faced a more difficult challenge of building a vehicle to navigate rough terrains and pick up objects, with some provided materials and motors

"Sustainable Design" was the theme and overall emphasis of this year's competition, and the University of Guelph engineering students who organized the event took every step to make the event as sustainable as possible. Bottled water or canned beverages were nowhere in sight at any point during the competition and participants were expected to use a provided re-usable travel mug and folding plastic plate to eat lunch. Furthermore, any disposable dishes that were used were biodegradable and only fair trade coffee was served. As with any engineering event, OEC 2009 gave out free t-shirts; however, this year they chose to use Canadian-made, sweatshop-free, bamboo fabric t-shirts. All events were powered by Bullfrog power, which generates electricity via clean wind energy. These are only some of the initiatives that were taken by the organizers to stay true to the theme of the event.

On the topic of sustainability, this



A large number of Waterloo students represented our school at this year's Ontario Engineering Competition.

year's keynote speaker was Dr. Thomas Homer-Dixon. Dr. Homer-Dixon is a professor here at the University of Waterloo in the Centre for Environment and Business in the Faculty of Environment. His speech was very informative and shed further light on the topic of global

warming and why engineers today need to lead the way to more sustainable liv-

> See OEC on Page 6

Letter from the Editor



KEVIN LING EDITOR-IN-CHIEF

About three weeks ago, five University of British Columbia engineering students were arrested when police caught them lowering the shell of a Volkswagen Beetle over the edge of the Ironworkers Memorial Bridge. The group has been charged with mischief over \$5000 and from the last I heard they are all out on bail awaiting trial. An anonymous group of UBC engineering students performs this stunt every year to mark the beginning of their engineering week.

The arrests of those students create a strong precedent looking forward. Moving into the 21st century, the expectations of proper behavior for engineering students have changed. The days where engineering students can break social rules and parade a stripper mounted on a horse around campus, to celebrate Lady Godiva Day, are gone and they won't be coming back any time soon. While these and other engineering traditions, which were once almost like a rite of passage, are being frowned upon more and more, I think it's only to be expected of a society that is aiming to become ever more politically correct.

This change might not be for the worst though. I know it's cliché to say that parents know best, but maybe we can give them just this one. Today, people look to us university students as the leaders of tomorrow. Given the age structure of our society, this is particularly true for our generation. In the coming years, the majority of Canada's aging work force will begin to retire and it will be up to us to fill their shoes. The mentalities that we carry will be the ones that predominate once our generation seizes the reins of power. It's no wonder why people get indignant and seriously offended when an engineering school's newspaper publishes misogynistic content.

I am referring of course to the debacle with the Otis, the engineering paper of the University of Ottawa, several years ago. One of my best friends had a hand in that controversial issue (he was not the author of the contested article) that received national attention. While I know that they did not mean any harm and thought it would just be in good fun, things blew up in their face rather quickly. When the leaders of tomorrow start throwing around the kind of garbage that they published, then I suppose that I can concede (to some degree) that the rest of society has the right to be upset. (The obsession that we as a society have with being PC is another story.)

But I think the interesting point here is that Waterloo engineers used to print articles that were on the same level, if not worse, of derogatory as the one that put the *Otis* on headlines across the nation. The only difference is that Waterloo engineering students got on board with crude humour, sex jokes, and bigotry years before society began to crack down on it. Before *The Iron Warrior* came to be, there was *Enginews*. If you turn the *Enginews* banner sideways, it is pretty obvious that it is the outline of a naked woman. Not a good start. Looking over

some of the *Enginews* issues in what remains of their archives (now kept with the IW archives), the first issue of *Enginews* that I ever read screamed of both misogyny and anti-Semitism right on the cover. Somehow that kind of thing was acceptable back then, though. Not acceptable in the sense that it was common practice, but acceptable in the sense that society would let boys be boys, or engineers be engineers. People just couldn't be bothered by what a group of engineering students printed in their newspaper.

Enginews did manage to attract national media attention once, but, sadly, not directly because of the offensive material published in the paper. The attention was due to the fact that the company that published Enginews fired a female employee who refused to work towards publishing Enginews and its offensive content. I would like to hope that it would be impossible for that kind of incident to happen again, which is another sign of the changing times. It would be simply absurd for us to believe that that individual was out of line to refuse to work on such a disrespectful publication. To that end, I find it very unlikely that certain engineering traditions of the past will ever make their return since we all carry this changing sense of justice in society.

In all of this, I find it very ironic how it all ended up. The things that were permissible in one generation suddenly turn around and become the taboo of the next generation. I guess the reason being is that those engineers who dubbed our EngSoc office "The Orifice", and the ones who plastered nude pictures of women all over every print distribution they could get their hands on, are not the policy makers of this era. But their generation as a whole has turned and switched it around on us so that it is unacceptable for our generation to behave the way they did.

We can no longer run around destroying property, publishing crude material, and being overly rambunctious just because we're "engineers". We can't even live out all the stories of wild engineering rituals that our parents told us of. No, from here on in we have to act as would be expected of professionals, or at the least professionals in training.

I know most of us were away last term, but I highly recommend Tyler Gale's last *Iron Warrior* article as EngSoc President. He puts things much more eloquently that I ever will. It can be found on *The Iron Warrior*'s website archives in the fifth issue of Fall 2008.

I'm glad to say that, once in a while, I spot someone actually taking the time to read through my lengthy editorials. Before I became involved with *The Iron Warrior*, I always felt quite intimidated by page two of each issue. Being usually a block of solid text talking about either the newspaper, or whatever the presiding Editor-In-Chief can come up with to fill the gap, the task of reading it was always too daunting when I was just looking for some escape during a lecture. But after I started reading these things, they really aren't that bad. And after writing them, 1700 words no longer feels the same.

In this issue, we were initially planning on reporting on the Federation of Students' election results. Unfortunately, the results were delayed as a result of a mistake in the voting process. There was a number of Software Engineering students who were not able to cast their ballot, so their voting was delayed and as a result it has not yet been released who won each division of the election as of this writing, although I'm sure that the election results will be public knowledge by the time that you read this.

The Iron Warrior had the opportunity to attend the Feds Election Media Forum on Friday February 6. I would like to thank the Editor-In-Chief of Imprint, Maggie Clark, for inviting Sunny and I out to the event. It was a surprisingly interesting debate, at least for the Feds Exec positions, and it really did help to narrow down what each candidate was pushing for. Of course, with every politically motivated debate, there were plenty of dry spells. It's especially awful when every candidate answers a general question with more or less the same answer. Thankfully this didn't happen too often in the executive candidate question periods. I'm sure that if the first candidate gives a good answer to a question, then there might not be too many alternative answers that will have the same ring to it, but at the same time there is absolutely no way that I am going to remember (or vote for) someone who doesn't stick out and says the exact same thing as everyone else. I'm really glad that I didn't have to vote for an Arts Student Council representative. They all seem to be carbon copies of one another and by the time I heard the same answer 5 or 6 times, I forgot what the question was.

In any case, I hope that everyone participated in the Feds Election. I'm not exactly sure about this figure, but I've been told that the Feds President gets paid about fifty-grand a year, which is not insignificant at all. Especially when (I expect) this money comes out of our student fees. For that amount, we had better select the best individual for the job. Also, Engineering makes up a huge chunk of our campus so it is important that we support a candidate who will support our faculty in return.

As with every issue that comes out somewhere around midterms, articles are either very late or don't materialize. I must admit that I neglected to submit an article or two before because of midterms, but now that I'm seeing the problem from the Editor's side, it isn't enjoyable at all. I apologize for the fact that there is no Point vs. Counterpoint in this issue, we dropped the ball. But I can guarantee that I will do everything in my power to ensure that the regular feature appears in the next two issues of term Hopefully now that reading week is over and most midterms are done with, people will be able to get back to the usual routine of things and submit articles on time. For this issue I have extended the layout deadline three times to accommodate the schedules of others. By now, I'm getting a bit frustrated still since it is Sunday afternoon and a few straggling articles are still flowing in. To put this into perspective, I had about 90% of the layout for this issue already done as of yesterday and I have been waiting on the last few articles to finish up. C'est la

FIRON WARRIOR

The Newspaper of the University of Waterloo Engineering Society

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

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

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

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Next Submission Deadline March 6, 6:00pm for publication on March 11, 2009

Send your submissions to iwarrior@engmail.uwaterloo.ca Meetings every Tuesday, 5:00pm in E2 2349A

COMMUNITY EDITORIAL

Thumbs Up/Thumbs Down



To the assholes who keep their high beams on at night on busy roads!



To jerks who don't slow down when they drive over a puddle next to me.



To Family Day for giving us a long weekend to meet up with friends on co-op.



To the Obama visit for making my bus ride in the country's capital take 30 mins longer due to road closures and unannounced detours.



To Mary for getting a Mark Tan poster for the Orifice. It's awesome!



To the stretch of undivided highway between North Bay and Huntsville!



To GRT and CAW4304 for having a contract that expires in the winter. Add 6 months onto the next one so that we get stuck walking in the nicer weather.



For true honesty! Sadly lacking in many people these days...



To all First Year midterms being scheduled for after reading week. Now I actually have to study instead of skiing...if I actually skied.



To free lockers in the TC changeroom. I recently discovered them and their convenient ways.



To iClickers. How big and impersonal are engineering classes getting that we can't just raise our hands to create discussion or ask questions?



To nature for throwing curveballs. It was warm and now the snow is coming back:



To Gradball being scheduled on a Friday, I have to miss class to go to my hair appointment.



To the emptier GRT buses in the morning during reading week.



To the ATM in DWE for running out of cash right before reading week and to the ATM in DC being removed, making me walk all the way to the SLC to get cash.



To Air Canada for leaving my luggage in Vancouver, even though they had two hours to get it to my connecting flight!

Send in your Thumbs Up/Thumbs Down to iwarrior@engmail.uwaterloo.ca

Do you like to argue?

Debating Competition Should alcohol consumption be banned on campus?

Winning team members receive \$300 each.

Runner ups receive \$150 each.

Prove you're always right and win some money! Showcase your debating and public speaking skills.

Winners have the chance to participate in the Ontario Engineering Competition.

Please contact Professor Scott Jeffrey at sajeffre@engmail.uwaterloo.ca for more information.

March 9, 10 & 11, at 12:00 pm to 1:30 pm EIT 3145 Finals on March 13, outside POETS at noon

E2-3336, ext 84008, sff@engmail.uwaterloo.ca www.eng.uwaterloo.ca/~sff

Sandford Fleming Foundation





GO on Schedule for 2011 Arrival



TREVOR JENKINS
1B MANAGEMENT

If GO Transit has its way, Kitchener can be serviced by 8 daily trains as early as 2011. GO Transit officials held their second Public Information Centre at St. Andrew's Presbyterian Church in Kitchener on February 5th to provide an update on the plans.

The westward extension of the Georgetown corridor will see Kitchener directly connected to Guelph, Acton, Brampton, Malton and Toronto. The service will provide a fast, convenient, comfortable connection at a far more affordable cost compared to the current alternatives. Erratic Greyhound schedules, uncomfortable Fed Bus seats, and overpriced VIA Rail tickets could soon be a thing of the past for students travelling home to the GTA, or making connections at Union Station.

The final placement of stations has yet to be finalized. However, early indications show that GO Trains would share the current VIA Rail station in downtown Kitchener when the line opens. The long-term plan includes the construction of a new station built closer to King Street in order to better connect with the current Charles Street Terminal, and eventually GRT's Rapid Transit Line. The downtown station will have limited parking due to space

constraints so public transit alternatives are an obvious necessity.

Going east from Kitchener, a new station would be constructed on Greenhouse Road in Breslau to serve as the region's Park and Ride station. The current rail station in downtown Guelph would be refurbished and include the construction of a multilevel parking garage. Finally the Hide House site in Acton will have a station for serving intermediate towns before the lines continues on to the current Georgetown GO Station which will undergo some improvements.

The expansion still faces many challenges ahead before the plan can come to a reality. No funding has yet been secured from the federal, provincial or municipal governments involved. As well, the acquisition of more locomotives, rail cars and the construction of multiple bypass tracks in order to avoid conflict with current VIA and freight service on the line need to be done. As well, a major engineering challenge exists as to how to overcome the need to add an extra track on the bridge at Credit River in Brampton, which if ignored, could become a choking point in the system. A new bridge would be an expensive proposition.

Based on GO's current projections, Kitchener station would be one of the busiest stations in the system if it opens as planned in 2011. Almost 1,000 people would use the service in the AM Peak Period going eastbound towards Toronto. One distinctive feature of the

station is that 700 people would be getting off at Kitchener during the AM Period, showing that there is demand from commuters coming from the Toronto area every morning to work in Waterloo Region. Over a 24-hour period in 2011, over 3700 unique trips would be made from Kitchener. By 2031, ridership would be expected to grow by over 210%.

The expansion is almost halfway done the Environmental Assessment Process. The major steps left to overcome will include the final selection of station and train layover sites, and the detailed engineering design of all the required work. Once this is complete, the tendering of contracts and actual construction of the work will be left. Pending the timely completion of this, and the securing of funding, the first trains could be arriving in Kitchener as early as 2011.

Local politicians from across Waterloo Region and Wellington County have long lobbied for a direct GO Transit connection in order to connect commuters both into and out of the GTA as an alternative to the 401. Currently, GO Bus service only extends as far west as Guelph. Between 1990 and 1993, rail service extended as far as downtown Guelph. That rail service was cut "temporarily" by Bob Rae's government due to the recession of the early 90s, and was eventually put on the chopping block by Mike Harris's Common Sense Revolution later in that decade.

GO Transit recently released its long term

service plan, entitled GO2020, which includes various expansion projects and service improvements on existing routes. Expansion eastward to Peterborough, southward into the Niagara Region and the westward expansion to Waterloo Region are all included, following the northward expansion back to Barrie that occurred two years ago. As well, all current lines will have 30-minute service as the minimum and 10-20 minute service on primary bus routes

GO Transit received a \$500 million stimulus from the provincial and federal governments on February 17th, of which \$175 million will be going towards expanding parking lots and constructing new parking garages at 12 train stations, \$75 million towards rail-rail grade separate between Aldershot and Hamilton stations on the Lakeshore West Line, and the remaining \$250 million has yet to be allocated. This \$250 million would likely cover the total cost of the expansion plan.

Rumours have circulated on various internet forums and some local media outlets that GO will be implementing GO Bus service to the region as an interim solution until train service is possible. No official announcement has been made however.

While the benefits of GO expansion will likely not be felt by the majority of current students, this expansion will hopefully be the first step towards a much stronger rail network in southern Ontario.

UAE Campus Update



YOUSIF AL-KHDER 2N MANAGEMENT

Here I am in Dubai again, doing another co-op term, and you know what? It's not that great this time around; most of my friends are either busy studying, or out of the country, studying somewhere else in the world. There aren't any conferences or design symposiums to attend, and PDEng is still haunting me wherever I go. The only thing that is keeping me busy is the planning and organizing of events aimed at potential students from the UAE (whether they will be joining the Waterloo campus or the Dubai campus), employers, and promoting UW in the Gulf region. So here's a brief overview of what has been going on here.

About 2 weeks ago, I met with Kate Jessop

of the Marketing and Undergraduate Recruitment Office. Kate visited a number of schools, mostly in Dubai and Abu Dhabi, and talked to future years' potential students, including some who might come to Canada and others who might choose the Engineering and, soon, Mathematics programs planned for the UAE site. In addition, she met with the more than 200 students who have applied for entrance to UW's Waterloo-based programs this year. Kate also told me about the information session that took place this last Tuesday, and that UW is planning on holding such events in the UAE about once a month. More information will be in the next issue of *The Iron Warrior*:

I also had dinner last week with two prominent figures of our Engineering Faculty, Professor Magdy Salama of ECE, and Mr. Ibrahim Inayatali who is the Director of Development and Alumni Affairs. Professor Salama, who was appointed as the UAE Campus Director is already going to the campus almost on

a daily basis, and I will be interviewing him on our new campus sometime soon. During dinner, we discussed several topics, including preparations for the info session and my role during the session. We discussed PDEng as well, and Mr. Inayatali joked that I should include PDEng in my presentation.

To my surprise, Professor Salama informed me that the students joining the Dubai campus will have a modified study-work schedule. Their first and second years will be identical, consisting of 2 study terms followed by a work term in the summer. The reason for this odd schedule is so that there are only 2 terms every year when professors must be there, and the professors can spend a continuous 8 months rather being interrupted halfway through. They are set to join their Waterloo counterparts in winter of 2012, which should be my last term before graduation.

If you would like to know more about the Dubai campus, visit www.uae.uwaterloo.ca.

Ex-PM Visit

From MARTIN on Page 1

Lastly, Mr. Martin talked about the recent financial crisis. He strongly stated that countries must work together to overcome it, as effects of one country's economy can affect others in this global market. He pointed out that the only body that has been able to coordinate on international financial matters has been the G7 of finance ministers or the G8 nations. However, the main problem with these summits is that countries that have since become economic powerhouses such as India, China, Brazil and South Africa are not included into discussions. Mr. Martin believes that the G20 summit in London on April 2 - which includes the above-mentioned countries, will either be able to come up with a solution to the global financial crisis or the world will be in trouble.

Mr. Martin was also not shy about criticizing the Harper Conservative government. To counter the global recession, he believes the government should invest more in infrastructure, especially long-term investments that would benefit coming generations. He thinks the biggest mistakes that the government has made is that not only have they not increased funding, they have cut spending to the research councils. Mr. Martin also explained the effects of cutting taxes: "What a deficit really is, it's the borrowing of one generation, and [it being paid] back by the next generation. [...] If you cut taxes today, and your children will have to pay more taxes tomorrow, that's not really fair." In spite of this, Mr. Martin did praise the current government for apologizing and making a settlement to the Aboriginal community regarding residential schools.

When asked about when the financial crisis will be over, Mr. Martin predicts that it will be another 18 months before the situation will look up. He also expects the days of "virtually unlimited credit" will be over. He said that while it would slow the economy down, it would essentially create a more sustainable economy.



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Ontario's Power Industry – A View From Within

HAROUT MANOUGIAN

'08 ELECTRICAL

Few industries are as elemental to the modern standard of life as the electricity sector. However, it is only after the lights go out, that we realize the great role electricity plays in our lives, as in the massive blackout of 2003.

Today, as most industries shrink, close factories, and shed jobs, power companies are hiring new graduates from engineering, trades, and other technical programs like never before. That is because an aging work force is threatening to leave a large knowledge gap if the next generation of power professionals is not trained soon. The numbers are staggering. According to the Canadian Electricity Association, in the next 10 years, 36% of those employed in the generation side of the business will be eligible for retirement. On the high voltage transmission end, the figure is 50%.

Not in ECE? Not to worry. Power systems draw on the knowledge base of all engineering disciplines. Whether it is the chemical processes and heat transfer in a generating plant, the mechanical dynamics of large rotating machines, the structural design of transmission towers and transformer stations, or environmental assessments of existing and new projects, there is an opportunity to do your part to ensure a reliable and economical power supply.

With this in mind, two industry insiders, with over fifty years of combined experience, agreed to an interview with The Iron Warrior, on the condition of anonymity, to provide the perspective that often isn't portrayed by the media or government announcements. The following are their views on the industry's pressing issues.

What are your comments on the dismantling of Ontario Hydro?

The entire Mike Harris privatization initiative was promoted with the tagline that it would reduce electricity costs. There is no doubt that there was some

"fat" in the giant that was Ontario Hydro but, overall, the system delivered a low price to the consumer. Everyone within the company knew that rates could only go up. Instead of one management structure, the company was divided into five, each with its own President and executive team. The corporate services such as finance, human resources, and IT had to be duplicated for each successor company. Also, the government guarantee on loans was lifted, making it more expensive to borrow money. The privatization drive was based on ideology and would have benefited the Bay Street lawyers and underwriters more than anyone else. (Privatization did not go ahead.)

There were benefits, however. In the early 1990s, Ontario's nuclear plants required increasing investment in maintenance programs. Canada was experiencing a recession, lowering the demand for electricity. At the same time, the rates that could be charged were frozen by the government. This led to a situation where resources were moved from transmission and distribution maintenance programs to support the generation side. Now that Ontario Power Generation and Hydro One are separate companies, there is less of a tendency to overlook the importance of the delivery network. Also, by encouraging the merging and acquisition of smaller distribution companies, the service levels and cost efficiency of the distribution stage were greatly im-

What are your comments on the private sector generation procurement pursued by the current government?

It was believed that once the market was opened, companies would rush in to build new capacity but that didn't happen; the prices were too low. Instead, once the Liberal government came in, they began to sign long-term contracts at rates much higher than the market price. It's interesting how there is a cyclical nature in the development of the power system. In the early 1990s, the NDP provincial government had signed long-

term contracts with Non-Utility Generators, or NUGs, at rates much higher than what the consumer was charged. A portion of the stranded debt that was left over after splitting Ontario Hydro was a result of those contracts. Most people see that their electricity bill is low and they're happy but they don't realize that, in one way or another, they will have to pay the full price of their electricity in the end.

Dalton McGuinty made an election promise to close Ontario's coal plants by 2007. He later extended that to 2009 and now to 2014. Does anybody expect the plan to actually go through?

Elected politicians often have a poor understanding of the technical aspects of the power system. They thought that they could replace 4000 MW of coal power with an equivalent amount from renewable technologies. The truth is they are trying to replace apples with oranges. Each type of energy has its role to play as baseload, intermediate, or peaking power. Wind power, for instance, cannot provide the services that coal brings to the system, such as load following and reactive power support. Also, wind power cannot be relied on to provide its full capacity at any given time. New wind power is welcome but the thinking that one megawatt of intermittent generation can replace one megawatt of constant, reliable generation has to change.

This isn't a new phenomenon. In the 1980s, there was political pressure to reduce emissions. What happened in the end was that Ontario Hydro reduced its coal-fired output and imported power more often. Ironically, that imported power came from coal generators in the U.S. that were more expensive and dirtier than our own plants. In the end, those emissions just blow over to southern Ontario anyway. Also, it's important to note that Denmark, which is the heartland of wind energy, hasn't taken a single megawatt of coal-fired capacity off their system.

Wind generators in Ontario have grown exponentially over the last two years. What is the industry perspective on their development?

Wind generation also has its role to play in the power system. Though, when demanding it, people should realize the costs that are involved, which they eventually will have to pay. Besides the power purchase agreements that are heavily subsidized by electricity ratepayers, most people overlook the extra costs involved in connecting wind generators to the system. When connected to the distribution system, the costs go well beyond new poles and transformers. Often, the entire protection scheme of an area will have to be redesigned and new equipment has to be installed to accommodate an installation of less than 10 MW, which will operate at about 20-40% of capacity. You rarely hear about that in the news.

What should the government's top priority be regarding Ontario's power sector?

Usually, the focus of the power system is on generators. Maintenance programs on transmission and distribution lines have dropped since the 1970s. Reliability of supply is a paramount goal of the power system and it cannot be achieved without an adequate delivery network. Some rate increases have been filed with the Ontario Energy Board to fund the construction of new transmission to areas that are underserved. An interesting thing to note is that most urban metropolises have three transmission routes to ensure reliability, while Toronto, Ontario's biggest economic centre, only has two.

Whenever new lines are proposed, local groups always raise their voices against it. Then when there is a blackout with bad timing like recently in western Toronto, they blame the power company. There's an old saying about political interference: "People will get the power system they deserve."

What's New in Exchange?

PETER ROE

DIRECTOR OF EXCHANGE PROGRAMS

There are now over 60 destinations that Engineers can choose for taking one or two terms abroad integrated into their degree programs. We have recently added, or are very close to finalizing some exciting new

The Czech Technical University in Prague is the oldest technical university in the world. We have signed a bilateral agreement that will allow our students to study in this historic university in this historic city. Many courses are offered in English there, so you don't need to be overly concerned about learning the Czech language.

The Indian Institute of Technology in Delhi is one of India's most prestigious Engineering schools. We are in the final stages of agreement with IIT Delhi. It's world renowned and, of course, all instruction is in English. If you go there you'll be involved in one of the world's busiest and most rapidly expanding economies, in a country whose culture and customs will astound you.

The Tokyo Institute of Technology is reputed to be Japan's top Engineering school. If you'd like to study there in third year, start learning Japanese right away.

Zhejiang University in China can host up to four individual students from E&CE per year under our new agreement.

The Ontario Government has a new ex-

change agreement with the **State of Maharastra in India**. Two of the participating universities in India that might be attractive to Engineering are The Birla Institute of Technology, Goa and the Pune University, with which is affiliated the Maharastra Institute of Technology, literally the MIT of India!

The Universidad del Las Americas Puebla (UDLAP) in Mexico will host exchange students in Nanotechnology under an agreement that is expected to be signed very soon. If you're an NTE student, bone up on your Spanish!

Fontys University Of Applied Sciences in the Netherlands is an exchange for up to 2 students from any relevant Engineering program at UW. Everyone in Holland speaks English, so you don't need to learn Dutch before you go.

Sheffield University in England is very highly ranked; it is our newest program in the UK, and there are lots of opportunities for exchange there.

We are also in the final stages of arranging a new "dual-degree" program with the Ecole Superieure de Chimie, Physique Electronique in Lyon, France (CPE Lyon). In this program students from Chem Eng and E&CE will be able to do two terms of exchange at CPE Lyon, finish their degrees at home and then return to France for an abridged Master's program (in English), which will qualify them to practice as Engineers throughout the European Union. This

is a great opportunity.

If you are not in the mood to be a pathfinder in new exchange programs, there are plenty of established ones around the world. Come to one of our information presentations to learn more. Upcoming dates are: Tuesday, March 10, 2009 11:30am - 12:20pm RCH-112

Tuesday, March 31, 2009

11:30am - 12:20pm MC-4021

Want 150 P* * 5 Points for your class?

Bring your old midterms & exams to the Orifice!

Blank exam 50 Points

Exam with Partial Solution 100 Points

Exam with Prof Solutions or 150 Points Excellent Grades

CSE exams are welcome!

Chemical, Management, and Mechatronics exams are especially welcome!



The Course Qualifier



A few months ago, I was in the process of switching from Computer Engineering to Management Engineering. In order to catch up, I was to do a non-degree term, which meant that I would be completely in charge of picking five courses to take for the Winter 2009 term. It wasn't until then I realized just how easy we engineers have it in terms of picking our course. Because, you know, we don't pick our courses.

While I was trying to optimize my schedule, I wished there was some kind of program that would take in all the courses I'm interested in and spit out all possible schedule combination, so I wouldn't have to do it myself manually on

excel. Considering I had to pick five courses this term, a program like this would have saved me a lot of time.

It wasn't until I started the Winter 2009 term that I found out such a program does exist.

It's called *Course Qualifier* (www.course-qualifier.com). It's a website that anyone can visit and use for free.

For example, if you were to be taking the following courses: ECE 204, ECE 222, ECE 241, ECE 251, ECON 102, it would give you a schedule and an option to switch between different combinations.

A small suggestion would be to uncheck all "Tutorials", and "Other", since tutorial schedules aren't as important as lecture schedules. This will cut down a lot of combinations, making it easier for you pick your best timetable. *Course Qualifier* also gives you other information about your timetable such as how much time you have between classes, your

earliest start time, latest end time, your instructors' name and how well they score on www.ratemyprofessor.com, and so on. It even allows you to print out your schedule in PDF so you don't have to do it yourself on Excel. Overall it's a handy tool to use in order to arrange your schedule in a way that best fits your lifestyle.

One question you are probably asking is, "Why the hell haven't I heard of this website

before?" Sadly, Course Qualifier is not an official University of Waterloo software. It is a small project being worked on by three guys living in VeloCity (formerly the Minota Hagey residence) and it took a while before it was solid enough to be used by UW students.

One unfortunate fact is that Engineering students typically don't get to pick their courses. In First Year Engineering, all of our courses are

already picked out for us, which doesn't give us much freedom. We do eventually (some of us anyway) get electives later on, but most Engineering students can only pick one elective course per term until they get to their 3rd year. Even so, *Course Qualifier* can be used to quickly check how well your elective course of choice fits in with the rest of your schedule, as well as providing a quick audit your courses before you apply.

Orifice: Free Stuff

CHANDRAHAS SATSANGI

3B ELECTRICAL

The EngSoc office: some photocopiers and binding machines, right? Well there is that, but there's a lot more! As I recently found out, the Orifice carries a very interesting assortment of magazines and reading materials. The best part is that these magazines are free for students to come by and pick up a copy!

Highlighting the list is *Catalyst*, an offering from UW's own Center for Business, Entrepreneurship & Technology (CBET). This magazine contains some very good information on new technology startups and the entrepreneurs behind them. One such article talked about an alumnus from the Masters of Business, Entrepreneurship & Technology (MBET) program who followed his vision of creating a method for providing access to clean, potable drinking water in the future. Another such MBET

alumnus is also making a name for himself as an entrepreneur in the Royal Bank of Canada's Applied Innovation group. Working on integrating latest technology trends into the banking sector, he is currently looking at the use of social networking and Web 2.0 in external customer outreach.

Another magazine of interest for students is the *Job Postings* magazine, which carries articles on latest job trends, investment planning for the future, interview tips, as well as information on graduate studies. As a job trend article mentions in the magazine, jobs in the Information Technology sector are still aplenty in Canada despite the recent downturn in the economy.

The Orifice also carries the Professional Engineers Ontario's bi-monthly *Engineering Dimensions* magazine. The magazine's latest issue carried excellent articles on the leadership roles professional engineers can play in shaping public policy, especially in the energy sector in Canada.

Engineering Competition

From OEC on Page 1

There were several Waterloo teams that performed exceptionally well and placed in their respective categories. In Innovative Design, the Waterloo-A team consisting of Patrick Martinson, Ludwik Sobiesiak, and Samuel Cheng placed third. Thilan Costa and Pareet Rahul also of Waterloo-A represented our school in the Parliamentary Debates. They excelled in the impromptu debates and made it to the semi-finals where they tied for third place. The Waterloo-B team with Matthew Wagantall, Farid Tabatabaie, Alan Tsang, and Ali Afsari-Nejad placed third in Consulting Engineering. Last but not least, Tom Haylock placed third in Engineering Communications. Tom's placement advances him to the Canadian Engineering Competitions, which will be held by the University of New Brunswick in Fredericton from March 5 – 8. A special thanks goes out to Kevin Liu, the Director of Competitions for the Engineering Society. Kevin took entire care of the organization behind sending all the teams from UW to the competition and ensured that things went smoothly for the Waterloo delegates.

Next year's OEC will be hosted here at the University of Waterloo. The lead organizers for OEC 2010 are Stephen Lake and Adli Nureddin. They have large shoes to fill, following the University of Guelph organizers of OEC 2009 who did a spectacular job with this year's event. This year's OEC was a great experience, and I look forward to seeing what surprises next year's event holds.

SF.

Sandford Fleming Foundation



2009 Technical Speaking Competition Winners

Congratulations to...

Byran Sachdeva of Computer Engineering

Bryan came in first place with his talk on "Solving the Distributed Data Problem".

and

Christopher Wiebe of Electrical Engineering

The second place prize went to Christopher with his presentation on "The Lineartor Voltage Boost Concern".

Winners of the 2009 Technical Speaking Competition

E2-3336, Extension 84008, sff@engmail.uwaterloo.ca www.eng.uwaterloo.ca/~sff

ENGINEERING SOCIETY EXECUTIVE REPORTS

Presidential Report



Welcome back to campus - we hope you had a relaxing/productive reading week!

After our last council meeting, we had an open forum to discuss our current election policy and potential modifications to allow students with unique school/coop transitions (e.g. Nanotechnology Engineering) to run for office. Primary areas of discussion focused around whether students should be allowed to hold an on-stream executive position while on a coop term, whether the society could remain productive if the length of office was changed to 8 months (rather than the current 16 months), and the implications of two people sharing one position for 16 months. To hear our top three options, come out to this week's council meeting (Feb 25 @ 5:30 in CPH3607).

Cat, Cara, and Laura also attended a GLOW Ally training session on behalf of the B-Soc executive. This was an excellent opportunity to learn about the queer and questioning community on campus, and we may try to host another engineering session later in the term if there is enough interest from students.

In other news, a new outreach committee was formed to promote public awareness and understanding of engineering and the importance it plays in society. We discussed current outreach initiatives – including EngSoc, Engineers Without Borders, Engineering Science Quest, Women in Engineering, and other elementary/high school programs run by UW.

For now, the committee is mainly focused on how best to support current outreach initiatives and brainstorming potential additions.

I also attended the Sandford Flemming Board of Directors meeting with Sasha, where we discussed work term report awards, the prize distribution for technical speaking competitions, and the lack of demand for student emergency loan funds. We were very excited to hear about our third places at the Ontario Engineering Competition in communications, innovative design, parliamentary debate, and consulting. A big thank you to Kevin Liu who did a fabulous job as this year's competitions director! A reminder that nominations for the John Fisher Leadership award are open until April 1. This award is granted to graduating students who have shown outstanding leadership throughout their academic career in activities that relate to Engineering Education, and is valued at \$2000. Full details are available on the bulletin board across from the Orifice or at www.eng.uwaterloo.ca/~sff.

Feds is also accepting nominations for the Student Leadership Awards, which recognize 10 student leaders at UW who have demonstrated exemplary leadership skills in various ways at UW or in the surrounding community. Nominations are due by March 2 – full details are available on feds.ca.

Over reading week I attended an engineering faculty council meeting where we heard about the Ontario Centre for Engineering and Public Policy. They are hosting an annual conference in Toronto on May 8 for which student subsidies will be available. They also support an essay competition and submissions are due by March 31. Students can recycle course

submissions where appropriate, and the prize is valued at \$1000. Again, info is posted on the bulletin board outside the Orifice.

Acting-Dean Rothenburg announced that student applications are currently being accepted for the Dubai campus. There was an open house in Dubai this week, for which we have submitted several photos of EngSoc events, student teams and interest groups, and buildings on campus. The executive will be meeting with Dean Rothenburg at the end of this week and will have more of an update at the following council meeting.

Finally, the co-op statistics for Winter 2009 were released at the faculty council meeting. Although we are still struggling with 1A placements (notably Geological: 79%, Electrical: 82%, Mechanical: 83%, and Chemical:

85%), we actually placed more students this year than in previous years. However, these numbers include volunteer placements and no paid/volunteer split was available.

Last, but not least, I will be attending an orientation review meeting on March 3 to review the current frosh week setup and discuss potential changes. If you have any feedback you would like me to express, please drop me an e-mail or setup a meeting.

That's it for meeting updates. A reminder that our Middle Of Term party is scheduled for this Friday (Feb 27) in POETS at 9pm. In preparation for National Engineering Month, we also have a temporary display of "Engineering Traditions" in CPH between the Orifice and POETS to satisfy your curiosity about the Tool, purpling, plummers, IRS, and more!

VPF Report



Hey everyone, I'd like to first thank everyone who submitted their donation proposals on time. I have looked over them and prepared a couple of possible options that will be presented tonight in the meeting, I hope to see all of you there. This term, the Engineering Society will be giving away a total of \$2,500 dispersed between any student groups within the University of Water-

loo who requested a donation. The decision of how much money is allocated to each group is up to council. The student groups who requested money are expected to make a presentation to the council tonight on why they deserve what they requested. Afterwards, the council will make their decision with some input from me.

In other news Novelties has been restocked with all sizes of 'engineering sucks' shirts and UW ENG sweat pants, so for those of you interested in buying, come down to Novelties right beside POETS. We're open from 11:30 to 1:30 Monday to Friday.

WEEF Director Report



MATTHEW
BESTER
WEEF DIRECTOR

Hello all! It's time for another edition of WEEF updates.

WEEF Proposals have been rolling in and the deadline has passed. It's now time for presentations by all who have put in a proposal to the Funding Council. There are two presentation dates, March 3rd and March 5th. The first date will be primarily be for faculty while the second will be for student teams. Both meetings

will start at 5:30pm in RCH 307. If you are on the Funding Council it is important that you attend each of these meetings. Those who have put in proposals will be contacted by me about their presentation times.

WEEF Returns have been finished for a few weeks now and are currently being processed by the university. If you have requested a return of your \$75 donation you can expect a cheque to be sent to your address in Quest by the 10th week of the term. In this weeks article I have included the class participation rates, below, for this term. Thank you to all who donated to WEEF.

VPEd Report



Hello Everyone!

Hope that you all had a good reading week and that midterms are going well. Speaking of that, once you start receiving some of your midterms back, please bring them into the orifice in order to receive at least 100 P**5 points for your class! I would like to thank everyone who brought in past exams right before the reading week, they are awesome additions to the

exam bank and we finally got our first exams from Mechatronics! Also on that note, we will soon post a spreadsheet on the website that will list similar courses – i.e. if you can't find a midterm or a final for a particular course, this will show you which other courses you could also look at in order to practise similar questions. This will be a work in progress that will improve throughout the term.

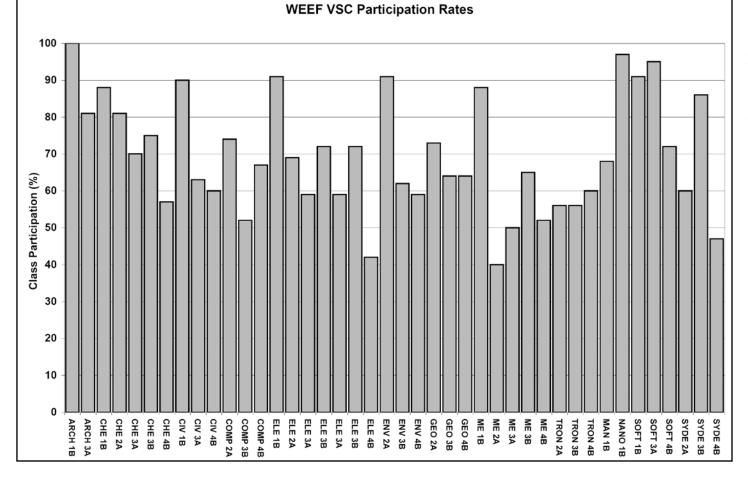
Some other important things that are coming up:

Resume Critique directors will be hosting Resume Critiques Round 2 the week of March 2nd. Please look around for posters for more detailed information and come to have your resume critiqued! We are also looking for some volunteers in order to help with resume critiquing – all volunteers get a free dinner and 100 P**5

Debt Load surveys will be conducted the same week (March 2nd). Please send your academic class reps in order to pick up the package from the Orifice. Debt Loan surveys are done in order to estimate the student's current financial situation. The Dean of Engineering does look at this information and the result will be posted in *The Iron Warrior*. So please take time in order to fill one out in class and you will also earn P**5 points – yay!

Also Standard Fleming Foundation debates are coming up! This is a great way to improve and show off your debating skills and even earn some money for your efforts! Please look for an ad in this issue of *The Iron Warrior* with all of the details.

I would also like to encourage you to come by the Orifice and have a look at some of the magazines that we have in there for you to pick up. Please take a look at Chandrahas Satsangi's article that describes all of the different magazines that we have available for you to pick up.



VPI Report



LAURA SISSON

Sigh! Back to the grind again! Reading week has yet again come and passed. I'll tell you one thing, Canada is no warm Caribbean island...

Well hopefully everyone else has been adapting okay these past three days to the school swing of things. Now that most of us are somewhat through midterms, it's time to get the fun times rolling again. We have a few events planned for the next two weeks.

There's a lot going on today. We've got an Art Attack lunch in the CPH foyer at lunch, our 4th Engsoc meeting at 5:30pm in CPH 3607 and the 2011 777 days to IRS poker tournament

Coming up later this week is Band Wars on Thursday, February 26th in POETS, so if you're in a band and want to win some cool prizes, you'll have to come out to that. There is also MOT this Friday night and the Frosh Leader Retreat on Saturday.

Next week, we've also got a fairly busy week. Genius Bowl will be taking place next Wednesday evening so get a team together and come out and show off your trivia skills. The second Enginuity of the term will be on Thursday at lunch so come out. Next Saturday, March 7th, Wheelchair Basketball will be taking place at 2pm and there will be a 2011 Pool Party sometime in the early evening (details to come).

Don't forget that all these events equal P**5 points! Make sure that your class is at the top

VPX Report



CARA KENNEDY VP EXTERNAL

I hope you had a great week off. I do not have much to update you on but keep your eyes out for Charity Pancakes, Shadow Day and an upcoming Canadian Undergraduate Technology Conference (CUTC). Charity Pancakes are being sold March 12th and March 26th. Shadow Day is on March 4th; 1B Software and 1B Computer Engineering volunteers are still needed.

For CUTC the theme is "Technology is Evolving. Are You?" and the conference can be a great opportunity to network with companies and other undergraduate students. It is being held March 12 - 13 in Toronto and is the tenth anniversary of CUTC!!! See details in the Eng-Soc mailing list or e-mail me for more



Reading Week in Waterloo



MICHAEL SELISKE **2A COMPUTER**

Reading Week is a time for many university students to go home to their parents and relax after a tough week of midterms. Most of the students in Waterloo depart for the week, leaving those who are forced to stay bored out of their minds. In this article, I plan to inform the rest of the school what there was to do in Waterloo during Reading Week while a large majority was at home.

The general perception amongst people

sticking around Waterloo was there would be nobody around and all of the bars would be dead. This however was not the case - Sunday at the beginning of reading week had some people saying, "I haven't seen Phil's this busy in a while." It was a common reaction seen throughout many of the bars in Waterloo and I think the lack of school coupled with the thought that people have a week to finish all of the work they needed to finish was a good reason to have some fun towards the beginning

Valentine's Day saw many couples split apart as some were stuck in Waterloo, and some went home to their separate houses; however, others used the opportunity to meet the parents.

The ones stuck alone in Waterloo, who would normally be spending time with their significant other, had the opportunity to experience what single people do on Valentine's Day.

Engineering wasn't totally dead during the break, as many students from outside of Ontario could not afford to go home on a limited budget. There were parties nightly and the bars were busy all night. Some took the opportunity to get caught up on homework but most people I talked to were relaxing, watching movies or hanging out with the other people sticking around Waterloo. Personally, I had 3 hours of skating practice a day since the lovely people at the Ontario University Athletics decided to schedule the skating championships the Wednesday and Thursday of reading week. This pretty much sucked up all of my time while everyone in Waterloo was texting me about things going on.

As I mentioned I wanted to let all of those people that went home for Reading Week know what went on in Waterloo. Let it be known Waterloo probably had a better nightlife during reading week than when school is in. Next year when you are planning your Reading Week (the majority of people reading this will most likely be on co-op but whatever) don't discount staying in Waterloo, as there was plenty of fun and interesting things going on, and plenty of people to spend your hours of free time with.

Restaurant Review: Casa Salsa



JACLYN SHARPE **4B MECHANICAL**

I can't remember ever being able to get Mexican food in the plaza, so I was excited to see Casa Salsa open earlier this term. After sampling the food and talking to other students I was left with a mixed impression. The food is of high quality with fresh ingredients and well prepared, but the service is slow and the food is bland.

Casa Salsa is in the corner of the plaza be-

side the Mongolian Grill in what was once a computer store, and then a fried chicken place and most recently a pizza joint. The small space is decorated with Mexican knickknacks and posters of the food. There are a few tables and some bar style seating along one wall looking out the floor to ceiling windows. You order at the front and take your food to-go or to one of the tables if you can find one. This wouldn't be a problem if it didn't take so long to get your meal. Unlike most other places where you can hang around the till until your food is up, they actually give you a number so they can call you back to get

The method of ordering is interesting. There is a collection of slips of paper at the back of the restaurant that you use to check off the options you want. There are different slips for each type of dish, which include soft tacos, enchiladas and tostadas. By checking boxes on the slip you pick your meat (chicken, beef or vegetarian), your toppings (lettuce, tomato, cheese, sour cream, etc.), and your sauce (mole, and a variety of mild or hot salsas), as well as combo options. Combos come with a drink and freshly made tortilla chips with salsa. The food costs between \$5 and \$8, with combos being a couple of dollars extra.

A sign at the front proclaims that all of the food served is freshly made form ingredients that have never been frozen. I did find the ingredients of high quality and the portions were generous. But the meal was still unsatisfying because the sauce was very mild even though I picked the "hot" green salsa. I also found that when ordering the chicken tacos that the chicken was real shredded chicken, which is a nice change for the plaza, but without any sauce or seasoning it was dry and bland. The tortilla chips that come with the combo are quite good. They are freshly made and are to Tostitos what fresh cut fries are to McDonalds fries.

Overall I would recommend Casa Salsa for a change of pace and a good source of fresh vegetables if you've got time to wait, but if you're looking to satisfy a craving for a spicy Mexican meal, don't bother.

Top Ten Reasons Your Boss is a Cylon



MICHELLE CROAL 2T CHEMICAL

- 10. The ability to work for hours on end without the usual human need to refuel seemingly powered completely by coffee and Hershey Kisses.
- 9. Machine-like intelligence more secret knowledge than you could ever ac-
- 8. You know beyond doubt he's in a maintenance meeting at the other side of the facility but he just walked past your office when you were reading webcomics.
 - 7. Shares an unusual empathy with the

lunchroom toaster.

- 6. Claims the music in your cubicle is too loud, but you don't have any speakers.
- 5. She dislikes being near airlocks or the breakroom when outnumbered by potentially riotous students or union staff.
- 4. Daydreaming in meetings is likely a sign of projecting a personal universe.
- 3. I really can't think of any legitimate legal reason that allows you to see if your boss lights up when she's "excited".
- 2. "What's this project for?" you whine. "That's classified information kid."

But the number one reason your supervi-

1. He can do mental math. Fraking Thermodynamics. In his head. If that's not proof I'll eat my hardhat.

Are you smarter than a shark with shooting lasers on its head?

Then try...



Wednesday, March 4th 6:30pm - 8:30pm, MC 2066 1st place prize: \$20/person 2nd: \$15/person, 3rd: \$10/person

Random prizes will be given out throughout the event No registration required

Dangling *Pointers;

Dear housemate,

Please stop walking around in just tighty whities. Don't get me wrong, you look extremely delicious in them and I think you know that. I don't mind looking, but the underlying problem is a combination of the existences of my boyfriend and your boyfriend. I didn't sign a 12-month contract to be tormented like this!

> Put some pants on. -- Can't stop staring

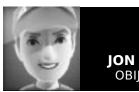
Bella DONna, You are the sole reason why I will keep returning to residence, in hopes of being donned by you again.

Although that chance is slim, I'm willing to risk being scalped by UW Housing just to see you walking down the hallway in Carebear PJs. Can we please move the weekly movies and nacho night from the common room to your room? And shorten the invite list to just the two of us, of course.

-- Lone 3B guy in the Village

ARTS AND ENTERTAINMENT

The Economy of Gaming



JON MARTIN OBIJON1138

When a person goes out to buy a video game, I'm sure the only concept of money to enter the picture is along the lines of "What?!!! How can this game cost so much?" While I'm not going to specifically address the topic of game prices, it does play a role in the monetary side of gaming.

When people buy a console, nobody really considers the amount of money the company makes from the sale of that gaming system. What may surprise you is that the company most likely loses money on each system in the first few months. Most systems strive to use the newest and best hardware and software on the market to narrow the margin with their competitors or strive ahead into unknown graphics and processing leagues. All that innovation costs money, and if it were reflected in the initial cost of the system, nobody would be able to buy that \$1000 behemoth. So, the manufacturer takes a loss on the first 2 million or so systems until the price of manufacturing the components drop to the point where they can actually make a profit.

This decrease in production costs is gradually passed on to the consumer (at least we hope so) in the form of pricecuts and bundled games. The only information I could find was about the Sony Playstation 3, but the same patterns apply to the Nintendo Wii and the Microsoft Xbox 360. At launch, the cost of manufacturing a PS3 system was \$840 (US) while it was sold for \$600, mean-

ing Sony took a loss of over \$200 on each system sold. It is now estimated that the console costs \$445 to produce (a drop of 53%) and is sold for \$400. The PS3 is expected to begin making money sometime this year.

The three included graphs were assembled using common data, launch dates and prices of each of the three major consoles as well as the dates of permanent price cuts. Both the Xbox 360 and Playstation 3 graphs need to take into account the changing models of the system. The Xbox 360 core system was replaced with the Arcade (name change only) and the 360 Pro changed from a 20 gigabyte (GB) hard drive to a 60 GB. The Playstation 3 has been released in 20GB, 40GB, 60GB, 80GB, and 160GB models, each replacing another along the way. So I just looked at the 60GB and the 80GB model which replaced it. As shown the consoles have all followed a standard drop (the rise in the PS3 graph is from the model switch) except the Wii. Interestingly the Wii, even being out for over two years, has not been released in a different model or had a price drop. If people will buy it for that price, why drop it? Search on Ebay.com and you can easily find Wii systems for \$500 - \$1000 dollars. Besides the Wii, all companies gradually discount their gaming systems to maintain consumer interest, appeal, and to compete with their competitors.

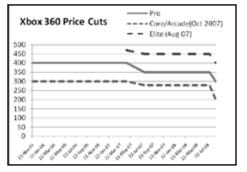
This pattern has always been prevalent in the gaming industry, but it can be disastrous for some systems. The original Xbox failed prematurely because Microsoft did not own the rights to the components inside, and therefore could not improve the manufacturing process.

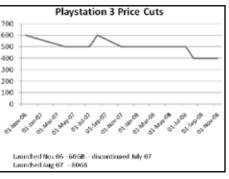
When the system was retired Microsoft was still losing money on each system, even as they continued to drop the price to compete with Sony and Nintendo.

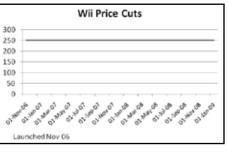
If companies don't make their money on the console where does it come from? The answer is games and accessories, which make up the majority of the money a gamer will ever spend on a gaming system. Companies strive to increase the "attach rate" of their system – the average number of games and accessories sold per console. I have no doubt that the Wii has an amazing attach rate, especially if they count the plastic wheel, golf-club, tennis racket, lightsaber, gun mount thing or any of the other plastic pieces to snap the Wii-mote into separately.

As for prices of games themselves, they are probably one of the worst "investments" possible. Have you ever bought a game for \$60, finished it and then wanted to trade it in? You would be lucky to get \$35 for it. Then the store turns around and sells the game used for \$55, making a substantial profit on each one sold. Therein lies the problem with used game stores, the publisher and developer receive nothing from the resale of the game and therefore they must increase the initial price in order to make back their investment. I would never attempt to claim that I have not bought a used game before, or that people shouldn't buy them - just wait a few months. An independent study in the gaming industry found that 80% of the revenue from a game came from the first three to four months of its entire lifespan. So, If you have been awaiting a game for two years, buy it new and support the company, (hopefully they can make enough money to finance a sequel) rather than trying to save \$5.

Money plays an important role in the evolution, acceptance, and eventually the downfall of a video game system. From the price of the system itself, and the immense number of accessories, to the price of individual games and the impact of used games, money is the deciding factor in many gamers adoption of a specific system.







Better Know a Beer: Grand River Brewing Curmudgeon IPA



RORY ARNOLD
4B MECHANICAL

You shouldn't have to travel very far for a great beer. In the case of us Waterloo Engineers and Architects, we don't have to travel further than the south end of Cambridge; to an old building with a wooden Beer Store sign by the road. Grand River Brewing is Ontario's newest craft brewery opening in June 2007, and has been producing great full flavoured beers since.

I had the pleasure of meeting with the ompany founder and president, Bob Hanenberg, at their brewery. Upon entering the brewery I was greeted by their brewing dog, Frank (who was very friendly), and found what looked like an old warehouse on the outside was transferring into a classic Ontario microbrewery. Although still in the renovation stage, the large room in which we sat was highlighted by the small bar in the back corner. Hanenberg plans on turning the room into a meeting room that can be rented out. The brewery is located in an old foundry building that was built in 1913 and housed the Galt Knife Company until they moved across town.

Hanenberg was a homebrewer of 30 years before deciding to open his own brewery and cites Anchor Steam Ale from San Francisco as one of his inspirations for being interested in craft beer. He is a fan of English style ales, which is reflected in their flagship brand and silver medalist from the 2008 Canadian Brewing Awards, Plowman's Ale (4.7%), and the rest of

their brands: Mill Race Mild (3.5%), Galt Knife Old Style Lager (4.4%), Town Hall Lager (3.9%) and Hannenberg Pils (4.5%). They also produce an excellent selection of seasonals, their current one being Curmudgeon IPA (6.5%). Their selection of low alcohol beers comes from the hard water used and the full-bodied flavours of the beers. Thus they make for great beers to drink with a meal or on a lazy afternoon. Hanenberg told me their next seasonal would be an Imperial Stout. These beers are rich full flavoured beers that originated from Thrale's brewery in England and were exported to the Russian court during the late eighteen hundreds for Oueen Catharine II.

The company brewer is Rob Creighton who has done stints with a number of local breweries including time with F&M Brewery before moving to Grand River.

Freshness is very important to the brewery as they stamp the bottled date right on the label and I noticed every one I picked up was bottled the week before. They also sell growlers, which is an original idea for a microbrewery to do. A growler is a two litre jug common in the US and out west. Most brewpubs there will sell growlers that you can return and they will fill from the tap for you, but I have never seen this idea employed by a microbrewery. This allows the growler to be properly washed and sterilized between fillings. Besides this, all of their beers are sold in 500 mL bottles and are currently available on site.

Grand River Brewing is working on expanding its influence on the entire tricities region. Already on tap at the Grad House and Kick-Off, they hope to be sold in the LCBO by next spring when their Bumbleberry Wheat will be available in the seasonal beer section. Their website also features a list of local bars that feature one or more of their beers on tap. They also have a home delivery program in the works, which will service all of the tri-cities and they hope to extend all the way to Hamilton and Brampton. They are also a regular feature at local beerfests in

cluding the Kitchener Rib and Beerfest.

A curmudgeon is a difficult, stubborn, and ill-tempered person and the Curmudgeon IPA has a guv who reminds me of Mr. Wilson from Dennis the Menace on the label. It pours a light copper colour with a nice creamy head that sticks to the glass and produces a great Brussels lace. A malty aroma with a bit of an earthy tone is given off. The flavour is a strong bitterness that is balanced perfectly with the malt to give it a smooth finish. I found the hops to give it a bit of an earthy tone. I scored the beer 89/100 for its nice aroma, strong flavour and well-balanced aftertaste. It's one of the best Ontario brewed

IPAs available.

Grand River Brewing in a craft brewer in every essence of the word. They take great pride in the community they are part of and in the beers they drink. If you're ever in Cambridge, they are walking distance from both the Architecture campus and bus station and are worth stopping in on to see what's available from their store.

MORE THAN JUST COFFEE & DONUTS

The EngSoc C&D has more than just Coffee and Donuts. Stop by for a variety of freshly prepared sandwiches, baked goods, soups, and more! It is run by students for students, so the prices can't be beat!

There are a variety of specialty coffees available - including fair trade. Bring your own mug to help the environment too!



Hours of Operation Monday-Thursday 7:30am - 7:00 pm Friday 7:30 am - 5:00 pm



ENGINEERING

HUMOUR AND SATIRE

Seven Sexy Solutions to Sex Up Reading Week



Good Morning Sexy Readers!

I hope everyone had the chance to partake in many sexy parties this reading week. Assuredly it was a welcome respite from the rigours of those most unattractive midterms. If you took a trip, your adventures were likely the stuff of legends. If you stayed here, your nights probably made the news. All in all, welcome back for the home stretch, and fourth years, congratulations on passing your last midterms ever.

Now if you're in the same boat (with a hole in the bottom) as me and stuck here, in Waterloo, at work, while everyone is away in the sun; or you just didn't live up to your wildest reading-week dreams, you're definitely going to want reading week to count for double-points next time right? Right! So what could possibly turn your next reading week into a vacation worthy of the sagas and legends of old? Don't think about it too hard (I've already done that for you), simply add any of Chad Sexington's Seven Sexy-tivities to your regular boring old reading weak lame-cation to instantly gain magnitudes of epicosity for the ultimate good-times-express.

Stay up for ridiculously long periods of time. I'm talking days, possibly even the whole week, pants optional. Reading week only comes once a year, and you have to scrape the fun out of it somehow. By staying up 24/7 you'll maximize your fun-time. You'll also be able to tell the story of 'that time I stayed up for an entire week'. Be sure to take videos.

Go on a road trip. Just get in a car, and drive. Pick a direction by throwing darts at a map, or predetermine the number of left and right turns you'll have to make BEFORE you leave and see where you end up. Make sure you bring tunes, a camera, and enough 'supplies' to last a day or two in case you wind up on an island somehow.

Do a marathon. I don't care if it's Star Wars, The Matrix, Lord of The Rings, 24, or re-runs of Friends, just watch something in it's entirety from start to finish. Then, put it on your resume. Heck, you might want to stay up the entire time too, or turn it into a sexy party where pants are optional.

Go to a hot country, or a cold country, or a foreign country, or a country club, or a country bar, or something with country. Seriously though, escaping to Cuba, Mexico, Florida, Dominican or any other 'exotic' locations can be a great way to get away from it all (and wear shorts). Lots of people opt for this one during reading week, and it's a hide all of the their underpants, super great time, especially when you go with friends and it's all-inclusive. An open bar for an entire week to engineers (especially the 4th years) is like being Irish and having your birthday on St. Patrick's Day. Go mental. As a side note, if you are going with your significant other, you might want to instead rent a cheap hotel room and buy a poster of a hot country to put over the window for all the time you'll be spending outside.

5) Fire! Nothing says "I'm having fun" like a good old fire. Maybe you want to pick up some fireworks to celebrate family day? Maybe you want to build a roaring campfire and toast some marshmallows? Maybe you want to exchange beard-growing tips with Abe Lincoln by having a seance in your basement that requires exactly 1000 candles. However you do it, fire makes everything fun (*Disclaimer: Always follow your local laws with regards to fires*). If you can't actually have a fire, buy a bag of marshmallows and use your stovetop instead, but don't let your pants catch on fire.

Start a prank war. Is your roommate gone? Do you have hidden rage for your best friend? Does your little brother have it coming? Nothing spices up life like unexpected and hilarious pranks. It's like your very own suspense-thriller movie. Fill their room with newspapers,

glue their door shut, shave their eyebrows in their sleep, or wrap all of their things in saran wrap. Be prepared to get as good as you give though, as if you poke the sleeping prank-bear you might wind up mauled by a mongoose.

Throw a sexy theme party. Pick the most outlandish theme you can think of and see what your friends come up with. Have a no-pants party, a mad scientist party, a 'bring-your-favouritekitchen-implement' party, a '1980'stelevision-show-character' party, or combine all of those into one ridiculous theme to have a 1980's-kitchen-utensilwielding-pantsless-mad-scientist party. Have fun with it, and go all out. You've got the time to spare.

Yes indeed sexy readers, it wasn't always that the engineers got reading week, and having it come up now has certainly been a mix of good and bad happenstance what with extra days off in exchange for some IRS traditions. But now that it's here to stay, we need to make the best of it. So next time you find yourself faced with a bland, and decidedly undelicious-looking reading week ahead, turn back to this article and pick a number, or even a combo, to add some spice to your life. Don't you hate

Until next time, Stay Sexy

MICHELLE CROAL **2T CHEMICAL**

The co-op student smiled to herself as she ambled along. The day was going well - the line was straight and clear, no branching and easy to follow - not like the previous day's spider web network... She adjusted the weight of the heavy flashlight in her right hand, then switched it with her clipboard anyway. She nodded as she passed pumps and filters and the 90 cubic meter storage tanks neatly labelled with final product codes.

The co-op student kept walking, eyes on the pipeline above, having to adjust her hardhat while her neck craned back-

Sinister Sweetness

ward. Occasionally she looked down and ter grip. The thing must have weighed ahead, but the way was clear – just tanks all the way down.

As she followed the line, she thought it strange that it connected to nothing else at all - it just seemed to go on and on - an 8" header to nowhere. She kept going though, starting to look more ahead of her than up; that pipe wasn't going anywhere she wouldn't notice. The lights seemed to be getting dimmer, flickering, while tank heaters lay cold and covered in grime, old syrup and grease. She'd never been this far back in the tank farm before; hadn't even known it went this far back. The pipe turned suddenly, veering off the main walkway and behind a tank into the gloom.

The co-op flicked on her flashlight, heaving it on her shoulder for a betat least ten pounds and was dying now anyway since she'd been out in the plant all day. She squeezed in a gap to follow the line into the gloom, regretting the two muffins she'd had from the operators

"Where the heck is this going?" She muttered to herself, the usual whine and hum of equipment seeming muted and distant. Crawling out and around, abruptly the girl came to a wall: solid, tall and as impermeable as bricks.

"Dammit, now I have to go all the way back and find a door!" she said out loud, having developed the habit of talking to the pipes when no one was around.

The co-op student turned to go back, when she found she couldn't move! Her boots, stuck in the finished fructose syr-

up almost to her ankles, stuck better than any glue. She tried to squelch herself out, but like quicksand, it only made it worse. It didn't help that her hands were full either. She put her clipboard under her armpit and tried with her other hand to reach a 2" pipe nearby, to pull herself out. Was it just a trick of the poor lighting or did the stainless steel move away from her? She couldn't tell, but she was beginning to panic.

The co-op student leaned to the side, shaking her flashlight one last time to try and see around the tank to her right. The last thing the girl saw in the beyond bones! Bones of previous co-op students, mired like her in the sugar, not noticed missing until now. Then her flashlight went out, leaving her with nothing but the thick microbial smell and the silence.

Waterloo Cases in Design Engineering (WCDE)

WCDE is a group in the Faculty of Engineering that

converts work reports into

Engineering Case Studies

for use in Engineering courses.

Work reports submitted electronically are worth

seventy-five P**5 points!

cases.uwaterloo.ca

Sample Case Studies

All first-year concept courses are using these cases:

Hydro Quebec

Alternative Energy Sources

Engineers Without Borders

Alternative Drinking Water

Other cases currently in use include:

Foot Brace Design

Adventures Down South

Episode 1: The North



5 days, 10 states, and 5,500 kilometres later, the adventure down south has been completed! A terribly long and verbose travelogue has been compiled for your reading pleasures after reading week. If your professors do not bore you to death, this probably will; but who doesn't love distractions from lectures?

Continue reading at your own risk. This article may cause a burning desire to go on an adventure, down south or elsewhere.

Buffalo, New York

We crossed the border at Fort Erie, that's pretty standard protocol. As soon as we entered the Empire State, it was decided that an American pay-as-you-go SIM card would be useful for the occasional parental report of safety and 911 calls, without being bankrupted by horrendous roaming charges.

The GPS comes in pretty handy for finding anything. We soon made it to a mall that easily puts the Eaton Centre to shame. If this is the average American mall, then I have a difficult time imagining what the largest American mall must look like. Though curious, I am not willing to make another road trip to Minnesota or wherever that is. What's up with these enormous malls in the States? My road trip buddy, Mr. Windsor, offered a pretty good explanation: it's probably the only way some Americans get their exercise!

My original plan was to get an AT&T SIM card and stick it into my iPhone. However, I found a \$30 package that includes a phone and 300 US-wide minutes, which also conveniently translated into 200 international minutes. All's good until we found out that this had to be activated by phone, and as huge as this mall was, there was not a single pay phone to be found.

Best Buy's customer service phone came to rescue, but more obstacles keep finding us. I tried to convince the automated voice recognition system that "10101", "80085", and "13337" are valid US zip codes but it was not as gullible as I thought. I made a sad face and that was enough to guilt Mr. Windsor into asking a complete stranger for his Zip Code. You can always rely on the kindness of strangers. "I'm Canadian, just passing through" was enough to get me a US geographical identity and cellphone, it's almost too easy conducting terrorist business in this country.

Penfield, Pennsylvania

I drove the stretch from Waterloo to Buffalo, so Mr. Windsor took over for the next part of the journey. I promptly fell asleep upon the relief of responsibility. When I woke up an unknown amount of time later, I couldn't beate myself. I learned from the cashier that we have arrived in Pennsylvania, and the part that we are passing through is always snowing in February. I was quite happy to hear the news - I thought we were still in New York!

On Interstate 80, we hit the highest point on this road east of the Mississippi. The entire drive through Quaker state was going up and down hills through forests. Too bad it was pitch dark, I bet the scenery would have been breathtaking during the day.

Fredericks, Maryland

Exhausted from conquering the rolling hills, Mr. Windsor fell into a pretty deep sleep. terstates was filled at 3am. I was ready to collapse right on the table. Before the waiter, who looks college-aged, even took our food orders, he told us to keep driving until we get out of this town and this state. "No one lives here, they are just stuck here" was his reasoning. Turns out he's originally from Georgia, and he's stuck here because "the cops just get you, you don't even have to do anything." Interesting chap. Five minutes later he came back around and asked us why we are still here. Well, one can't get on the road hungry!

Washington, D.C.

How we got into town was mostly a blur to me, because I passed out as soon as we left Fredericks. When I next opened my eyes, I saw French Second Empire-style buildings all around me, and Mr. Windsor was driving around downtown D.C. looking for his old buddy, Barack O's house. Unfortunately, Barack didn't know we were coming, so the gates were closed. We parked as close as we could to the gates and called it a night. The next morning, we found out that we parked on the doorsteps of the U.S. Court of Appeals of the Federal Court, as well as what used to be the residence of James Madison's widow.

We went to see Barack bright and early in the morning. After failing to find a doorbell, I decided to just surprise him by climbing the fence. Little did I know, the security around his house was super intense and I almost got arrested. This whole time, Mr. Windsor just stood around taking pictures, such a friend.

Washington, D.C. is a beautiful city. The streets were spotless. A single piece of garbage sticks out like a sore thumb. There were no homeless people on the streets to be seen, but there was one in Starbucks!

The story goes something like this: We went to the nearest Starbucks to the south of the White House for some much needed crack caffeine in the morning. We both had pretty bad bed head and are still wearing clothes from the day before. As we were talking about how much we resembled hobos, a really tattered looking man walks in, sits down at a table not too far from us, takes out a bag of bread, a jar of peanut butter, a butter knife, and starts making himself a sandwich. After he's done eating, he packs up everything neatly and leaves. Even the homeless behave differ-

ently down here! Emporia, Virginia & Northern North

Carolina

Emporia is a little town 4 miles north of North Carolina, where the speed limit went up to 70 mph. It doesn't matter anyways since no one obeys the speed limit on Interstates. This is the first place in the States where people's accents have become quite noticeable. The southern drawl is not only omnipresent in restaurants and gas stations, but on the radio as well. It has the only McDonald's that I've been to that doesn't take MasterCard and has a smoking section. To add to the surprise, I actually witnessed and smelled someone enjoying a cigarette with his Big Mac. Is it because Virginia would not have existed without the popularity of Tobacco? Also, as we entered North Carolina, every other billboard advertised cheap cigar and cigarettes at outlets. Evidently, the cash crop is still a strong part of the region's culture.

I have a special affection for Virginia for it is the home state of Robert E. Lee, the favourite general of my favourite (now retired to play golf full-time) high school History teacher. Needless to say I grabbed a few Civil Warthemed souvenirs. I also learned that the state motto is "Virginia is for lovers", which makes no sense to me. Does this mean that Virginia is a good place to elope?

Next Installment: The South

Make sure you pick up the next issue of the Iron Warrior to continue following the adventure down south!



Sylvia (unsuccessfully) attempts to hop the fence of the White House to visit President Barack Obama.

lieve what I was seeing outside the window - snow and hail.

"I thought we left Canada to get away from this stuff," I said.

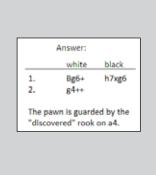
"I was hoping the same," replied Mr. Windsor, "it was a pain getting up these mountains." It took a paper atlas to tell us that we were heading up the Appalachians.

He looked pretty drained, and I offered to drive for the next bit. We stopped at a minimart soon after to gas up the car and caffeinI managed to haul us across Pennsylvania and most of Maryland. The roads were neither straight nor level, so in order to keep both of us alive, I had to concentrate like I have never concentrated before in my life. If I paid attention in lectures like I did to the roads that night, I'm pretty sure I would've made it to the Dean's List by now. After nearly 400 km, I saw a field of lights and went in that direction, and that's how I arrived in Fredericks.

The 24-hour Waffle House just off the In-

Difficulty: 2.8 / 5

Caption



Last Issue's Solutions															
	T	0	L	L			S	Н	E			A	S	Н	Y
	A	L	Ι	A		P	E	Α	L	S		R	Н	E	Α
	L	E	0	S		A	N	I	S	E		K	E	R	R
Answer: white black 1. Bg6+ h7xg6 2. g4++ The pawn is guarded by the "discovered" rook on a4.	С	0	N	O	E	N	Т	R	A	Т	E		N	0	D
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		E	N	R	0	L	L		I	N	K	I	N	G	
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Every-Other-Week

Photo of the

Contest

You can win P**5 points by winning the caption contest! Submit your caption to iwarrior@engmail.uwaterloo.ca Be sure to put "Photo Caption Contest" as the subject, and include your name, program and term.



Michael Seliske

Winning entry from last issue:

"Pictured: Chuck Norris' conception." - Leo Anthony Perez, 3A Mechanical

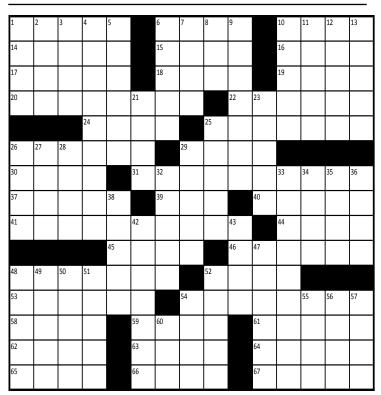
Runner-ups:

"That's no space station. It's a moon!" -David Cananzi, 1B Electrical "Shoot the Moon!" - Arijit Mukherjee, 2nd Year ECE Masters Student

The Iron Crossword

SAMREEN ALIM

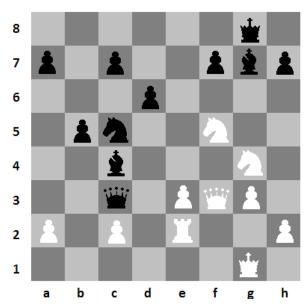
4B ELECTRICAL



Chess

ROB GRAHAM

4B COMPUTER



White to move. White mates in three. Difficulty: 3.5 / 5

Crossword Clues

Across

- 1. Involuntary Muscle Contraction
- 6. Plural Form of a luxury retreat
- 10. The metric 1/20th of a mL
- 14. Ottoman equivalent to the title of "Lord"
- 15. Narrow Road
- 16. Slang for regurgitation
- 17. One of Aristotle's Artistic Proofs
- 18. The original name for the US

Department of Energy

- 19. The Winner of PCD: Search for the next doll
- 20. Conjunction for any place
- 22. Creator of the Les Paul
- 24. Slang for Hallucination
- 25. Combinations of multiple substances
- 26. Canadian Grass Genus
- 29. Lofty
- 30. US University with the greatest
- number of applicants

37. Tall military cap

- 31. Adverb for Immaculate
- 39. Highest level for organization of time
- 40. Brook in "Paradise Lost" 41. Common acrobatic feat
- 44. Behavioral Expectations
- 45. Tony Danza is this
- 46. One role of a rapper in hip hop (plural)
- 48. Citrus fruit known for pie
- 52. Sean Paul Song
- 53. To form a concept
- 54. Bell towers
- 58. Contraction of "Allow the objective form of we"
- 59. Question cannot be answered with yes or no
- 61. Element 100 is named after him
- 62. Disregard
- 63. Longest river
- 64. Last section of the small intestine
- 65. Impudence
- 66. Unagi in Japanese cuisine (plural)
- 67. Genus name for Tupelo tree

Down

- 2. Pedestrian tunnels in Toronto
- 3. Main female in Final Fantasy XII
- 4. Strawberry character as a dessert
- 5. Capital of Lesotho
- 6. Bed activity
- 7. Young fish
- 8. A conjunction
- 9. Scuttle in The Little Mermaid
- 10. Second half of the capital of UAE
- 11. Lead female of Get Shorty
- 12. The hunter in the stars
- 13. Designs
- 21. Competes
- 23. The British ones include Great Britain and Ireland
- 25. Death causing
- 26. Agitate
- 27. Heard in caves
- 28. Professional wrestling throw
- 29. Circle generated surface of revolution
- 32. Pudding made with peas
- 33. Signoff message
- 34. Blackthorn
- 35. Tale
- 36. Common thanksgiving dish
- 38. Gum brand
- 42. Generic other
- 43. Detectible behavior change
- 47. Not a cupcake 48. Thousands
- 49. Current name for Hydropsy
- 50. Nepalese bigfoots 51. Persists
- 52. Hereditary units
- 54. Cell phone company
- 55. Angers
- 56. Largest Australian birds
- 57. Lower layer of earth's crust
- 60. Pastry dough shell, warm centre

Be the first to complete the Iron Crossword or the Chess Puzzle and win 50 P**5 points for your class! Submit completed puzzles to the P**5 box located inside the Orifice after being time-stamped.

protQuotes

"I have to be careful what I open. You never know what's lurking around on my computer."

- John Medley, ME 321

"When you look at the MC, what do you think it was designed for? A prison. Think about it, just look at the walls. They used plain bricks painted in white, it's like the cheapest material they could ever find. [...] It's perfect for a correctional facility."

- Michael Terry, CS 349/SE 382

IRON INQUISITION

What was your biggest mistake over reading week?

Michael Seliske, 2A Computer (With files from Samreen and Angelo)



Curtis Woodford 4B Chemical "Getting a girl I hooked up with confused with her twin."



Joe De Filippis 4B Electrical "Wearing a sheephat and allowing myself to be photographed."



Amanda Hoff 4B Mechanical "Coming back after it was over."

Chris Gouett 4B Civil "Agreeing to follow a dog around all week to pick up its shit."



Kevin Chaboter 4B Computer "We boat raced on a boat. We B.O.A.B raced."

