Formula Hybrid Fights Adversity and Wins
It really is that much better than aluminum foil

Fishwrap

ESS Tentative Events List

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<th>Event</th>
<th>Ln(day)</th>
<th>Contact: <a href="mailto:essaspt@uvic.ca">essaspt@uvic.ca</a></th>
<th>Contact: <a href="mailto:essarel@uvic.ca">essarel@uvic.ca</a></th>
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<td>Games Night</td>
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<td>Engineering Competition</td>
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<td>Billiards Night</td>
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<td>Free Food Day</td>
<td>Friday, July 31</td>
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Want to help out with any of these events? Have any ideas for events of your own?
Email any of these fine folks above or contact us via Facebook.

Join the ESS soccer team
The Rigid Members need You!
Like playing soccer? In engineering? Maybe fascinated with buckyballs? Then join our excellent soccer team! Best of all, it’s free!
We have games every Tuesday at 7:10 pm at the turf fields. Games are announced on Facebook the night before with more details about where to go and whether the team is home or away.

Drop on by for Ln(Day)
Ever wanted to hang out with your fellow engineers at beach to play various sports and lawn games and even get a tattoo? On Saturday June 13, the ESS will be at Gyro beach offering many different kinds of outdoor activities and refreshments. There will also be free Henna tattoos! So get away from those ugly florescent lights in the labs for a while and join us for some fun and sunshine.

Get ready for games night
Want to kick back and play some video games or board games? We have a games night coming up on Wednesday, June 17th where games and snacks will be provided. Keep your eyes on the ESS Facebook page for more details or email Tania Akter at essarel@uvic.ca.
It really is that much better than aluminum foil

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Join up with one of these great clubs!

**UVic Aero**
A student run team that designs and fabricates aircraft.

**Meeting Times**
Mechanical: Fridays, 4:30 pm
Electrical: Thursdays, 6:00 pm
Software: Wednesdays, 5:00 pm

**Location:** ELW B150
**Contact:** stephen@uvic.ca

**AUVic**
A team that designs and builds autonomous submersible robots.

**Meetings:** Thursdays, 5:30 pm
**Location:** ELW B250
**Contact:** auvic@engr.uvic.ca

**ECOSat**
ECOSat builds a nano-satellite for a nationwide competition.

**Location:** EOW 148
**Contact:** ecosat@uvic.ca

**Formula Hybrid**
They design and build hybrid vehicles for competition.

**Meetings:** Mondays, 7:00 pm
**Location:** Q-Hut
**Contact:** uvichybridteam@gmail.com

**Formula SAE**
This team designs, builds, and races formula style cars for the Formula SAE competition which is the world’s largest engineering competition.

**Meetings:** Mondays, 7:30 pm
**Location:** ECS 116
**Contact:** fsaeadmin@uvic.ca

**Leadership Through Diversity**
Leadership Through Diversity (LTD) is a group providing leadership opportunities, and inclusive events for engineering students to network, meet other students, and get involved with their faculty.

**Meetings:** Wednesdays, 12:30 pm
**Location:** Library 113D
**Contact:** ltd@uvic.ca

**IEEE**
The IEEE UVic Student branch is a student-run organization that connects students with the opportunities that are presented by the Institute of Electrical and Electronics Engineers.

**Meetings:** Thursdays, 4:00 pm
**Location:** ELW B350
**Contact:** Ben.I.Hawker@ieee.org

**UVic Biodev**
They design and prototype commercially applicable medical grade devices.

**Meetings:** Wednesday, 5:30 pm
**Location:** ECS 108
**Contact:** uvicbiodev@gmail.com

**Engineers Without Borders**
Engineers Without Borders is a growing charitable organization dedicated to international development.

**Meetings:** Thursdays, 5:30 pm
**Location:** ECS130
**Contact:** communication@uvic.ewb.ca

Disclaimer: The views expressed in this paper are by no means the views of the UVic ESS or any member of the UVic engineering department, and therefore should be taken solely as opinion rather than policy. ERTW!
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Robots invade the ELW!

During the Spring 2015 semester all first year students had to complete a project to complete the ENGR 120 design course. To test the students' programming, construction, wiring, and team management skills, it was decided that they were to build a robot using a VEX kit, a breadboard, and some miscellaneous circuit components.

The goal was to build a robot that could locate a beacon transmitting an IR signal in a wooden arena, move towards a beacon emitting an IR signal, pick up an object off of the beacon, and drop the object outside of the arena. Building the robot’s chassis was no issue since the VEX kit came with a very helpful instruction manual, but when it came to designing the IR sensors, the pick-up mechanism, and the robots’ program, all hell broke loose.

Students cussed and yelled as their robots rammed into walls, spun aimlessly in the arena, or dropped the payload prematurely. Many students growled with frustration as their robots began pickup operations in the middle of the arena or have a motor burn out due to fatigue.

At the end of the course, everyone completed their tests, made their report presentations, and began to frantically study for their exams. Well, maybe not quite everyone.

There were a few teams in the course who managed to overcome these difficulties and complete the task most efficiently. To see which of their robot designs were the best, the faculty set up a robot competition in the ELW lobby. Here, each of these teams compete with the students to show them how things are done.

When asked about how it felt to make it to the competition, competitor Michael Arcilla wrote "Really cool! I don't think any of us had any experience working with robots in the past so it was also quite a surprise."

On the day before the Easter long weekend, the challengers arrived with robots in hand. With judges timing, each robot made three runs and the best of three times were taken. As a crowd watched, robots roamed around the arena seeking to capture their targets with extreme prejudice. In the end, only one team was victorious.

After the points were calculated, it was found that Michael Arcilla, Andrew Tran, and Josh Stang were the champions and they were awarded with an arduino kit for their efforts. "Personally, I was really proud and happy for my teammates Andrew and Josh!" Arcilla wrote.

However, controversy erupted soon afterwards.
"Yeah, there was some controversy," wrote competitor Hunter Arcese. "When we (my team and I) did the third trial, Dr. McGuire had the beacon in the wrong position and didn’t notice until after we did the trial. The position the beacon was in meant that our robot had to travel a longer distance than it should have. Dr. McGuire kindly offered for us to redo the third trial because of that. In the redo, our robot didn’t work as designed and plowed into the beacon. Because of that failure, we asked for the original trial (the one with the beacon in the wrong position) to be counted instead of the redo and, as I recall, Dr. McGuire agreed and offered all other teams one redo as well. Brianna and I kept track of the times various robots completed the trials in and ours was the fastest."

After bringing this to Dr. McGuire's attention, things were quickly corrected. "Dr. McGuire apologized and kindly offered for an arduino kit (the top three prize) to be ordered, which Brianna and I accepted." So in the end, Hunter Arcese, Brianna Carrels, and Aaron Eley were also declared winners of the competition.

What happened to the ESS robot? According to some people in the office, the senior student had some very creative ideas for the robot (some would even call it attempting to "cheat"). However, they failed to compete due to their overwhelming sense of creativity frying their BeagleBone Black. While the others competed, they instead handed out free swag such as stickers, scarves, and pins to the crowd.

Overall, even making it to this competition is something to be proud of after overcoming so many challenges. "It was great. My team and I had a few issues with code and reliability all the way up to the final milestone, so it was very rewarding to make it into the competition," wrote Arcese.
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UVic ECOSat wins stellar award

The UVic ECOSat team has some big plans for the next few months.

On May 19th, Larry Reeves, the director of the Canadian Satellite Design Challenge, awarded the team $11,500 for winning the Canadian Satellite Design Challenge in early 2014. The competition had ten university teams design and build a small satellite that could perform a number of experiments and hold a number of sensors. UVic ECOSat’s winning satellite ended up holding all of these while being compact with dimensions of 34 cm by 10 cm by 10 cm.

For winning the competition ECOSat not only gets the large sum of money, but they also get the opportunity to have their satellite launched into space. They still do not know which space agency will launch the satellite or when it will happen, but they plan on having the satellite launch ready by November 1st.

Using the money, ECOSat plans on building a ground station to track their satellite. The ECOSat station will also be able to communicate with the International Space Station. This ground station should be up in a month or two.

If you are interested in helping out with these great projects, email ECOSat at ecosat@uvic.ca or visit them in their office at EOW 148. They are always looking for more people to help out.

Get ready for Engineers Without Borders!

Joseph Kaplan
VP Communications
Engineers Without Borders
Everyone get exited!
Engineers Without Borders is back again this summer!
Things really took off for us last semester after our BC retreat on Gabriola island with UBC, UBCO, SFU, BCIT and the Vancouver Professional chapter. We ran some awesome events like the fair-trade pancake breakfast, documentary nights and had some guest speakers come give fascinating presentations.
This summer we plan on running just as much awesome stuff and even more. We plan on sending a few members to the Western retreat at beautiful Buck Lake, Alberta from July 17th until July 19th.
We also plan on hosting a fair trade soccer game and another fair trade pancake breakfast. Come get involved!
Our meetings will be held on Wednesdays in ECS 130 at 5:30pm!

Ever dream of becoming an English Naval Engineer?

Christina Saimoto
Vice President External

Are you graduating within the next 6 months?! Are you interested in Naval Engineering?! Do you want a free Masters Degree in the UK?!? Then do we have a deal for you!!!

More info at http://www.chevning.org/canada/

Contact Christina Saimoto at essavpx@uvic.ca for details.
We are back from the Formula Hybrid Competition and things went extremely well, in spite of some unfortunate circumstances.

During our trip down to the competition our team’s vehicle trailer was struck by a car on the freeway near Livingston, Montana. All four UVic team members were unharmed and the other driver, who sustained only minor injuries, accepted full responsibility for the accident.

The car was too badly damaged to race, but we still entered the events which did not require the vehicle’s presence. For these events we gave comprehensive presentations that best outlined our hybrid racecar’s developments and results.

The competition organizers and judging panels recognized and praised the high quality of our work. At the end of the competition, the UVic Hybrid Team proudly received the following awards:

• Gracious Professionalism award
• First place for Project Management in the Hybrid Vehicle category
• Second place for Engineering Design in the Hybrid Vehicle category and
• Third place overall in the Hybrid Vehicle category

We deeply appreciate the strong support of our sponsors, the community, and the University that made this success possible. Despite our disappointment that we weren’t able to compete in the dynamic events in New Hampshire, we’re proud of this year’s accomplishment and look forward to the 2016 Formula Hybrid competition.

Thanks again for your support!
Fishwrap

LTD has some exciting events planned

Deep Discussions on Competency
Leadership Through Diversity hosts discussion groups to create a safe and open forum for exchange of ideas on topics sensitive to a progressive Engineering environment. This semester we will be hosting a discussion group on competency, and how gender impacts perceived competency in the work place. This topic is of growing importance as many traditionally male dominated fields become more strongly diverse, Engineering being one of them. This will be a mediated discussion where everyone will be free to explore what the idea of being competent means to them, and the different ways in which gender influences perceived competency in a judgement free context. We hope to see you there.

The Gamestream is coming!
Every semester the ESS does a charity drive where we do something fun and interesting to raise money for a worthy cause. This semester on June 26th, the ESS and CSCU will be hosting a 24 hr Gamestream to raise money for Child’s Play. It is still in its planning stages but it will involve booking a room on campus and playing video games of all kinds while having gameplay streamed through Twitch for 24 hours. The same event was done last semester with great success.
To keep up with developments regarding this event, keep an eye on our Facebook page. You can also email esschar@uvic.ca for more details.

Engineering PSA
If you’re taking the engineering ethics class right now, keep your course materials. It will help greatly with the APEGBC ethics requirement later on in your career.

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Ice cream potluck a great success!

On Tuesday, the ESS had its first ever Ice Cream potluck in the ELW lobby. The potluck included a plethora of ice cream options composed entirely of vanilla. There were a large number of possible topping combinations and people could even mix their ice cream with the slushies offered in the office to create a really icy cold ice cream slushy float.

A very lucky elite even managed to have their ice cream served in a waffle bowl. The non-waffle bowl plebs had to eat their ice cream out of common paper bowls which is a shame.

The ice cream ran out quickly so remember that when we have this event again, grab your ice cream and waffle bowls ASAP.

Students enjoying free ice cream.

xkcd.com
Fishwrap

Mark the Calendar for UVEC

On July 11th, the ESS will be having its University of Victoria Engineering Competition (UVEC). The competition has multiple categories and the winners get to compete for UVic at the Western Engineering Competition (WEC) in the spring. Right now, details are being worked out but in the mean time people interested in competing should get their teams together. If you have any questions, email Christina Saimoto at essavpx@uvic.ca. The categories for the competition are:

Senior Design
Teams of four are given their challenge the morning of the junior design competition. The challenge usually involves designing, building, and testing a simple machine or structure to complete a given task. Teams have to consider limited resources and a scoring matrix to best maximize their score. After only four hours, the teams must present and test their prototype before the judges.

Communications
This competition challenges competitors in teams of two to describe a complicated technical process or issue in terms that the general public can understand. This is done in the form of a 20-minute, pre-prepared presentation of the topic of the team’s choosing to a panel of technical and non-technical judges, who select winners based on presentation skills, topic analysis, and conveyance of information.

Consulting
The Consulting Engineering competition challenges teams of four to design a detailed solution to a large-scale engineering problem. They are presented with a problem that morning, and have up to 8 hours to solve it and submit a report and the presentation they will deliver the next day. The proposal must be made in a way that promotes the solution to potential customers in the form of judges.

Debate
Teams of two competitors use analytical techniques to present, in parliamentary debate format with minimum preparation, a reasoned point of view of a resolution that has not been disclosed beforehand. The goal is to assess the competitors’ abilities to convey ideas and develop arguments and not to assess competitor knowledge of formal debating rules; therefore the rules normally used in debates are relaxed.

Innovative Design
The most technical competition, innovative design requires teams of one to four students to bring to WEC a solution to a problem of their choosing. The problems are typically applicable in the real world, and their solutions must be practical, useful, and original. Winners are selected based on the overall engineering process: market research, feasibility studies and design prototyping.

Re-Engineering
In this competition you take an existing situation or concept and repurpose it in an innovative way. Past competitions have included designing Mars missions with a set number of parts and finding new uses for an abandoned railroad.

Engineering Evening Excursion Recap

Sarah Shepherd
President

It started off a hot, sunny day in the yard of a house in a nice, quiet neighbourhood. People were playing croquet, catching up with their friends, throwing a Frisbee around, or just lying in the grass, taking it all in.

Inside, there was ping pong, foosball, good music, and other fun activities. Thirst was not an issue as beverages flowed freely and good vibes resonated throughout the property.

After three hours of sunny outdoor fun, we all piled into a couple of busses and headed downtown.

The first venue provided a more hyped vibe, in a nice juxtaposition when compared to the earlier evening activities. Here, we were offered a place to strengthen the bonds of new friendships made earlier in the night.

Our second venue is where we got our dance on! Music blasted through large speakers, limiting our ability to communicate verbally with people, but enhancing our ability to communicate through dance.

[Editor’s note: description stops here since the prez grabbed some waffles before the third venue. The third venue was at a venue similar to the second where people still had the chance to “get their dance on.”]
Hey y’all,

This here is my report on how I did my job at Townsend International in Langley. I mean Langley in BC, not the Langley’s in the UK or the US. I dunno why you woulda thunk otherwise but I guess it gotta be said.

Anyway, there was one problem I had to solve working for these people where I had figuring out a way to move a brand new thing from the warehouse to a customer. I got this memo on the first day so I didn’t know what we were making and who were buying them or where they were going but it seemed important. I do know they were expensive and needed some moving to a far place away.

My first idea was to use a train because trains are cool. They move on rails make loud whistle noises and everything. I phoned the rail company to ask for much it would cost but they wanted to know what I be shipping and how far it was gonna go. Then I figured out that real problem was that I don’t know what the hell I was doing.

My first idea to find out what my job was, was just asking my boss what my job was. I tried phoning him one time but he was busy so I moved on to my second plan where I Googled my position name and company name on the internet. After a couple of days of doing this stuff I found out that as an intern, I gotta be following around people and learning stuff and my company designed innovative solutions. So I followed around Anne from some engineering department for a couple of weeks and tried to learn as much as I could from her and offer some innovative solutions.

The first problem I saw was that she spent way too much time asking what I was doing. One time when I said that I wanted to learn from her about intern things she started some speech about designing something called a manny fold. I still don’t get what a manny is or why we want to fold it but I learned that nodding during a confusing talk will make people think your listening. This skill helped alot for the rest of my time there (see figure 1: average number of nods per hour per topic).

Anyway, after I mastered engineering from Anne I still didn’t have an idea of what I had to be doing. My other idea was to look at the warehouse and see what was in it. Outside, it was just a big boring grey building so that didn’t help. Going inside, there was lots of big boxes laying on shelves and there was a forklift there which was pretty neat. I met a guy named Tom there who was happy to help. He showed me how to use the forklift and he showed me how to move boxes around the warehouse. He was very helpful and I spent the next two months moving boxes with a forklift while he stood around smoking something that smelled funny and cracking jokes. He really didn’t seem that busy while I was there.

On my last day, I went back to my cubicle I found a stack of papers and my phone inbox full. Looking at the top of the papers, I saw a memo asking if the prototype circuit board was sent to some office in Milwaukee. I grabbed the board from the lab, threw it in a box, and dropped it off at the mail room. It took me 45 minutes.

Thats how I solved the mailing problem. I learned a bunch.
It really is that much better than aluminum foil

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Hexadecimal Sudoku

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Crypto Movie Quote

N’WW QNDD HJS DSX, KEH X LSGDFC CSSPD CSM SVLSGNSTCSD, HJSI YXG DFQSHINCA PSSL NCDNPS, XWWFMNCA JNJQ HF AGFM. MNHJFEH TJXCAS DFQSHJN-CA DWSSLD NCDNPS ED, XCP DSWPFQ XMXZSCD. HJS DWSSLSG QEDH XMXZSC.

-PEZS WSF XHGSNP, PECS

Quotes from Engineering

“Tortillas are not a necessity of life.”
-Engineering student discussing economics

“Anything is brave enough if you do the things.”
-Alex Laing

“I know there’s a lot of mechs in here so I have to make it as simple as possible.”
-ELEC 250 prof

“You need to compensate for delays... Something that BC Ferries still has yet to figure out.”
-Dr. Driessen

Last Issue’s Solution

Thank you to the following for the Fishwrap submissions!
-Christina Saimoto
-Sarah Shepherd
-Hunter Arcese
-Michael Arcilla

Abstruse Goose

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