HIGHLANDER
ENGINEERING

JANUARY 2022

PROSPECTUS

HIGHLANDER ENGINEERING

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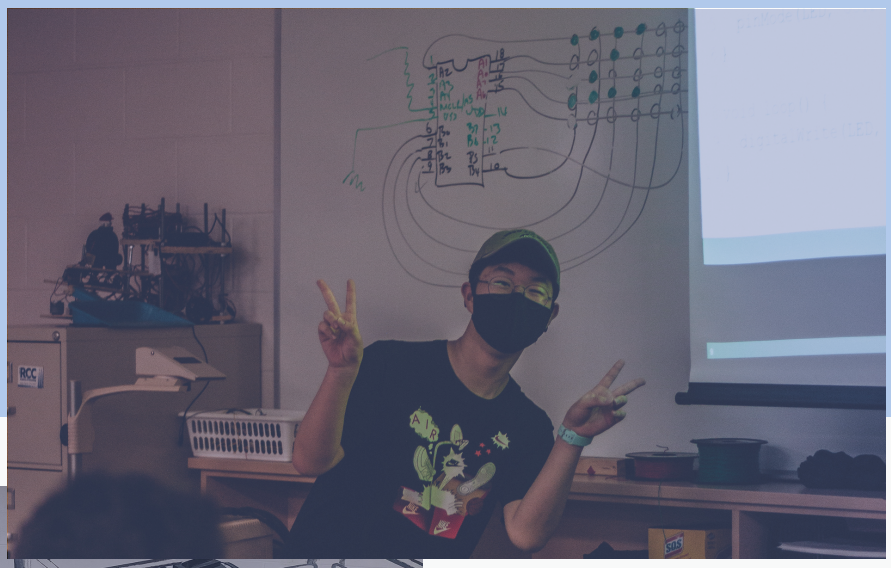
About us

We are a community at Sir John A. Macdonald Secondary School in Waterloo, Ontario with 200+ passionate members and counting. We host weekly coding and robotic workshops to help students create projects that deepen their interest in engineering.

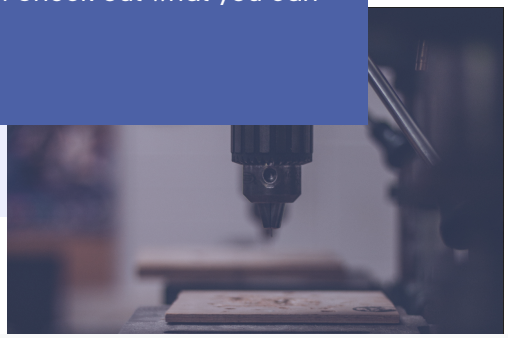


Our Mission

Our mission is to light a spark in students of all backgrounds through which we hope to ignite a passion for technology and develop valuable skills and experience that will be beneficial in future education and employment environments. We hope to accomplish this by hosting workshops and fun events which will give our members valuable skills and experience that will help to shape the next generation of engineers.

Support Us

We would love to partner with you in influencing the next generation of engineers and developers, either through guest speakers, mentors or by a monetary contribution. If you believe that you will be able to assist us in making our goal a reality then please do not hesitate to reach out to us by email or contact us through the form on our website. Check out what you can offer to inspire our students below!



As a school community, we have limited resources available to us. If we are to go continue to host hardware workshops, we will need more funding than what our school is able to provide. This funding will be used to purchase Arduinos and various electronic components for our workshops. We require this because, without funding, we will be forced to charge an entrance fee which we do not want to do as we wish to be open to everyone, regardless of financial status.

Our Hackathon

Our Goal

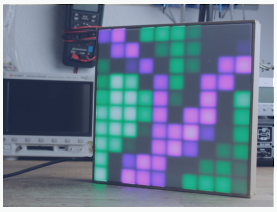
In order to encourage collaboration and creative thinking at Highlander Engineering, we are hosting an ongoing-hackathon type event. Essentially, our members would form teams and create something using a combination of their software and hardware knowledge and skills. We understand that most members don't want to sit through a lesson after a tiring day of school, which is why we're giving them the creative freedom to make whatever they would like. Plus, it gives our members a chance to win some cool prizes!

Timeline

This is a timeline for our community leading up to our proposed hackathon event.

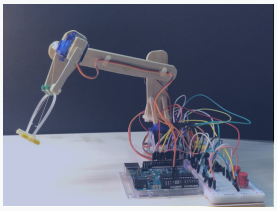
LED Matrix Project (Feb 7th - 28th)

A beautiful 3x3 RGB matrix project powered by the Arduino Nano and WS2812B RGB LEDs. We will be exploring skills such as soldering, component management as well as introducing Arduino libraries.



Robotic Arm Project (Mar 7th - 28th)

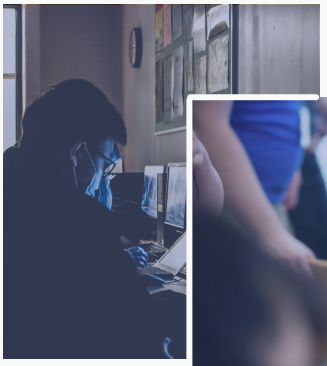
A simple and creative preliminary project in order to prepare our members for the hackathon. We will be exploring skills such as 3D modelling, 3D printing and PCB manufacturing.



Hackathon Event (Apr 4th - May 30th)

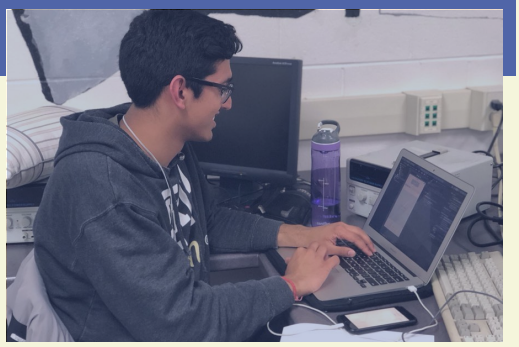
Our proposed hackathon event will take place over a 9-week span. Over that time, we will be providing components, 3D printing, woodshop as well as executive support. Members are encouraged to work together in order to create something cool or innovative, combining their skills of software and hardware into one final cumulative project.

The Judging will take place on May 30th, which also will be the last day of our community for 2022.



Hackathon Tracks

We plan to have three different "tracks" which can be followed during our Hackathon. These tracks will allow participants to explore their interests in different fields of engineering and technology.



Software Track

The software track will give members the opportunity to dive deeper into the diverse field of software engineering. We will give our members the opportunity to explore the latest innovations in the field, including Artificial Intelligence, Big Data, Blockchain, Machine Learning, Neural Networking, and more.

Hardware Track

Contrasting the software engineering side of our Hackathon, we wanted to give our members the opportunity to learn and experiment with hardware and robotics. We understand the importance of communication in engineering, which is why we are committed to teaching through experience and teamwork. We are planning on achieving this through workshops, projects and fun events.

Combo Track

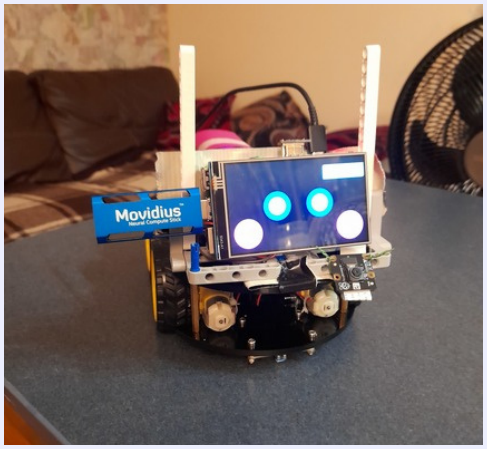
The combo track will give members an all-in-one experience combining software engineering, programming, hardware, and robotics. Members following this track will be able to work on a final project to be submitted either through the software track or through the hardware track.

Type of Projects Our Members Will Be Creating:

We encourage our members to create a project that is meaningful and creative. After all, the point of engineering is to help people, and for us, that means creating something that can make an impact in this world using the power of technology. Our submissions will mostly consist of projects that combine software and hardware, however, we will accept all projects. Some examples are listed below:

We plan on offering:

- 3D Printing
- Wood Shop
- Soldering Stations
- Hardware Components
- Software Licenses



Deskybot - A hardware based robot assistant

Remedy - A medication manager combining hardware and AI

Memelet - A web application that makes studying fun

Costs

In order to maintain our community, we estimate that the cost will be $8 per person, per year. We will also provide one Arduino Nano per group for the projects. We would like to keep this community free to attend, which is why we would really appreciate your support. Here's an estimated breakdown of that cost:

Material Costs (Wood, 3D Printer Material) ---------- $3.5
Hardware Components (Servos, Sensors, etc) ----------$3.5
Misc Costs ----------$1
Arduino Nano (one per group)----------$5

In addition to the cost above, we also have to account for the one-time purchases that we need to make. For example, Arduino boards, 3D printers, etc.

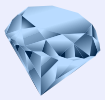
3D Printers (Approx. 7 to keep up with demand)----------$400 - $700/each
Arduino Unos for Sharing ---------- $15 each

Sponsorship Tiers

Ruby
$100

Emerald
$250

Gold
$500



Diamond
$1000+

Your Branding	Ruby	Emerald	Gold	Diamond
Logo featured on website	small	medium	large	huge
Shoutout during workshops	✓	✓	✓	✓
Distribute swag	✓	✓	✓	✓
Social media shoutouts		✓	✓	✓
Access to club member emails			✓	✓
Custom Prize Track				✓

Your Involvement	Ruby	Emerald	Gold	Diamond
Mentors sent	max 1	max 2	unlimited	unlimited
Recruitment	✓	✓	✓	✓
Message at start of workshop		✓	✓	✓
Sponsor booth/Discord channel			✓	✓
Run a workshop				✓
Send a representative				✓

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Mentors

Being mentored is a great way to learn. Our club members are mostly beginners with minimum experience but a great passion to learn. Your contribution can help shape their future.

Judges

We plan to end the school year with a large hackathon-style project showcase. As a sponsor, you can send judges to provide insightful feedback for our club members.

Non-Monetary Support

We appreciate any support you are offering us. If your company is offering us your APIs, or other services, we will value that support equally with monetary support.

Workshops

Hosting a workshop allows the spread of knowledge to passionate students. This is your chance to introduce your company service/products to them.

Marketing

Our community of over 200 passionate students helps your company achieve. You can have access to our student's information for recruitment, and marketing purposes.

Interested?

Email us at sponsor@highlandereng.co. You can always negotiate and we'd be happy to work out a partnership that benefits both of us.