DELTAHACKS III

Welcome Package

January 28-29

In Collaboration With

MLH
MAJOR LEAGUE HACKING
POWERED BY DELL | Windows

McMaster University

McMaster Engineering Society

INTRODUCING

DELTAHACKS III

Welcome to Deltahacks III! We're super excited that you'll be attending our event this weekend and we hope you have an amazing experience. Whether you are a complete beginner or an experienced veteran, we are sure you will get something out of this event. We also hope our guests, sponsors, mentors and judges have a great time interacting with everyone. We know you'll come up with awesome hacks and we have amazing prizes and swag to hand out to those that build cool projects. So get hyped for Deltahacks because we know that these next 24 hours will be full of wonderful things!

See you there!

TABLE OF CONTENTS

Note: Click on section to directly jump to it.

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</> EVENT SCHEDULE

Saturday

8:00 - 10:00	Registration	ETB Lobby
10:00 - 12:00	Opening Ceremony	BSB 147
12:00	Hacking begins	
12:00 -13:30	Lunch	ETB Basement
13:30-14:00	Fire Drill	Fire Drill Area (pg 18)
18:00 - 20:00	Supper	ETB Basement

Sunday

00:00 - 1:00	Midnight Snack	ETB Basement
8:00 - 10:00	Breakfast	ETB Basement
11:00	Submissions Due	
12:00	Hacking ends	
12:00 - 14:00	Lunch	ETB Basement
14:00 - 15:30	Project Expo	ETB Basement & 2nd Floor
16:00 - 17:30	Closing Ceremony	BSB 147

📅 WORKSHOP SCHEDULE

All workshops will be held in ETB 124, descriptions of the workshops are provided in the Workshop's section.

Saturday

12:30-1:30	**MLH**	Group Formation/Idea Generation
14:00 - 15:00	**IBM Bluemix**	Dev and Operations Environment
15:00 - 16:00	**Indellient**	Career Panel
16:00 - 17:00	**Konrad**	Intro to web development with Python and Flask
17:00 - 18:00	**RBC**	Tech Talk
18:00-19:00	**Tianwei Liu**	Intro to Android Development
20:00 - 21:00	**TD**	Mobile Development
21:00 - 22:00	**Dr Christopher Anand**	Intro to Optimization

Sunday

9:00 - 10:00	**MLH**	How to Demo Your Hack

ACTIVITIES SCHEDULE

Saturday

19:00 - 20:00	Slideshow Karaoke	ETB 124
22:00 - 24:00	Smash Bros Tournament	ETB 524

Sunday

1:00 - 2:00	MLH Cup Stacking	ETB Lobby
2:00 - 3:00	!Code in the Dark	ETB 124
8:00 - 9:00	Morning Meditation	ETB 524

HACKING INFO

RULES FOR HACKING

- Hacking officially starts at noon on Saturday and ends at noon on Sunday.
- Project submission is due at 11 am on Sunday.
- A team can be formed by no more than 4 people.
- The hack you submit must have been started at this event and made during the 24 hours of this event.
- Hacks must be worked on at the event, you cannot work remotely.

⚙️ API/HARDWARE AVAILABLE

APIs

ArcelorMittal Dofasco's REST API

Kloudless API

Hardware

Courtesy of MLH:

Alienware Laptops and Desktop

Amazon Echo

Amazon Fire Phone

Arduino, Shields and Sensors

Dell Monitors

Dell Inspiron Laptop

Dell XPS 13

Intel Edison

Leap Motion

Muse Headband

Oculus Rift

Particle Photon

Pebble Time

Samsung Gear VR

Courtesy of GeniusIE:

3D Printers

Courtesy of BitAlino:

Bitalino Board Kit and Sensors

Courtesy of Microsoft:

Microsoft Surface Pro Tablets

Note: The underlined names link to either the API or the specs.

PROJECT SUBMISSION GUIDELINES

Please submit your projects to **deltahacks3.devpost.com** and include all members in the devpost. Members that aren't included will not be eligible for prizes. Prize categories will be announced during the opening ceremony so feel free to apply to all eligible categories that your hack is applicable for. For those interested in continuing your hack after the hackathon, we will have a special announcement regarding this during closing ceremonies.

TRANSPORTATION

BY BUS

We have pre-arranged buses to the following areas: Downtown Toronto (1 bus), Kitchener-Waterloo (2 buses), and London (1 bus). We will send emails shortly regarding who the bus coordinators are and they will release signups for the buses along with their pickup locations. All buses are first come first serve. If you do not go on a bus, you will need to arrange your own transportation to arrive here with directions below for car and GO Transit. If you have any questions regarding buses, you can email **Troy, our bus coordinator, at troykuang0608@gmail.com** and he will answer your questions as soon as possible.

BY CAR

If you are travelling here by car, you should look up directions to McMaster University as the event will be hosted on campus. We recommend driving with a GPS or using Google Maps to ensure the smoothest route here.

⬤ BY GO TRANSIT

There are several GO Transit buses that go directly to McMaster University. However, not all will stop directly at campus. Below are the list of routes and the stop to get off at:

BUS NO.	ROUTE/LINE	STOP
16	Hamilton/Toronto Express Bus	Hamilton - Main St at Longwood Road S
40	Hamilton / Richmond Hill Pearson Express (Eastbound to Richmond Hill)	Hamilton GO Center
47	407 West Bus(Westbound towards University of Guelph)	Mcmaster U GO Bus Terminal/ Hamilton GO Center

ⓟ PARKING

We have reserved Parking Lot I for the event. Please refer to the campus map for where the parking lot is and how to get there. Parking permits will be handed out at the registration desks in *ETB* lobby if you need one. Please present your parking entrance ticket and we will instruct you on how to use the parking permit to exit the lot.

ARRIVAL

REGISTRATION

Please enter _ETB through the main entrance as shown on page 20 in the Building Maps._ Please bring 1 form of photo ID and your student card. Volunteers will hand you some cool swag including a custom lanyard with your name written on it. Please wear this lanyard at all times to identify you are part of the event. Those who do not want their photos taken can choose to have an orange ID card instead of a white one. You will also receive a WiFi pass if you are not a McMaster student.

CONNECTING TO THE WIFI

McMaster students are recommended to use your macID as we have reserved the WiFi passes for those coming from other areas. The pass can be used on multiple devices but do not share your passes as we have enough for everyone and want to prevent any WiFi issues from happening. Alternatively, you can also connect to **eduroam** using your school's standard login username and password.

OPENING/CLOSING CEREMONIES

The opening/closing ceremonies will be held in a separate campus building at _BSB_ in auditorium 147. Please refer to the campus map for directions. There will be volunteers and signs to guide you from _ETB_ to _BSB_. Should you get lost on campus, you can always contact **Graeme Crawley, our hacker coordinator at 905-933-2082** and he will be happy to give you directions from where you are.

SOCIAL MEDIA

The official slack channel is **https://deltahacks3.slack.com**

You can also follow us on social media:

- Facebook: www.facebook.com/thedeltahacks
- Twitter: @deltahacks
- Instagram: @deltahacks
- Snapchat: deltahacks

We will be posting updates and highlights throughout the event and have some prizes for best social media posts, shares and snaps!

MENTORS

We have a lot of mentors available at this event. The main method for getting help is to post a detailed question in the mentors channel on Slack. Mentors will claim these posts by reacting to them and you can start a discussion with them privately. Mentors will also be walking around the various classrooms so feel free to interact with any that come by.

SCHEDULE DETAILS

MEALS

All meals and snacks will be served in the basement of *ETB*. Meals will be served over the course of 2 hours so come down anytime to get a hearty meal. If you have any dietary restrictions or allergies, please inform the volunteers at the food tables and they will direct you to the alternative meals section.

SNACKS/DRINKS

Snacks and drinks will be provided at meal service area on the basement and in the snack room at *ETB* 119. All snacks and drinks will be regularly refilled. There is also hot coffee available in the evening on Saturday and in the morning on Sunday. We will announce on Slack when it has arrived. Should any tables in the basement run out of snacks, please inform any nearby volunteer or contact **Nathan Mangaoil, our food coordinator, at 289-380-6465** and we will refill the snacks there.

MLH
GROUP FORMATION/IDEA GENERATION | SAT 12:30

Need a group? Looking for ideas? This workshop will help you find buddies and present some cool ideas courtesy of our sponsors, the city of Hamilton and some local health professionals.

IBM BLUEMIX
DEV AND OPERATIONS ENVIRONMENT | SAT 14:00

Stephen Perelgut is the IBM Canada Business Development Manager for Cloud Ecosystem and Startups. As part of this workshop, he will be introducing the IBM Bluemix Development and Operations environment. Bluemix encompasses a complete Cloud solution including Infrastructure as a Service, development support including Agile Development tools, 1000's of API's written by IBM, the open source community and third-parties, and support for development of big data analytics and cognitive applications. Bluemix is available without charge for a 30-day trial and includes boilerplate code that has been used at previous hackathons since it gives developers a jumpstart to using some of the most advanced tools. The workshop will cover how to access Bluemix, some of the more popular boilerplate code used in Hackathons, the clusters of API's available and how they can be deployed to implement solutions.

INDELLIENT
CAREER PANEL | SAT 15:00

This panel style workshop will focus on careers in IT and software development. Network with industry professionals, learn tips about interviewing and looking for jobs, and ask any questions you have about working in the software industry.

KONRAD GROUP
INTRO TO WEB DEV WITH PYTHON & FLASK | SAT 16:00

Build an API or render HTML pages from the server. Leverage the power of Python to build applications quickly. By the end of the workshop, you will have a small application that can be extended to meet your needs.

RBC
TECH TALK | SAT 17:00

In this workshop, an RBC representative will discuss the changing landscape in information technology and the impact it has had on RBC and new RBC products. You will get a chance to learn about new projects underway at RBC and what kinds of work you would have a chance to engage in with a career in software development or IT at RBC.

TIANWEI LIU
INTRO TO ANDROID DEVELOPMENT | SAT 18:00

This workshop will introduce the basics of application development for the Android platform, including a discussion of the different frameworks available and items to consider when building your first app. A Q&A session will allow you to get all your questions about starting with android development answered!

TD
MOBILE DEVELOPMENT | SAT 20:00

This workshop will focus on the Mobile Development landscape at TD Bank, including mobile banking and other related technologies. In addition, representatives from TD Bank will explore career opportunities in software development and IT, with a discussion of the work environment and philosophy at TD and a chance to answer questions about careers at TD.

DR CHRISTOPHER ANAND
INTRO TO OPTIMIZATION | SAT 21:00

Many practical problems from route planning to designing the most efficient aircraft require the use of mathematical optimization. To prototype these solutions there is a free online tool accessible via simple algebra-like languages. This workshop will introduce https://neos-server.org/neos/ via hands on problems like hospital shift allocation and fitting experimental data to a model.

MLH
HOW TO DEMO YOUR HACK | SUN 9:00

This workshop is recommended for those attending their first hackathon as it will cover some important aspects of public speaking and things you should avoid doing during a presentation to a judge. We hope by the end of this session, you will be pumped to present and wow the judges with your hack!

ACTIVITIES

▶ SLIDESHOW KARAOKE | SAT 19:00 IN ETB 124

Love improv? Well how about presenting a random slideshow that you've never seen before? This is one of the most entertaining things you'll ever attend as it is full of random, funny and spontaneous moments.

▶ SMASH BROS TOURNAMENT | SAT 22:00 IN ETB 524

The tournament will be single-elimination 2v2 Melee tournament. Up to 32 teams can compete (so 64 people) and the winning team will win a prize! Compete with other hackers and see which team is the best at Smash!

▶ MLH CUP STACKING | SUN 01:00 IN ETB LOBBY

The infamous cup stacking hosted by MLH. Rookies and fellow veterans will all enjoy this timeless event as you work in pairs to stack the highest tower. Winning this is no easy thing, you'll probably need to come up with some creative strategies to blow your opponents away, literally.

▶ !CODE IN THE DARK | SUN 02:00 IN ETB 124

Do you consider yourself to be a pro hacker? Well this is the perfect opportunity to test your skills as you will be building a website from scratch without looking at the preview. Who knows what will happen when it's over but we know for sure there will be some funny sites to look at.

▶ MORNING MEDITATION | SUN 08:00 IN ETB 524

A perfect way to refresh yourself from an intense night of hacking. Led by Marybeth, she will guide you to spiritual enlightenment and make sure you don't fall asleep by closing ceremonies!

📢 IMPORTANT SAFETY INFORMATION

🚪 ENTRANCES/EXITS

All entrances to *ETB* will be locked apart from the main lobby for security purposes. Attendees may exit through other entrances but they will need to re-enter through the main lobby if they wish to enter the building. The building is programmed to lock all entrances after 8PM. More info on this is covered in evening security. Please do not hack in the stairwells or near any of the exits on the first floor and basement. The same applies to *BSB* during opening/closing ceremonies.

🛗 ELEVATORS/RESTRICTED FLOORS

All attendees are allowed to use the elevators to access the various floors in ETB. However, floors 3 and 4 are restricted so do not go on them for any purpose. We will mark all rooms and stairwells with signs of rooms/floors you are allowed and not allowed to enter. Do not attempt to go into any room that is locked with signs marked as so but if it is part of the hacker available classrooms listed in the building maps, please contact **Shivaansh Prasann, our volunteer coordinator, at at 289-659-7974** and he will find someone to unlock the room for you.

🔥 FIRE DRILL

The Hamilton Fire Department requires a fire drill to be conducted for overnight events. As a result, we will conduct a fire drill at exactly 1:30 pm on Saturday right before Lunch ends to make sure everyone is aware of the exits in the building in case of an emergency. When the alarm sounds, please exit the building from the nearest fire exit and head towards the fire drill field as marked on page 18 on the Campus Map. We will give more information on this during opening ceremonies and remind everyone right before the drill begins. The event team has trained fire wardens and their contact information can be found in the emergency contacts should any fire break out.

🔷 5TH FLOOR OPEN SPACE

The 5th floor open space is a combination of hacking space and event space. The only entrance door that is unlocked is in the 524 area but all doors are unlocked from the inside. Hackers can use this space to hack and chill. However, do not try to access the locked rooms inside and do not cross the marked off areas either.

zz DESIGNATED SLEEPING AREA

The sleeping area for hackers will be on the fifth floor in classrooms 534 and 533. Due to fire regulations provided by the local fire department, there is a limited capacity of spots available in each room for hackers. McMaster students are recommended to go home if they want to get some solid sleep. Volunteers will monitor the rooms outside for safety and security. If you would like to sleep in the room, please speak to the volunteers there to gain entry. The area will open at 10pm Saturday night and will close at 10am on Sunday. Please set your alarms beforehand and try to keep the volume low or use vibrate so as to not disturb any others sleeping.

EVENING SECURITY

There will be a volunteers checking students in if they wish to re-enter the building after 8PM as it will be locked after that time. A security guard will patrol the premises after 11PM. If you need to re-enter the building after 8PM, please check in with the volunteers at the entrance with your lanyard and photo ID. If you have any questions, please contact **Joelle Pang, our safety coordinator, at 647-919-4390** so she can assist you with any requests.

EMERGENCY CONTACTS

In case of any emergency, please find the nearest volunteer to assist you and they will contact the right person to resolve the issue.

If you are unable to find any volunteers nearby, here are the list of contacts:

For medical emergencies, contact **EFRT, the McMaster Emergency First Response Team at 905-522-4135 or dial 88** from any campus phone.
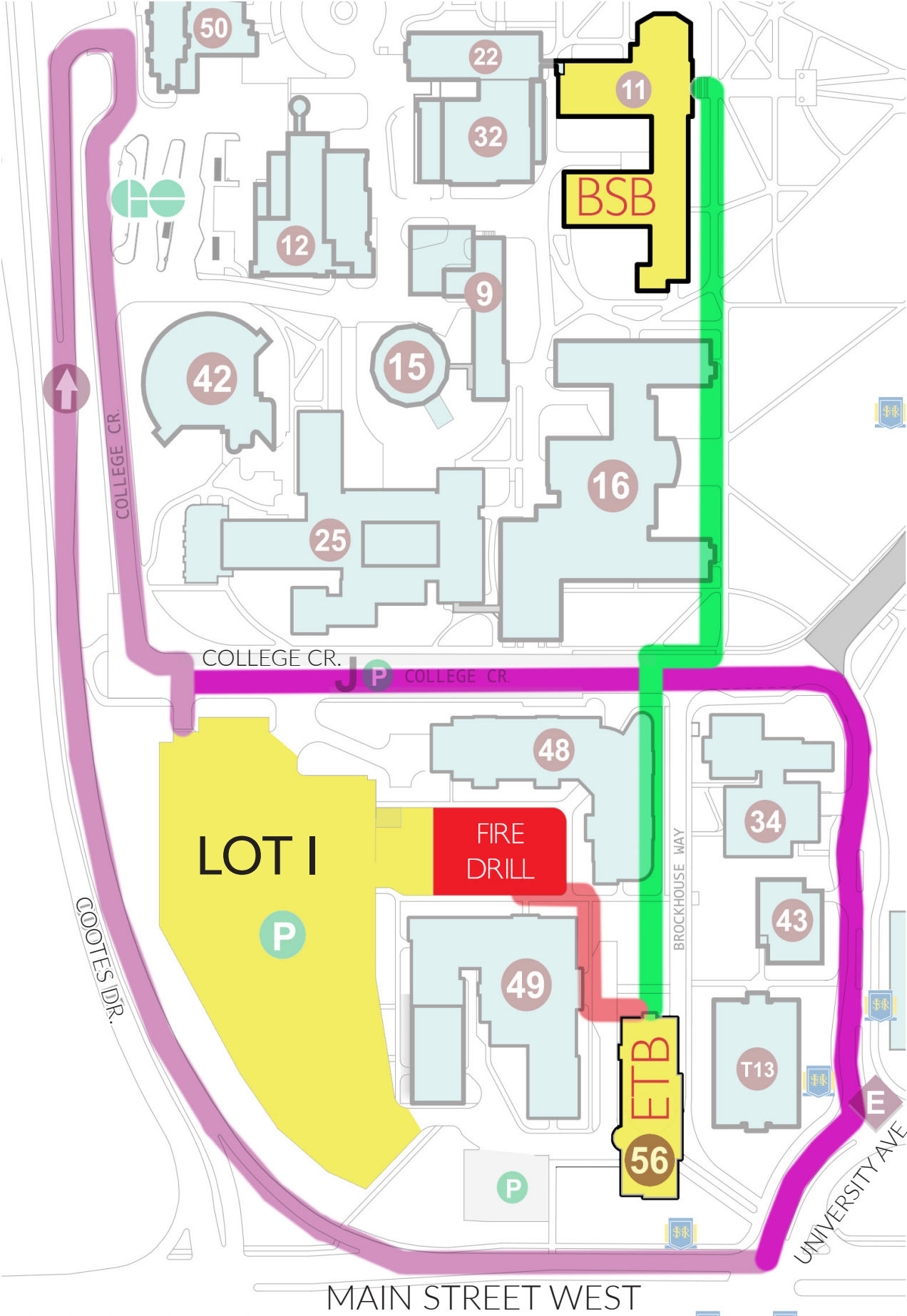
If a fire breaks out, pull the fire alarm and contact our head fire warden **Shiyu Luo, Co-Director, 647-380-9382, shiyuluosl@gmail.com, slack: shiyu**

If there is a dangerous or serious event happening, please contact **Tai Rui Tong, our resolutions coordinator at 289-689-5146, Tairui.911@gmail.com, slack: tongtr**

If there are any minor issues, please contact **Graeme Crawley, our hacker coordinator at 905-933-2082, gacrawley@gmail.com, slack: gacrawley**
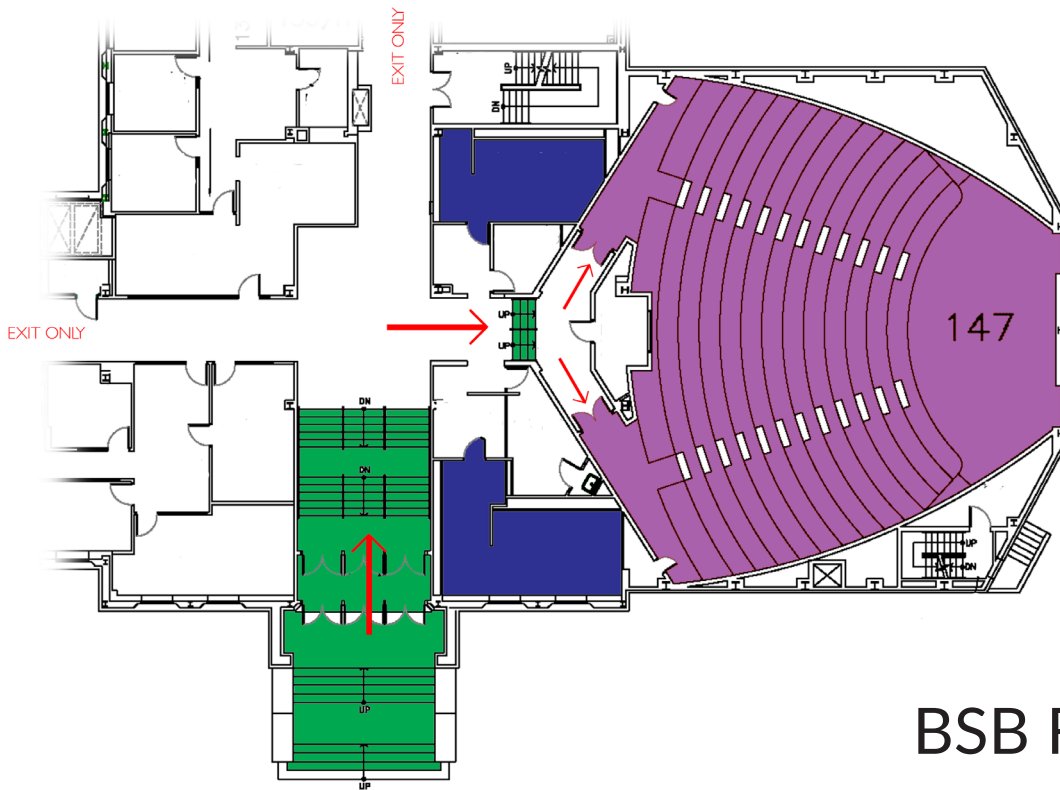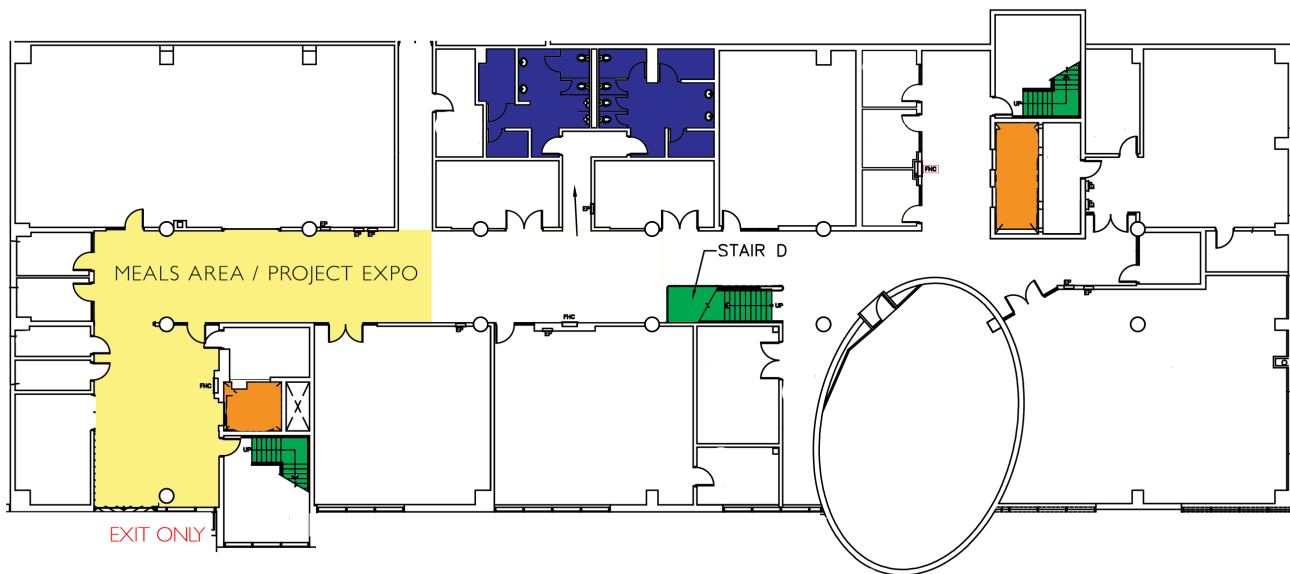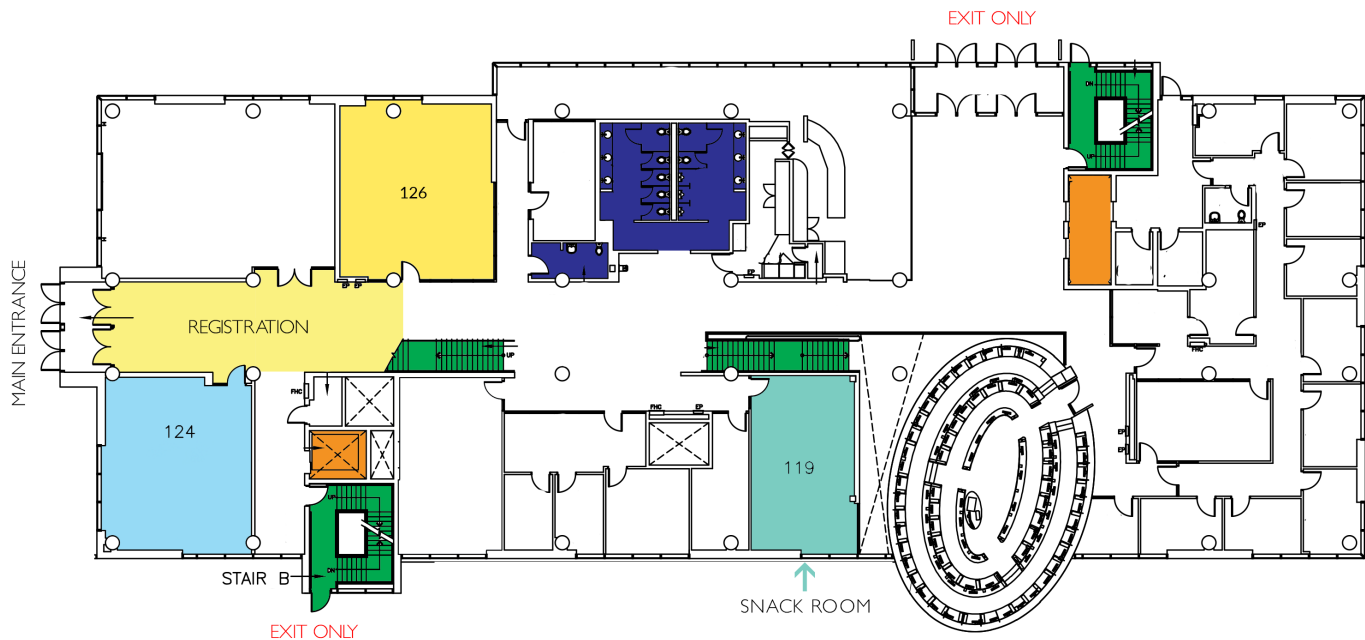
CAMPUS MAP

50

22

11

BSB

32

12

9

42

15

16

25

COLLEGE CR.

COLLEGE CR. J P COLLEGE CR.

48

LOT I

FIRE DRILL

34

P

43

49

ETB

T13

E

56

P

COOTES DR.

BROCKHOUSE WAY

UNIVERSITY AVE

MAIN STREET WEST

BUILDING MAPS

KEY

- Workshop
- Sleeping Space
- Auditorium
- Hacking & Events
- Elevator
- Stairs
- Restrooms

EXIT ONLY

EXIT ONLY

147

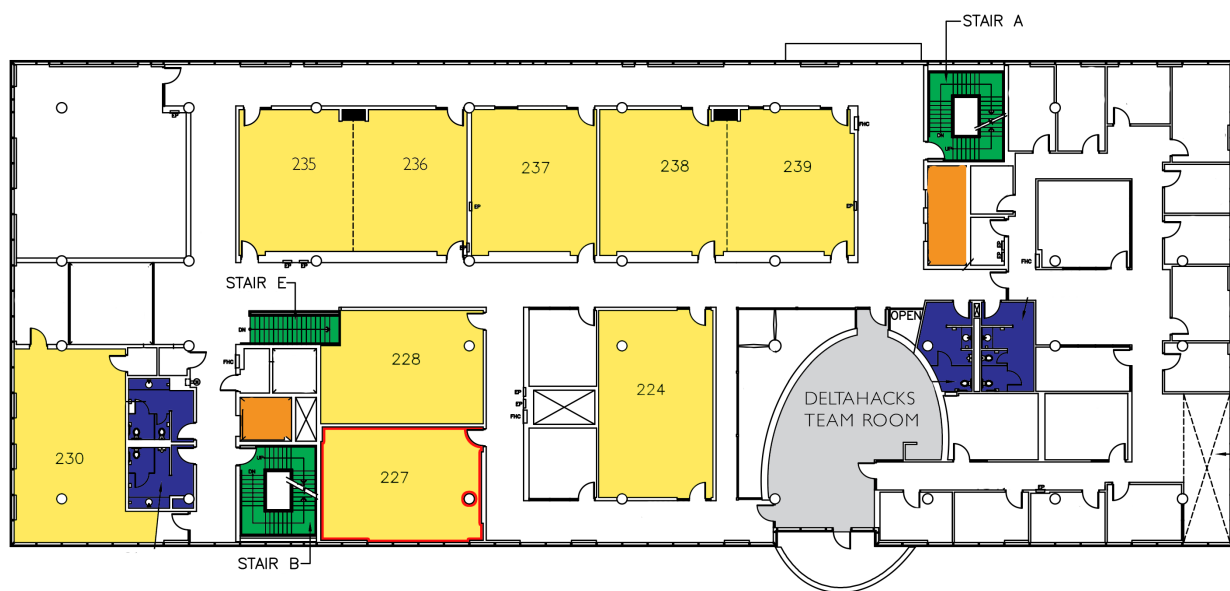## BSB FIRST FLOOR

MEALS AREA / PROJECT EXPO

STAIR D

EXIT ONLY

ETB BASEMENT

ETB FIRST FLOOR

MAIN ENTRANCE

EXIT ONLY

126

REGISTRATION

124

119

SNACK ROOM

STAIR B

EXIT ONLY

- OPEN AFTER 4 PM

ETB SECOND FLOOR

STAIR A

235 236 237 238 239

STAIR E

228

224

DELTAHACKS TEAM ROOM

OPEN

230

227

STAIR B

STAIR A

537

539

583

534

533

524

STAIR B

ENTER HERE
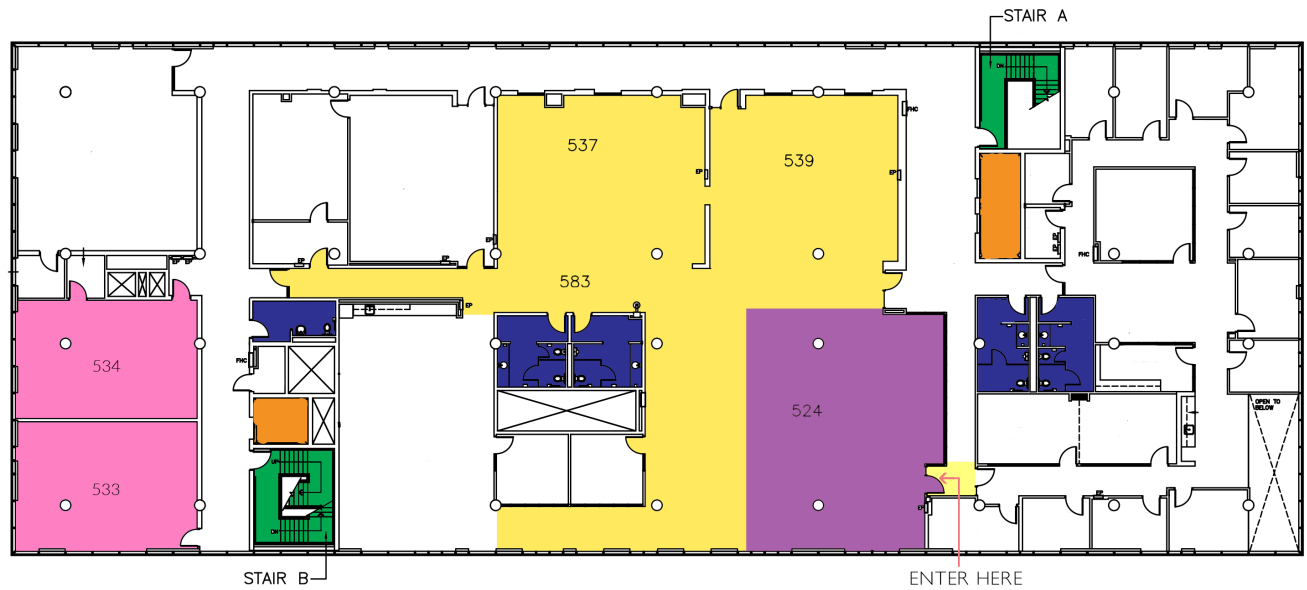
ETB FIFTH FLOOR

KEY

- ■ Workshop
- ■ Sleeping Space
- ■ Auditorium
- ■ Hacking & Events
- ■ Elevator
- ■ Stairs
- ■ Restrooms

OUR SPONSORS

Toronto-Dominion Bank

One of the top 10 banks in North America, the Toronto-Dominion Bank is a multinational banking and financial services corporation that serves more than 10 million Canadians daily and 22 million worldwide. Known as one of the top employers in Canada at over 85,000 strong, TD Bank earns multiple awards for not only their excellence in customer satisfaction but also their deep roots in its community of staff. Committed to being The Better Bank, TD fosters a culture of respect and values diversity as much as it monitors its financial portfolios.

Indellient
Recently placed into the 2016 Edition of the Branham 300 list of top ICT (Information and Communications Technology) companies, Indellient strives to be a leading solutions provider built on a dynamic portfolio of products and services that are unique, innovative and robust.

KONRAD Group
A global innovation firm that works with industry leading clients through lifecycle iterations of custom projects. Through a turnkey solution that caters to user-centric design methodology, their process is smooth, efficient and will ensure your product uses the latest cutting edge technology. Innovation is their speciality and leveraging it causes amazing builds to occur.

Royal Bank of Canada
As a multinational financial services company and one of the largest banks in Canada, the Royal Bank of Canada has employees in over 17 countries and is ranked as the 52nd largest company in the 2016 Forbes Global 2000 listing. Famous campaigns like the Blue Water Project have caused RBC to spend nearly $50 million towards protecting freshwater sources which have impacted over 3 milion households beneficially.

IBM
International Business Machines Corporation (IBM),also known as Big Blue, has been growing over the past century to become one of the world's largest employers to specialize in the manufacturing of computer hardware. They also are a major research organization famous for inventions like the ATM, floppy disk, hard drive, UPC barcode, DRAM and the recent IBM Watson technology platform that is constantly evolving through AI.

ArcelorMittal Dofasco
ArcelorMittal Dofasco is Canada's leading steel producer that employs over 5000 people to produce 4.5 million net tons of high quality steel every year.It's not just focused on steel though as they invest $2 million annually back into education, arts and sciences, the environment and a variety of charity and fundraising events logging thousands of volunteer hours as well.

FDMGroup
An IT services company known for it's Academy program that gives graduate students an accelerated career path towards the IT technology sector.

Namecheap
An ever growing domain and web hosting company that has provided more than 7 million domain names to over 3 million customers.

The Forge
McMaster University's very own startup incubator that provides young entrepreneurs an environment to learn, develop and succeed in their startup companies.

Ubisoft
An international video game publisher is most known for famous game franchises such as Assassin's Creed, Far Cry, Tom Clancy's Rainbow Six, Watch Dogs, and Rayman.

Vena Solutions
Vena developed by Vena Solutions is a powerful spreadsheet application that combines the functionality of Excel and corporate management solutions into a cost-effective, user-friendly and easy to implement package.

RL Solutions
A healthcare technology company that produces software for patient feedback, infection surveillance, peer review, and more.

GeniusIE
A local custom 3D printing and additive manufacturing company based in Hamilton.

BI Talino
Provides low-cost DIY hardware toolkits to prototype applications in healthcare and related fields.

Hypercare
A mobile messaging app for medical professionals to communicate around patient care.

DigitalOcean
Provides cloud computing infrastructure and cloud hosting services.

Slido
An interactive audience participation tool used to enhance meetings and presentations.

Google
Google's mission is to organize the world's information and make it universally accessible and useful.

Vicis Labs
Vicis Labs is a startup focused on financial empowerment and passionate about disrupting the socio-economic pyramid.

Wolfram Research
Wolfram Research's WolframAlpha is a mathematical computational engine that can solve complex problems with a simple search.

Kloudless
A universal API platform that directly integrates your apps with cloud services.

Pinks
Local dining eatery that serves burgers, gyros, fries and shakes that are always prepared fresh.

CREDITS

On behalf of the whole Deltahacks III team, we would like to thank our guests, sponsors, mentors and judges for helping us host McMaster's third annual hackathon. Special thanks to Louise Gazzola, Experiential Program Coordinator; Dr. Christopher Anand, Software Professor at McMaster; Shy Ruparel and Ryan Swift from MLH;Maria White, Faculty of Engineering Assistant Dean; Lisa Morine, McMaster Associate Director of Health; Dane DeMan, EOHSS Health and Safety Specialist; Glenn De Claire and Joe Zubek, McMaster University Security Offices; Marybeth Leis Drury from OpenCircle and the Faculty of Engineering for helping us organize this awesome hackathon in the ETB building. We also couldn't have done it without the support from Major League Hacking, the exec team at PhaseOne, and our volunteers and staff, especially the ones that stayed during the night. And last but not least, we'd like to thank you, fellow hacker, for making this an epic weekend and we hope to see you again next year! 🔺

The Deltahacks Team

Co-Directors: **Stephanie Koehl** and **Shiyu Luo**

Logistics Team
Richard Zhang
Anirudh Verma
Dazana Hasan
Hesham Nammari
Jaison Loodu
Joelle Pang
Nathan Mangaoil
Shivaansh Prasann
Troy Kuang

Photographer
Mark Ma

Cinematographer
Chris Basalo
Visual Ex. Co

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Karanbir Brar
Danielle Shwed
Daria Yip
Darren Tu
Dragan Visekruna
Isabela Ozamiz
Levin Noronha

Supportive Relations Team
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Isabelle Kim
Natalie Chin
Samrudh Bangalore

Marketing Team
Hamid Yuksel
Yih-Jwu Hsiao
Christine Mitry
Christine Wang
Divya Sridharl
Jennifer Chan
Nick Morrison
Melissa Lam

Graphic Designer
Abhayraj Jain

Website Designer
Surinder Gill

**Deltahacks is a branch of PhaseOne,
McMaster's largest student tech organization:**

PHASEONE

EMPOWERING STUDENTS AND THE COMMUNITY THROUGH TECHNOLOGY

President: Tai Rui Tong
Vice President: Graeme Crawley
Chief Financial Officer: Azmain Shayakh

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POWERED BY *DELL* | Windows