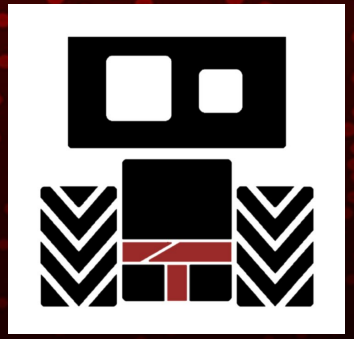

McMaster Sumobot Info Session

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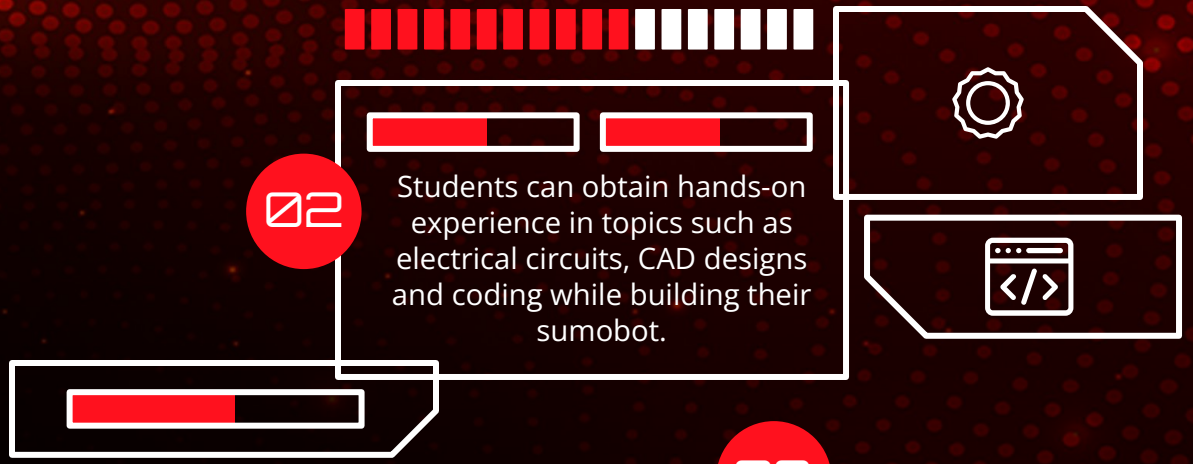
01 Who are we?



01 The McMaster Sumobot Club is a competition organizer that challenges students to design their own fighting robots and compete in tournament-style, one-on-one matches.

02 Students can obtain hands-on experience in topics such as electrical circuits, CAD designs and coding while building their sumobot.

03 Competitions are hosted on an annual basis by McMaster Sumobots, as well as workshops to help guide students throughout their creative process.

02 Competition Format

Objective

- Teams will compete in a 1 vs 1 sumobot match
- Aim to push opposing sumobot out of ring
- Successful teams will proceed to the next round

Things to Consider

- Sensors
- Friction
- Center of gravity
- Body design
- Physical limitations depending on rules*

(*Slide 11 - 14)

SCAN ME

Matchmaking Form

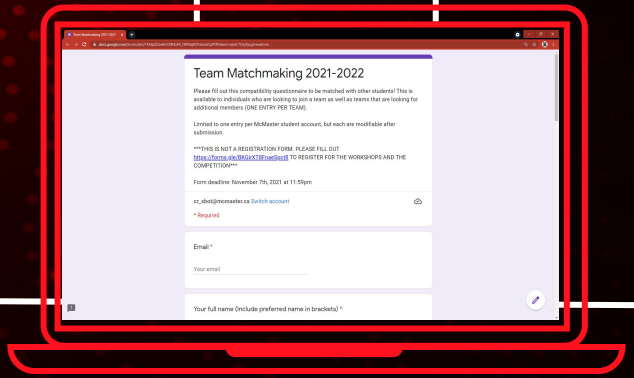
02 Teams

Individual

Students can enter themselves as a team of one

Team

Team size are restricted to maximum four students



Matchmaking

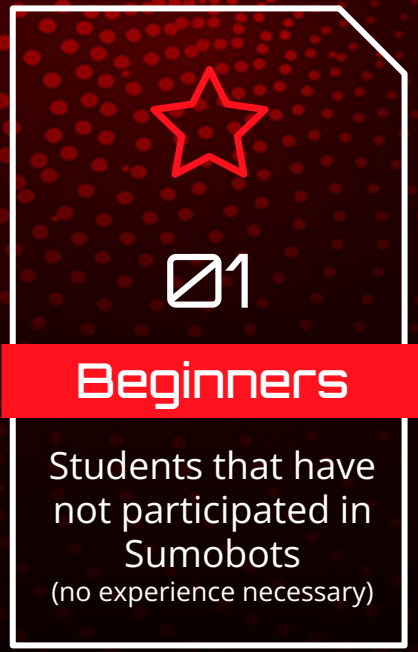
Students will be matched according to their strengths and compatibility.

Google Form

Link can be found on our website or by scanning the QR code at the top-left of this slide

McMaster Sumobots offers matchmaking for individual McMaster students that seek to be placed in a team, as well as established teams that wish to gain additional members.

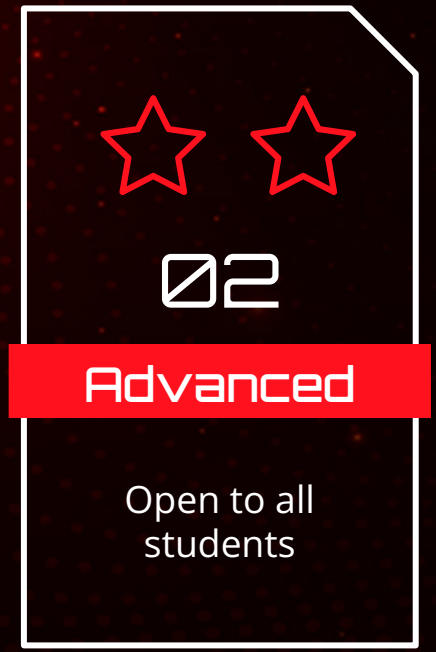
02 Competition Category



01

Beginners

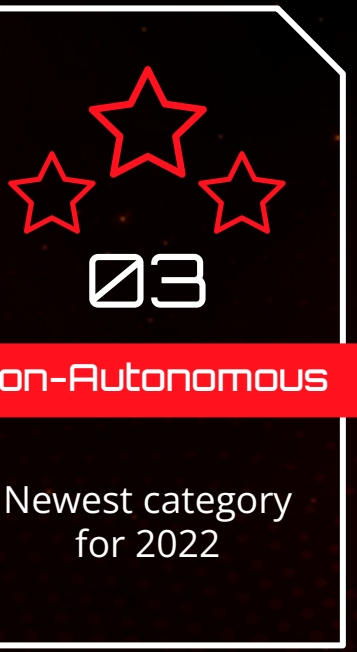
Students that have not participated in Sumobots
(no experience necessary)



02

Advanced

Open to all students



03

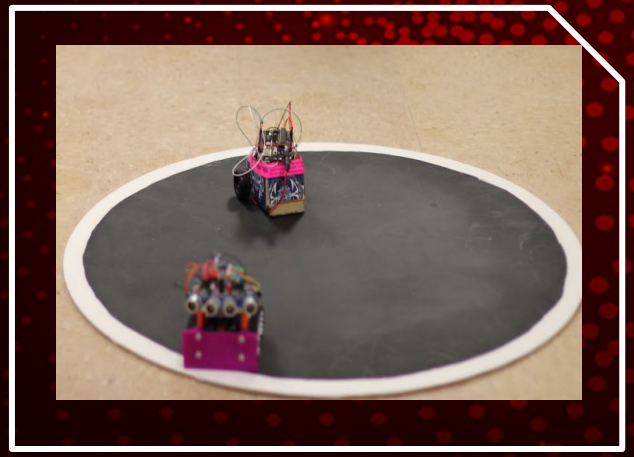
Non-Autonomous

Newest category for 2022

02 Beginners Competition

What we offer

- Pre-made Kits
- Workshops
- Office Hours
- Team Mentors



Criteria to participate

- Open to students who have not participated in a Sumobots competition
- No prior experience necessary (technical or otherwise)

02 Our Kits

What we provide

- ❑ Arduino (Nano or Uno)
- ❑ N20 Motors (100 or 200 RPM)
- ❑ Ultrasonic Sensor (2 Pcs)
- ❑ IR optical Sensor (4 Pcs)
- ❑ Dual DC Motor Driver
- ❑ Jumper Cables
- ❑ Mounting Bracket
- ❑ D-Hole Rubber Wheel (2 Pcs)
- ❑ Resistors
- ❑ 9V Battery Connector (Open or Closed Barrel)
- ❑ AA Battery Pack
- ❑ Breadboard
- ❑ Open Wire







02 Advanced Competition

Incentives

- Less Rules
- Greater Prizes

Criteria to participate

Students are expected to learn the necessary skills to build, code, and test their robots on their own.

No Sumobot kits will be offered for the Advanced Competition

02 Non-Autonomous Competition

Our Newest Addition

Bot must use an Arduino Bluetooth or Wifi module for remote connectivity

Controlled using the Blynk software (more info soon)

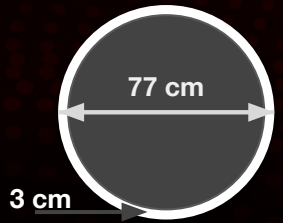
Criteria to participate

Students are expected to learn the necessary skills to build, code, and test their robots on their own.

No Sumobot kits will be offered for the Non-autonomous Competition

Ring Specifications

	Beginners	Advanced	Non-Autonomous
Diameter	77 cm	154 cm	154 cm
Border	3 cm	2.54 cm	2.54 cm
No-Man's Land*	230 cm	460 cm	460 cm



* Diameter around the ring where no one is permitted to enter upon the start of the match

02 Rules

Sumobot Dimensions*

	Beginners	Advanced	Non-Autonomous
Length	10 cm	20 cm	20 cm
Width	10 cm	20 cm	20 cm
Weight	500 g	3000 g	3000 g
Detached Parts**	10 g	5 g	5 g

*The robot may expand in size autonomously upon the start of the round, but must remain intact as one piece.
** Total weight of parts (screws, nuts, wires, etc) allowed to be lost before causing the loss of the round

02 Rules

Restrictions

A team whose robot does not meet these requirements will NOT be permitted to compete in the competition.

Jamming Devices	EX: IR LEDs intended to saturate the opponents IR sensors, are not allowed.
Offense Parts	Parts that could break or damage the ring are not allowed. Do not use parts that are intended to damage the opponent's robot or its operator. Normal pushes and bangs are not considered intent to damage.
Containers	Devices that can store liquid, powder, gas or other substances for throwing at the opponent are not allowed. Any pressurized substances are banned.
Fire Hazards	Any flaming devices are not allowed. (NO FLAMETHROWERS)
Projectiles	Devices that throw things at your opponent are not allowed.
Sticky Substance	Sticky substances to improve traction are not allowed. Tires and other components of the robot in contact with the ring must not be able to pick up and hold a standard 8.5" by 11" sheet of paper for more than two seconds.
Sharp Edges	All edges, including but not limited to the front scoop, must not be sharp enough to scratch or damage the ring, other robots, or players. Judges or competition officials may require edges that they deem too sharp to be covered with a piece of tape.
Magnets	All magnets are banned.
Vacuum	Prohibited for the Beginner's Competition. Allowed for Advanced*. * Vacuum must exert downward force. Other conditions can be found on our official rulebook.

02 Rules

Match Rules

- Robots are to begin automatically five seconds after being activated.
- Robots starting before the five second mark will be asked to restart the round. Failure to comply will result in the forfeit of the round.
- Robots must be able to be safely turned on and off.
- One match will consist of three rounds.
- If the robot is unable to move after 10 seconds of activation, it forfeits the round.
- If during the round, a robot stops and stays stopped for more than 5 seconds, it forfeits the round.
- If two robots are caught in stalemate for over thirty seconds, the round is to end in a draw or be redone according to judge's decision.
- If two robots are caught in stall for more than 10 seconds, the round is to be redone.
- The match/round stops and resumes when a judge announces so.
- The first robot to touch outside the ring loses the round. (ramps and flippers may be excused depending on the judge and situation).
- If a clear winner cannot be determined, the match can be redone or a draw can be called.

For Beginner's and Advanced Competition

- Robot must be fully autonomous. All methods of control must be contained within the robot without external signals or directions from outside sources once the round as started.

Final Prizes to be Revealed on Competition Day

02 Prizes

Giveaways

Follow our social media for updates!

Bonus Credits for Eng 1 Courses*

Students can ask to be evaluated anytime during drop-in hours before competition day, and we will be test how well your robot performs. Everyone on your team will be given a course bonus in certain Eng 1 courses based on the score we give your team during evaluation!

*Awaiting MES admin confirmation

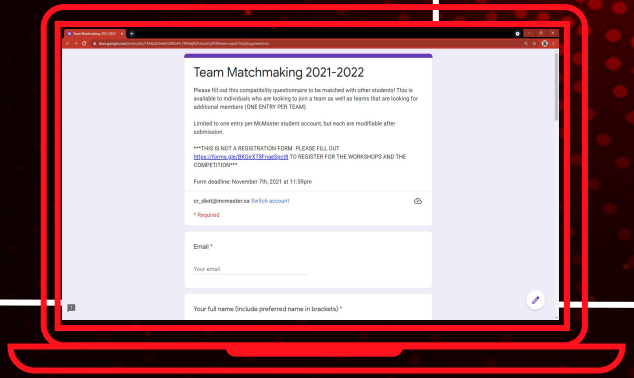
03 How to Join

Registration Form

Registration

One submission is required PER STUDENT

*Note: THIS IS SEPARATE FROM THE TEAM MATCHMAKING FORM AS THE QUESTIONNAIRE IS NOT MANDATORY



Sign-Up

Required for participation in the competition and workshop

Google Form

Link can be found on our website or by scanning the QR code at the top-left of this slide

McMaster Sumobots is a competition organizer so students can join by registering for the competition.

03 Fees

Beginner's Competition + Kit

Inclusive cost for registration fee and Beginner's Parts Kit will be $50.00 per team

Beginner's Competition

Registration of $30.00 per team

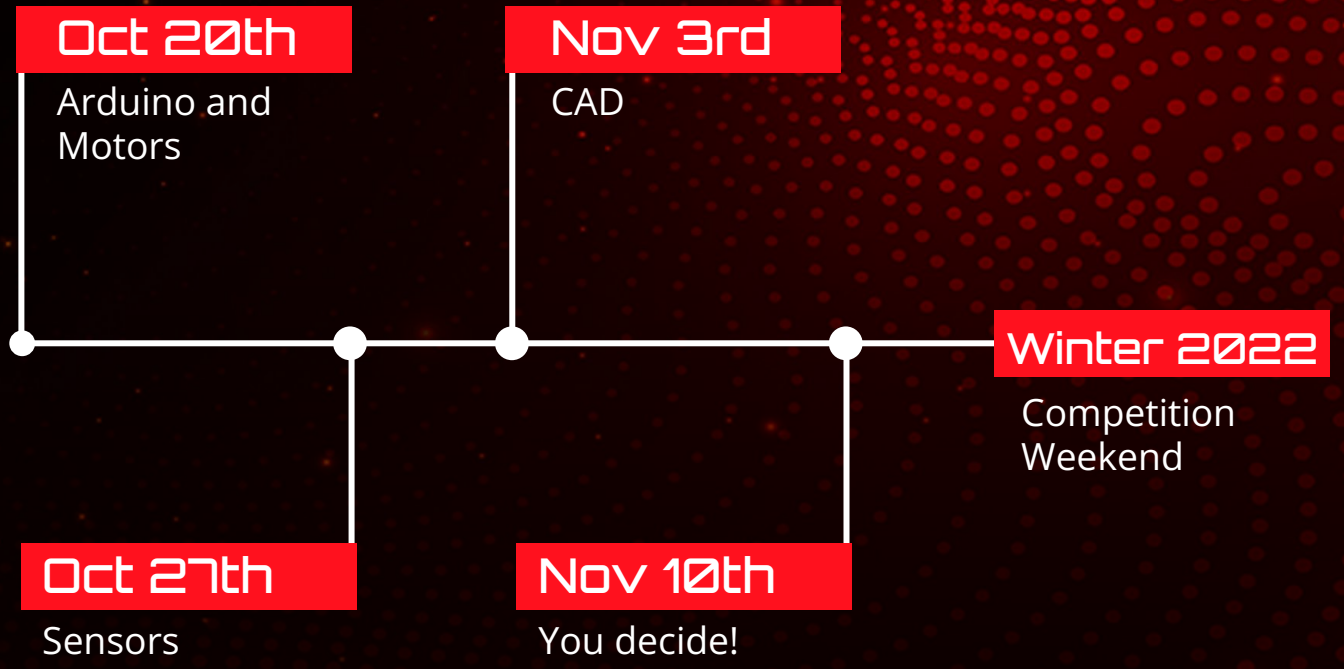
Advanced Competition

Registration fee of $20.00 per team

Non-Autonomous

Registration fee of $20.00 per team

04 Workshops



04 Office Hours and Drop-Ins

Office Hours

- Offered virtually on Discord
- Once per week
- Will start after on the week of the 25th of October
- Details to be announced

Drop-In Hours

- Once per week starting late fall
- Twice per week in the winter
- Location and details to be announced

05 Summary

@Macsumobot

sumobot.ca

Registration Form

cr_sbot@mcmaster.ca

discord.gg/myWVrRKU9w

Matchmaking Form