

McMaster Sumobot Club

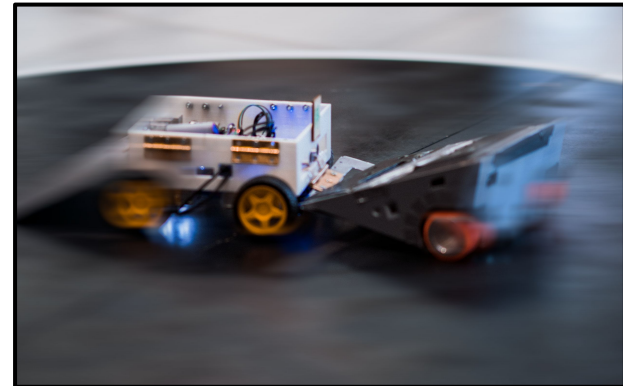
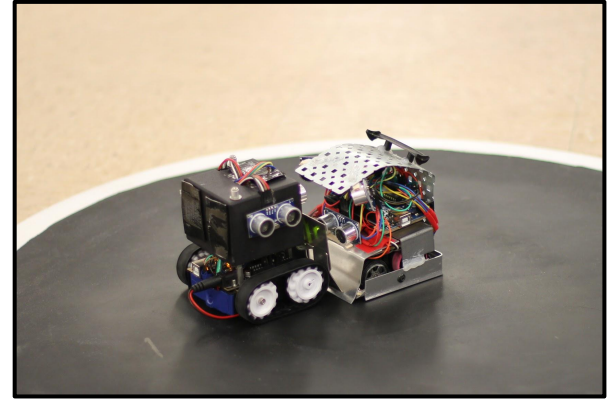
Competition



Details are still being decided

Separate events will be hosted

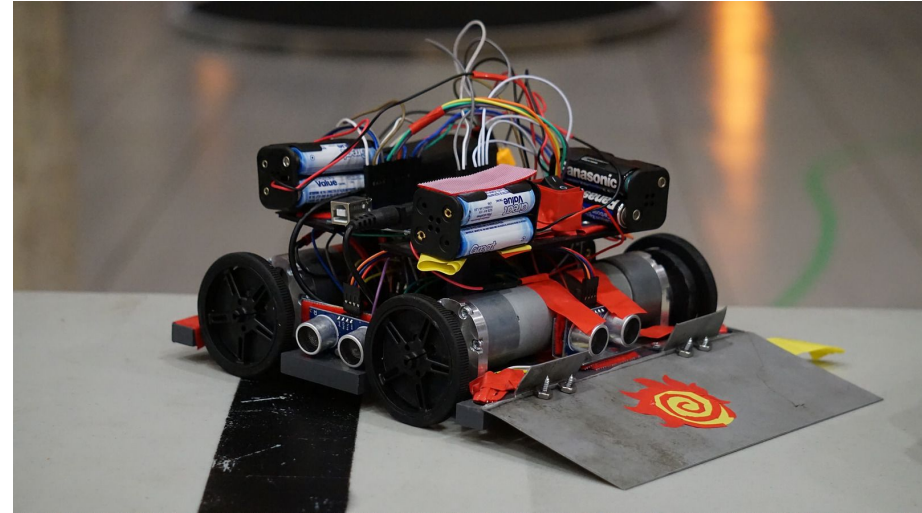
- ❖ Beginners competition
 - Rules and regulation can be found on our website (<https://sumobot.ca/#/>)
- ❖ Advanced competition
 - Fewer physical restrictions
 - Increase size and weight limit
 - Parts will not provided by sumobot unless you wish to buy the beginners kit
 - Must have participated in beginners competition

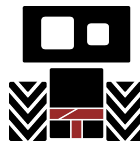


Beginners Info



Beginners competition info session -
(Reading Week) & October 23rd





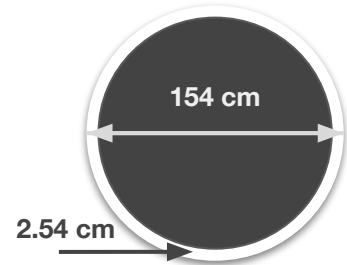
Advanced Introduction

- ❖ About the contest/Registration
- ❖ How the match works/etiquette
- ❖ The ring area
- ❖ Bot specs
- ❖ Rules and regs
- ❖ Showcase Information
- ❖ Workshops/Useful info

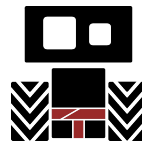


Ring Specification

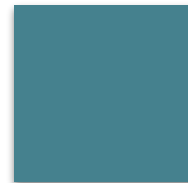
- ❖ The ring shall be circular in shape, having a total diameter of 154 cm and a border width of 2.54 cm.
- ❖ The ring will be centered at the "ring area", a circular space with a diameter of 460 cm which no one is permitted to enter upon the start of the match.



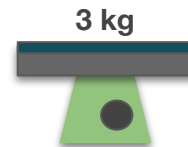
Robot Specification



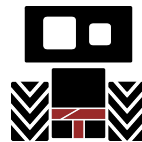
- ❖ The robot must fit within a square tube of 20x20 cm upon inspection during sign-in.
- ❖ The robot may expand in size autonomously upon the start of the round, but must remain intact as one piece. Screws, nuts, and other parts that fall off the robot during the round which total to more than 5 grams shall cause the loss of the round.
- ❖ The total mass of the robot at the start of the match must not exceed 3000 g.
- ❖ 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.
- ❖ Robots must be able to be safely turned on and off.



20 x 20 cm

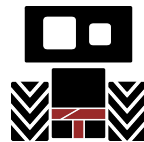


Restrictions



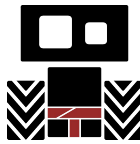
- ❖ Parts that could break or damage the ring are not allowed. Do not use parts that are intended to damage its operator.
- ❖ Devices that can store liquid, powder, gas or other substances for throwing at the opponent are not allowed. Any pressurized substances are banned.
- ❖ Any flaming devices are not allowed.
- ❖ Sticky substances to improve traction are not allowed.
- ❖ All edges, including but not limited to the front scoop, must not be sharp enough to scratch or damage the ring or players. Judges or competition officials may require edges that they deem too sharp to be covered with a piece of tape.
- ❖ Magnets are banned due to how they affect electrical components.





Match Rules

- ❖ 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 be out of the ring loses the round.
- ❖ If both robots touch the floor outside the ring at about the same time, and a clear winner cannot be determined, the match can be redone or a draw can be called.



Rules and Restrictions

- ❖ A team whose robot does not meet these requirements will NOT be permitted to compete in the competition.
- ❖ Jamming devices, such as IR LEDs intended to saturate the opponents IR sensors, are not allowed.
- ❖ 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.
- ❖ Devices that can store liquid, powder, gas or other substances for throwing at the opponent are not allowed. Any pressurized substances are banned.
- ❖ Any flaming devices are not allowed.
- ❖ Devices that throw things at your opponent are not allowed.
- ❖ 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.
- ❖ 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 are banned due to how they affect electrical components.
- ❖ Use of vacuums are allowed as long as they adhere to the guidelines outlined at the end of this document.



Technical Resources

Tutorials:

- ❖ [Sumobot Website](http://Sumobot.ca)
(Sumobot.ca)
- ❖ [Instructables](http://Instructables.com) (Instructables.com)
- ❖ [Linkedin Learning](https://www.linkedin.com/learning)

Supplies:

- ❖ [Robot shop](http://Robotshop.ca)
- ❖ [Pololu](http://Pololu.com)
- ❖ [McMaster-Carr](http://McMaster-Carr.com) (McMaster.com)
- ❖ [Hamilton library makerspace](http://Hamiltonlibrarymakerspace.com)
- ❖ Facebook marketplace (3D printing)



Showcase

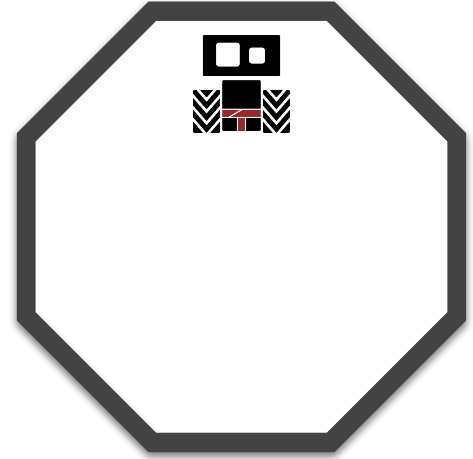
- ❖ The Showcase is separate from the competition
 - Showcase will be held during reading week of Winter 2021
- ❖ Each team will receive a Hopin booth to showcase their bot through videos, photo, design overview, and live demos!
- ❖ Will be judged based on your time

(Exact date will be announced in the upcoming weeks)



Showcase Live Demo

- ❖ The match ring and the targets will be prepared by you.
- ❖ The showcase will simulate bot fight where the bot will push all the targets out of the ring (octagon).
- ❖ Bristol Board for the ring.
- ❖ Submit the demo presentation, that showcases the building process.



Showcase Awards



Showcase Award Categories:

- ❖ Speed
- ❖ Strength (Push Weight)
- ❖ Creative/Smart Design
- ❖ Algorithm Design
- ❖ Overall Build

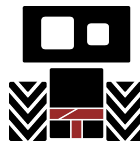
(Official Category will be posted in January)





Team Registration

Registration can be found on the website at <https://sumobot.ca/#/>



Pricing and Fees

Beginners parts kit: Approximately \$30

Showcase registration fee:

Beginners competition - Covered in kit price (\$10 per bot register)

Advanced competition - \$10 per bot register

Competition registration fee:

Beginners competition - \$10 per bot registered

Advanced competition - \$30 per bot registered



Contact

To register your teams go to our website at <https://sumobot.ca/#/>

All tutorials and slideshows will also be posted for your reference.



 *MAC_SUMOBOT*  *MCMaster SUMOBOTS*

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Questions?

