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# Competition Rules for Lego Challenges

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### **Disclaimer**

It is your responsibility to read and understand this document on a regular basis because we may update it from time to time.

Due to COVID-19, we will be running our LEGO competition virtually. Please refer to our COVID-19 Guidelines document for more information.

If there are any exceptions or additions to the restrictions, they will be listed in each challenge. If you have any questions, please email the Lego Team at [orclego@gmail.com](mailto:orclego@gmail.com).

**If you are unsure about something,  
please ask!**

## Participation Rules

As a participant of the IEEE Ottawa Robotics Competition, **respect** your teammates, your supervisors, the volunteers organizing the event, and to all other attendees of any ORC event. Our goal is to allow you to **have fun** at the ORC while **learning** and **working together as a team** as you prepare for competition day.

**Have fun and help each other out—it's all about participating!**

## **Team Requirements for Covid-19**

Due to COVID-19, we will advise that teams be composed of members from the same household or class cohort. Team members are responsible for making sure they have fully read the rules of any challenges they are registered in before competition day.

Any non-team member (team supervisor, parents, mentors, etc.) must act in an advisory role only. **Your team must do all the work!** Otherwise, your results may be invalidated.

For every challenge your team is registered in, there must be one robot (i.e. 2 challenges = 2 robots). Your team may register into up to two challenges.

## The Robots

Your team must build and program a robot **before** the submission deadline.

Your robot must be built and programmed following the below specifications:

1. **Software and Programming Language:** Your team can use any program/IDE or language to program your brick.
2. **Programming Brick:** One EV3 brick must be used per robot.
3. **Non-Lego and Lego pieces: Unless specified by individual challenge rules,** your team can use any non-electronic Lego pieces from any Lego kit for robot construction. However, these pieces must not be modified in any manner (i.e. not cut up, burned, etc.). Non-Lego pieces are not allowed with the exceptions of (1) holding the drawing utensils in the da Vinci Challenge or (2) decorating the robot. **Note: plastic ramp covers are banned in all challenges.**

4. **Motors and Sensors:** Each robot may use a **maximum** number of the following motor and sensors:
  - 3 motors (medium and/or large)
  - 2 touch sensors
  - 1 gyro sensor
  - 1 ultrasonic sensor **or** 1 infrared sensor  
(in proximity mode only—the infrared beacon may not be used)
  - 2 colour sensors **or** 2 light sensors **or** 1 of each typeThe motors and sensors can from either a NXT or EV3 kit.
  
5. **Remote Control:** Forms of remote control, such as Bluetooth, are not allowed, unless otherwise stated in a challenge. A robot must be autonomous and rely only on its original programming. Any actions your team may purposely do, like: clapping hands, issuing voice commands, Bluetooth, infrared remote, waving objects, etc., that causes a robot to begin behaving differently after the program has started is considered as human interference and is not allowed.
  
6. **Inspections:** In all autonomous challenges, it is very important that Bluetooth and/or remote control to be off while competing. Teams must submit their code to judges for inspection.
  
7. **Projectiles:** Projectiles in any shape or form are not allowed. Robots must not intentionally shoot out/up objects or put any objects down in the competition arena/area during a match.