



# SUMO - CHALLENGE



*PCYC (The Police Citizen Youth Club)* in collaboration with *QSITE (The Queensland Society for Information Technology in Education) - Far North Chapter* extends an invitation to local High and Primary Schools to enter this competition in a Sumo Challenge. Prior experience is not necessary.

WHEN: 3<sup>rd</sup> of March 2012

WHERE: Cairns PCYC

COST: \$5/team

***Need Help to Start ? (Can contribute to PD log)***

Teacher training sessions:- February 8<sup>th</sup> @ D-Block Cairns State High School from 3:30 to 5:00. Register interest with Mark Hall or Joshua Whitehouse.

***Registrations Due By: 29<sup>th</sup> February***

***Further Information & Registration Details:***

*Joshua Whitehouse on 0433822397 or [jwhit618@eq.edu.au](mailto:jwhit618@eq.edu.au)*

**OR**

*Mark Hall on 0417199983 or [mhall201@eq.edu.au](mailto:mhall201@eq.edu.au)*



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## Supplemental Information

### What is a Sumo Robotics?

Two robots compete in a head-to-head match following the basic system of traditional human sumo matches. Robots are allowed no weapons, and are not allowed to flip each other. The sole purpose is a pushing match between the two robots to force the other from the arena.

### Why get involved in Sumo Robots:

Sumo Robots is a fun and exciting method of engaging students in the field of robotics. It provides the opportunities for students to learn about gearing systems, mechanical engineering, electrical engineering, computer science and autonomous programming.

The competition focuses on bring together students from diverse background in a competitive tournament where students are developing group work and sportsmanship.

### Qualification Requirements:

Class:	Lego/Mini
Height Limit:	unlimited
Width Limit:	15cm
Length Limit:	15cm
Weight Limit:	1kg

**All robots** must be autonomous. Any method of control may be used, as long as it is fully contained within the robot and receives **no** external signals or directions (human, machine, or otherwise). Autonomous robot operation must begin automatically no less than five seconds after being started by the user. Robots starting before the five second mark forfeit that Yuhkoh point.

### How is the tournament played?

The initial rounds of the tournament will be played as a round robin.

At the end of the round robin teams will enter the knockout rounds with first playing last, second playing 2<sup>nd</sup> last etc.

Each match will go for 3 minutes or until one robot is pushed out of the ring.

The match will begin when the referee tells the competing teams to start their robot.

Once the robot has been started (program run) both robots must remain stationary for 5 seconds. During this time teams must move away from their robot.

If there is no winner after 3 minutes both teams are awarded 1 point.

Teams will compete for best of 3 for each round with the team with the most points being declared the winner.

### Things your Robot are not allowed to do:

1. Jamming devices, such as IR LEDs intended to saturate the opponents IR sensors, are not allowed.
2. Parts that could break or damage the ring are not allowed. Do not use parts that are intended to damage the opponents' robot. Normal pushes and bangs are not considered intent to damage.
3. Devices that can store liquid, powder, gas or other substances for throwing at the opponent are not allowed.
4. Any flaming devices are not allowed.
5. Devices that throw things at your opponent are not allowed.



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6. Sticky substances to improve traction are not allowed.

7. Devices to increase down force, such as a vacuum pump or magnets are not permitted.

8. 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. In general, edges with a radius of greater than .005", as would be obtained with a unsharpened .010" thick metal strip, should be ok. Judges or competition officials may require edges that they deem too sharp to be covered with a piece of tape.