

Sumo Robot Contest

Rules for Robots

1. Must weigh under 750 grams including batteries.
2. Must be less than 25 cm on a side and no more than 20 cm tall.
3. Must be self contained and self powered.
4. No remote control or tethered operation will be permitted.
(Except for starting and stopping the robot at the beginning and end of competition)
5. Must move under its own power within the sumo ring.
6. The Sumo ring will be a be a circle approximate 100 cm to 120 cm in diameter.
7. The ring will include a 5 cm border of contrasting material.
8. The ring may be black with a light border, or a light color with a black border.
9. No active offensive weaponry are allowed. A fixed plow may be used but must fit within the required dimensions.
10. No IR or ultrasonic jamming and no EMP!

Trials and Scoring

Robots will be measured and weighed prior to trials. Those that are overweight or oversize will not take part in the competition.

Solitary Ring Navigation Round

The contestant robot will be placed by itself in the center of the ring and activated.

- The robot will receive 1 point for moving under its own power.
- The robot will receive 1 point for reaching the edge of the ring.
- The robot will receive 1 point for remaining inside the ring after two minutes.

In order to move on to the Competition Round the robot must receive at least 2 points in the Solitary Ring Navigation round.

Drone Round

The contestant will be put in a ring with a stationary target for two minutes.

- The robot will receive 1 point for tagging the stationary drone
- The robot will receive 2 points for pushing the drone out of the ring (the drone will be returned to the center of the ring)

The contestant will be put in a ring with a moving target for two minutes.

- The robot will receive 2 point for tagging the moving drone

- The robot will receive 4 points for pushing the drone out of the ring (the drone will be returned to the center of the ring)

Competition Rounds

The judges will group the contestant robots into classes as determined necessary by the judges. Each robot in a class will be set in a 3 minute 1 v 1 battle against each robot in its class.

In the competition round the goal is to

- Stay inside the ring
- Tag the other robot by engaging it head on.
- Knock the other robot out of the ring.

Scoring

1. A robot will receive 5 points for tagging another robot
2. A tag is defined as driving towards another robot and making contact
3. Two robots may simultaneously tag each other
4. After tagging, the robot cannot tag again until it has reached an edge or 5 seconds have elapsed.
5. A robot that reaches the edge but stays in the ring for 2 minutes receives 10 points
6. A robot that leaves the ring loses 5 points, but can be placed back in the ring.
7. A robot that forces another to leave the ring receives 5 points (only if they stay in the ring themselves)

Leagues and Prize Categories

The Judges will determine what categories are appropriate based on the entries at the start of contest. Possible categories and leagues include:

Leagues

Little League: Participants are 16 and younger

Slightly Bigger League: Everyone else

Geeky Big League: Advanced electronics

Simone Giertz League: Preposterous construction

Ginormica League: Ludicrous

Prizes

First place winner gets a trophy.