



2nd Baguio City Robotics Cup Open

Game Description, Rules and Mechanics

Sumobot 1Kg [High School to College]

April 26, 2020

St. Vincent Gym, Naguillian Rd., Baguio City

Version 1.1 January 2020

1. Game Description

SUMO bot is a very popular sport in Japan and is known around the world. Two really big guys get up on an elevated platform, the Sumo ring. The goal is to push the other guy out of the ring or throw him to the floor. It's basically king of the hill. The objective is to push the other robot out of the ring.

2. Robot Specifications

- a. The robot must be autonomous. Sumo robot must be self contained, and not externally operated by wire or by remote radio control during the fight.
- b. The maximum dimensions of the robot are 20 x 20 x 20 cm.
- c. The robot cannot be more than a kilogram (1kg).
- d. The robot must not damage the field or endanger the spectators in any way.
- e. It must not contain sharp objects, or any explosive device that may harm the opposing robot, and the board.
- f. The robot must have a start and/or stop button.
- g. Dimensional and weight limits for the robots shall be strictly enforced. Robots must have passed inspection prior to competing.

3. Board Specification

- a. Base Color: Black | Line Color: White.
- b. Diameter: 33in diameter; 36in (with line).
- c. Line Thickness: Outline (1.5in) | 1st and 2nd Line (1in).
- d. Distance from Outline to 1st Line: 5in.
- e. Distance from 1st Line to 2nd Line (21in).

4. Game Rules

4.1 Registration

- a. Teams must register at the registration table to gather their name badge at least 30 – 45 minutes before the scheduled competition time.
- b. Each team will provide their own Sumobot.
- c. Each robots needs to fulfill the registration requirements in order to be able to compete.
- d. All robots will be checked and a technical inspection in the day of the competition.

- e. Each sumobot must not be more than 1 kilogram. It will be weighed before the competition by the Marshall. All robots weighing more than 1 kilogram will be disqualified.
- f. Each team will be given a number which they must put on the robot during the competition. This will be the robot's registering number and should be visible at all times.
- g. Competitors together with their robots will be escorted to their table by a marshal.
- h. A picture of the team and their robot will be taken.

4.2 During the Event

- a. Each team will provide their own Sumobot.
- b. Each sumobot must not be more than 1 kilogram. It will be weighed before the competition by the Marshall. All robots weighing more than 1 kilogram will be disqualified.
- c. From the moment a robot is registered until the competition officially begins, each participating team may test its robot.
- d. The competition queue will be either drawn by lots or determined according to the order of registration.
- e. Coaches and family members are not allowed on the competition floor.
- f. Each team will be given an opportunity to compete with another robot.
- g. At the start of each game, the orientation of the robot is back to back. The players will then place their robots in the indicated positions.
- h. When given the signal, both players press their start buttons simultaneously then move back out of the way so spectators can see.
- i. Players cannot touch their robots or enter the ring for the remainder of the game.
- j. The robot must start moving 5 seconds after the start button is pushed. If a robot does not wait 5 seconds, it is disqualified.
- k. A robot wins a game when it pushes its opponent out of the ring or if the opponent moves out of the ring by itself. A robot is out of the ring when any part of it touches the floor, even if that part is no longer connected to the main body of the robot.
- l. If any of the following occur the game will be restarted:
 - 1. Both robots are locked together and stop movements for 30 seconds, or are stuck in a repetitive pattern for 30 seconds.
 - 2. Both robots move or stop for 30 seconds without touching each other.
 - 3. Both robots at the same moment touch the space outside the ring.

4. If one robot stops its movement for 30 seconds, he shall be considered not having the will to fight, and the opponent shall win the game.
 5. If neither robot moves outside the ring within 2 minutes, the round will be considered as draw. However, the result may still vary as depending on which robot will finish in one piece.
- m. Your robot may not send messages that interfere with the operation of the other robot.
 - n. Your robot cannot be designed to deliberately damage the other robot or the ring.
 - o. Jamming devices, such as IR LEDs intended to saturate the opponents IR sensors, are not allowed.
 - p. 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 it's operator. Normal pushes and bangs are not considered intent to damage.
 - q. Devices that can store liquid, powder, gas or other substances for throwing at the opponent are not allowed.
 - r. Any flaming devices are not allowed.
 - s. Devices that throw things at your opponent are not allowed.
 - t. 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 3"x5" index card for more than two seconds.
 - u. A player who utters insulting words to the opponent or to the judges or puts voice devices in a robot to utter insulting words or writes insulting words on the body of a robot, or performs any insulting action, is in violation of these rules.

4.3 Time of Match

- a. Duration
 - One Match will be fought for a total of 2 minutes, starting and ending upon the marshal's command, fought in a 3 round match
- b. Extension
 - An extended match, if called for by the marshal, shall last for a maximum of 2 minutes. In case of no robots gets a point.
- c. Time Keeping
 - The following are not included in the time of the match:

- i. The time elapsed after the marshal announces the point and before the match resumes. The standard delay before the match resumes shall be 30 seconds.
- ii. The time elapsed after a marshal announces to stop the match and before the match resumes.

4.4 Scoring

- a. Participants will be adapting the Round-Robin Pointing System. Only one (1) team will be declared winner after winning three (3) games.
- b. One Yuhkoh point shall be given when:
 1. A team legally forces the body of the opposing robot to touch the space outside the ring, which includes the side of the ring its self.
- c. A Yuhkoh point is also given in the following cases:
 1. The opposing robot has touched the space outside the ring on its own.
 2. Either of the above takes place at the same time that the end of the Match is announced.
 3. In the case of humanoid sumo, any part of the opposing robot other than the bottoms of its feet (hands, knees, back, chest, etc.) touches the dohyo or when it is pushed or thrown outside of the ring.
- d. When a wheeled robot has fallen over on the ring or in similar conditions, Yuhkoh will not be counted and the match continues.
- e. When judges' decision is called for to decide the winner, the following points will be taken into considerations:
 1. Technical merits in movement and operation of a robot.
 2. Penalty points during the match.
 3. Attitude of the players during the match.
- f. The match shall be stopped and a rematch started under the following conditions:
 1. The robots are entangled or orbiting each other with no perceivable progress for five seconds. If it is unclear whether progress is being made or not, the judge can extend the time limit for observable progress for up to 30 seconds.
 2. Both robots move, without making progress, or stop (at the exact same time) and stay stopped for five seconds without touching each other. However, if one robot

stops its movement first, after five seconds it will be declared as not having the will to fight. In this case the opponent shall receive a Yuhkoh, even if the opponent also stops. If both robots are moving and it isn't clear if progress is being made or not, the judge can extend the time limit up to 30 seconds.

3. If both robots touch the outside of the ring at about the same time, and it cannot be determined which touched first, a rematch is called.

4.5 Violations

- a. A minor violation is declared if a player:
 1. Enters into the ring during the match, except when the player does so to take the robot out of the ring upon the judge's announcement of Yuhkoh or stopping the match. To enter into the ring means:
 - i. A part of the player's body is in the ring, or
 - ii. A player puts any mechanical kits into the ring to support the robot.
 2. Performs the following deeds:
 - i. Demand to stop the match without appropriate reasons.
 - ii. Take more than 30 seconds before resuming the match, unless the judge announces a time extension.
 - iii. Start operating the robot within five seconds after the chief judge announces the start of the match.
 3. Does or says that which disgraces the fairness of the match.

4.6 Penalty

- a. The judge shall give two(2) Yuhkoh points to the opponent and order the violator to clear out. The violator is not honoured with any rights.
- b. Each occasion of the violations described in Section 4.5 shall be accumulated. Two of these violations shall give one (1) Yuhkoh point to the opponent.

4.7 Injuries and Accidents during the Match

- a. Request to Stop the Match
 - A player can request to stop the game when he/she is injured or his/her robot had an accident and the game cannot continue.

b. Unable to Continue the Match

- When the game cannot continue due to player's injury or robot's accident, the player who is the cause of such injury or accident loses the match. When it is not clear which team is such a cause, the player who cannot continue the game, or who requests to stop the game, shall be declared as the loser.

c. Time Required to Handle Injury/Accident

- Whether the game should continue in case of injury or accident shall be decided by the judges and the Committee members. The decision process shall take no longer than five minutes.

4.8 Awarding

a. All contestants are requested to be there to receive their awards.

b. The awards are as follows:

1. Champion
2. 1st Runner-Up
3. 2nd Runner-Up

4.9 Declaring Objections

a. The coach of a team can present objections to the Marshall, before the attempts is over, if there are any doubts in the exercising of these rules.

a. Liability

- a. Participating teams are always responsible for the safety of their robots and are liable for any accident caused by their team members or their robot.
- b. MGE Advance Computing Solutions and the organizing team members will never be held responsible or liable for any incidents and/or accidents caused by participating teams or their equipment.
- c. MGE Advance Computing Solutions and its partners and sponsors shall not be responsible for any lost and stolen models during the competition.