



IIUM ROBOTIC COMPETITION (IRC) 2023

RULES AND REGULATIONS: AUTONOMOUS SUMO ROBOT

1. Objective

Just like traditional Japanese sport, two robots need to force each other out of the ring. The robot that succeeds in pushing its opponent outside of the ring will be the winner. Robot handlers are allowed to start the robot with the press of a single button.

2. Game Field, Robot and Objects

2.1. Game Field

- 2.1.1 The game field shall be circular in shape and the diameter is 1000mm.
- 2.1.2 The material of the game field is wood, and the surface will be painted black.
- 2.1.3 The border line is marked with a white circular ring with the width of 30mm.

2.2. Robot

- 2.2.1 Robot must be operated autonomously.
- 2.2.2 The size of the robot shall not exceed 150 mm (length) x 150 mm (width) x 150 mm (height). No extension is allowed.
- 2.2.3 The weight of the robot including power sources and other parts of the robot shall **not exceed 1kg.**
- 2.2.4 The robot cannot split or separate into two (2) or more units.
- 2.2.5 Robot shall not employ any active weapon.
- 2.2.6 The robot shall not stick itself to the game field.
- 2.2.7 Robot shall not damage the arena deliberately.

3. The Competition and Scoring

- 3.1 One match will have **three (3)** rounds.
- 3.2 The first team to win the best of two (2) out of three (3) rounds wins the match.
- 3.3 Each round shall last for a maximum of **one (1) minute**.
- 3.4 Robot will be placed at starting area and the robot handler will start the robot with single press of a button.
- 3.5 The placement of robot at starting point will be opposite to each other and front part of the robot will be facing outside of the field.
- 3.6 The robot cannot move for the first 3 seconds after the game starts. 2 consecutive false start will result in losing the round.
- 3.7 The robot cannot stop for more than 5 seconds during the game, or it will be considered losing the round.
- 3.8 The match may end in the following cases:
 - One of the teams manages to push the other robot out of the field.
 - Referees decided that the continuity of the match is no longer possible.

4. Disqualification

- 4.1. Causing or attempting to damage the game field, the equipment on the field or the opponent's robot.
- 4.2. Performing any act against the spirit of fair play and friendship between participating teams.
- 4.3. The team that does not follow the instruction or warning of the referee.
- 4.4. Team not complying with the rule on the dimensions of the robots.

5. Others

- 5.1. For any dispute not specified in the rules, referees are given full authority to make a decision and their decision is final.
- 5.2. All teams are encouraged to decorate the robots to reflect the culture, aesthetics and styles of their respective educational institute or country.
- 5.3. When designing the robot, the teams must take into account that there will be some uncontrolled environmental parameters that might affect the robot's behaviors.

Appendix A: Competition Format

The contest is played according to the following format:

1. Preliminary Rounds: Round robin within groups
2. Selected winners from each group shall advance to knockout round.

Appendix B: Game Field

