



IIUM ROBOTIC COMPETITION (IRC)2025

RULES AND REGULATIONS: RC SOCCER ROBOT (PRIMARY/SECONDARY)

IIUM ROBOTIC COMPETITION

REVISED APRIL 2026

1. Objective

In Soccer Robot match, two teams will compete with each other to score a ball into the goal with a maximum of two robots in each team. Teams that score most goals will be declared the winner. Robots must be manually operated using a wireless controller. **Participant's age : Primary - 7 to 12 years old**

Secondary - 13 to 17 years old

2. Robot Specification

- 2.1. Two robots per team are allowed to be on the field.
- 2.2. The size of each robot is limited to **150mm (L) x 150mm (W) x 150mm (H)**. The height of the RF communication antenna will not be considered in deciding a robot's size.
- 2.3. Each robot must fit into a standardized sizing box provided by the organizers. If a robot does not fit, it will be deemed ineligible to compete.
- 2.4. No modification in the robot dimensions can be made in the event of the robots not fitting the sizing box.
- 2.5. Each robot's weight **should not exceed 1.5kg** including battery.
- 2.6. Each robot must be fully independent, with power and self-contained. Only wireless communication is allowed for all kinds of interactions between controller and robot.
- 2.7. The robot must be square or rectangle or circle
- 2.8. The robot shall not damage the game field.
- 2.9. Flying robots are not permitted.
- 2.10. The robot must be **wirelessly controlled**. Wired and/or autonomous are strictly prohibited. The remote control (transmitter and receiver) between the robot and operator must be secured properly and with changeable frequency or connection to avoid interference with other robots.
- 2.11. The robot shall not be designed to deliberately push the opponent's robot.
- 2.12. Each team is responsible to ensure wireless control is secured enough to not be interfered with or hacked by others. The Organizer will not be responsible for any interference during the competition.
- 2.13. The robot is not allowed to have any extruding parts (Ramps, Bumps) that may trap the ball
- 2.14. No active mechanisms to trap the ball
- 2.15. The front part of the robot must be flat only and the material cannot be soft and sticky.
- 2.16. Competitors must check their own robots to ensure they are fully operational before every game.

3. Game Field

- 3.1. The field consists of an area having the dimension of 2400 mm x 1200 mm surrounded by a white-painted-wooden wall.
- 3.2. Each corner of the field is covered with a triangle.
- 3.3. The field surface is flat, non-reflective black paint.
- 3.4. The goal is 400mm wide. With no post or nets but with sufficient open space where the ball can go through.
- 3.5. Normal golf ball shall be used as the soccer ball with a dimension of 43mm diameter and 50g weight.

4. Competition and Scoring

4.1 Game Durations

- 4.1.1 The game time will last for 4 minutes with two periods of 2 minutes each period.
- 4.1.2 The time will continue even if there are interruptions.
- 4.1.3 There shall be no break between the two periods.

4.2 Game Commencement

- 4.2.1 Before the commencement of the game, kick-off is decided by the toss of a coin.
- 4.2.2 The winning team may choose to start kick-off, while the losing team will then choose a side to play. At game commencement, each team must have at least 1 proper working mobile robot on the playground.
- 4.2.3 In any case that a team cannot start with one robot, the team will be disqualified.
- 4.2.4 If robots become dysfunctional during the game, the game will continue.
- 4.2.5 However, the dysfunctional robot must be removed and cannot be displaced with other robots during in-game. The removed robot must be fixed and can re-enter while the game continues as normal.
- 4.2.6 During the game, if the ball went out of the fence or got stuck, the referee will position the ball at the center point.
- 4.2.7 At the beginning of game halves or after a goal has been scored, the ball is placed at the center point.
- 4.2.8 The team will be allowed to position their robots freely in their own side or area.
- 4.2.9 With a whistle blow from the referee, the game starts, and all robots may move freely.
- 4.2.10 When two robots on the same team are inside their side's

penalty box, one of the robots will be repositioned to the center of the field

- 4.2.11 At half time, the teams will change their playing sides.
- 4.2.12 If the ball is stuck for more than 3 seconds, the referee is allowed to move it from its position to the nearest free area
- 4.2.13 Before any actions made, the participants must raise their hands to the referees before proceeding with the action.

4.3 Winning Criteria

- 4.3.1 A goal shall be awarded when the whole of the ball passes over the goal line.
- 4.3.2 The winner of a game shall be decided based on the number of goals scored.
- 4.3.3 In the event of a tie after the second half, the winner will be decided through penalty-kicks.
- 4.3.4 During the penalty kick, one robot will be required to hit the ball only once from the center point into the goal. No opponent robot will remain in the field.

5. Disqualification

- 5.1. Causing or attempting to damage the game field, the equipment on the field or the opponent's robot.
- 5.2. Performing any act against the spirit of fair play and friendship between participating teams.
- 5.3. The team that does not follow the instruction or warning of the referee
- 5.4. Team not complying with the rule on the dimensions of the robots
- 5.5. Teams arriving late to the match may be disqualified.

6. Others

- 6.1. For any dispute not specified in the rules, referees are given full authority to make a decision and their decision is final.
- 6.2. All teams are encouraged to decorate the robots to reflect the culture, aesthetics and styles of their respective educational institute or country.
- 6.3. 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.
- 6.4. Only participants are allowed inside the playing field with the maximum number of 3 people.

