



Soccer Robot	Level Junior / Senior	Team 3 persons	Building Pre-Made
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Overview

This is a team competition. Each team has four robots with one of them as substitute. Students are encouraged to work as a team to build robots with efficient walking actions for the competition. During the game, the two competing team players use their “legs” to kick the ball into their opponent’s goal. The team with the most scores is the winner.

Robot Specifications

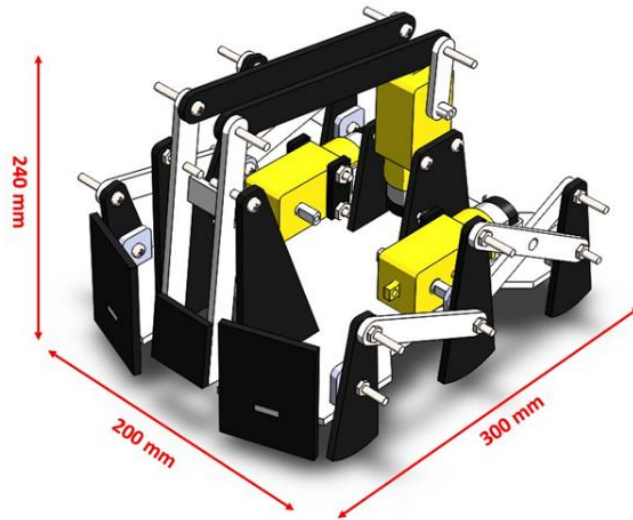
1. The size of the robot cannot exceed 300mm long, 200mm wide and 240mm tall (length, width and height dimensions are not inter-changeable) nor weighs more than 1.5kg (including batteries and receiver).
2. Each team consists of three robots.
 - a) The Forward robot identifies itself with a 80 x 40 mm yellow label on top of its body and it may move around in the self-front half including the opponent’s penalty area.
 - b) The Midfield robot identifies itself with a 80 x 40 mm red label on top of its body. It may move around the entire playing field except the two penalty areas.
 - c) The Defending robot identifies itself with a 80 x 40 mm blue label on top of its body. It may move around in the self-rear half including its own penalty area.
3. A flap is installed on each side of the robot front end, slanting backward at 30-45 degree from the gear box to prevent the robot front legs from kicking the football. The opening between the two flaps at the robot front end should not be more than 30mm wide. Therefore, the foot or board for kicking the ball may not be larger than 30mm (diagram referred).
4. All robots are controlled by wire controllers.
5. **Rechargeable batteries** are permitted. The **maximum battery voltage** allowed is 2S or **7.4 volts** (maximum charge 8.4 volts)
6. **Li-Po (Lithium Polymer) batteries are not allowed.**

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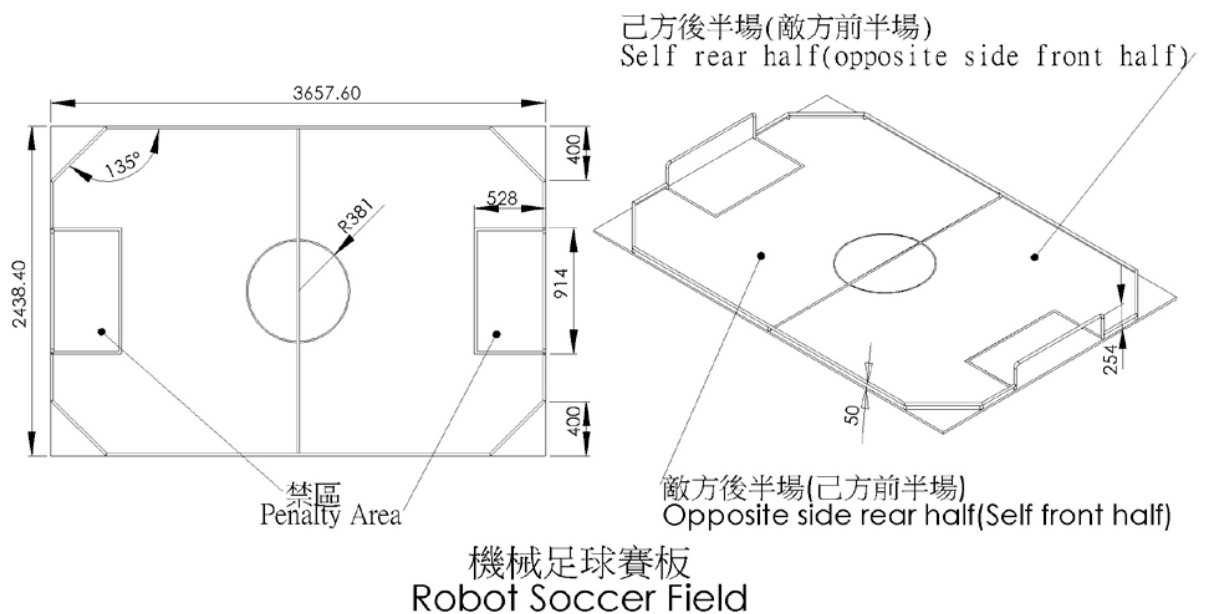
* These rules are not final and may be updated up until the day before the competition.

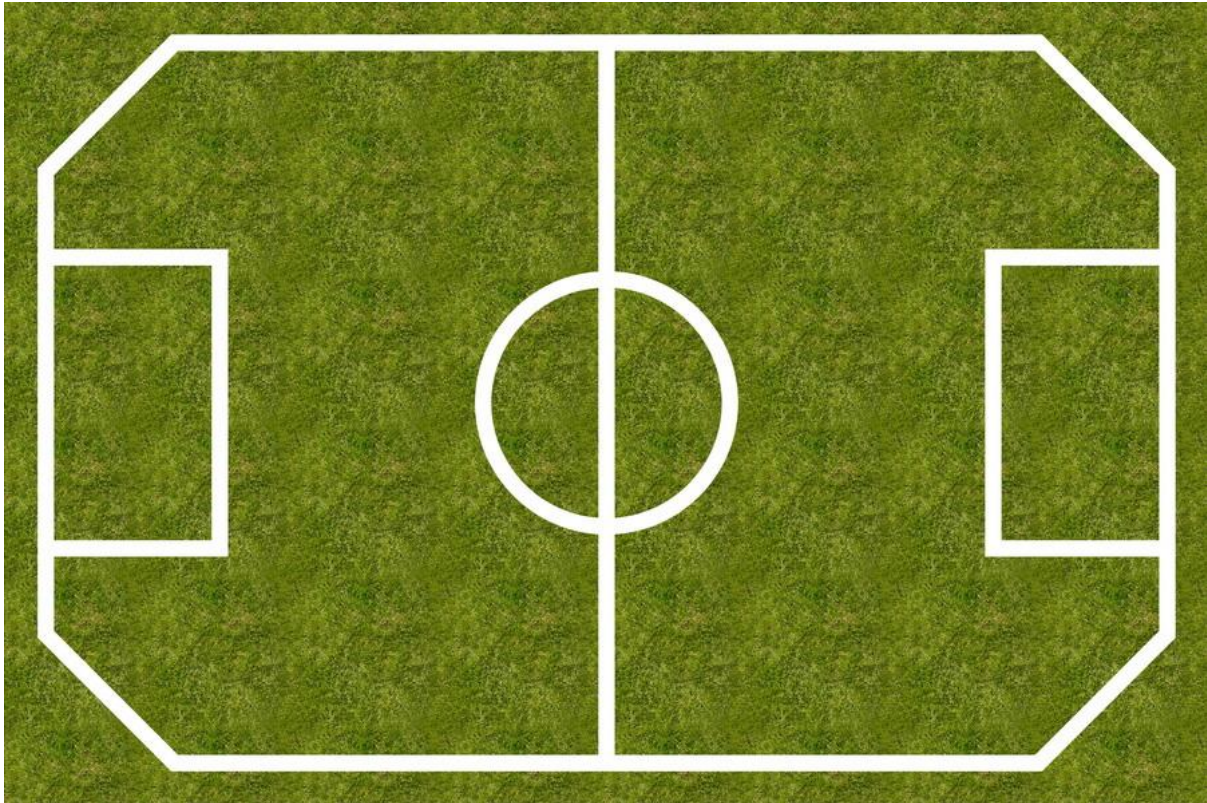
- 7. The kicking mechanism must be designed to swing, not rotate. The direction of the kick must be forward-facing, relative to the robot.
- 8. No modifications or adjustments to the robot are allowed during the competition.



Game Field Specification

- 1. Football court is used for the competition.
- 2. The area of playing field is 3658mm (12ft) x 2438mm (8ft), surrounded by 100mm tall 45 degree triangular fence. The goal is 915mm (width) x 200mm (height) x 200mm (depth). A 60mm diameter rubber ball is used for the competition.





Game Rules

1. Each robot is controlled by one member. The robot may only kick but not hold or push the ball.
2. The substitute robot and its controller must be placed in a location specified by the referee; otherwise, contestants will not be allowed to replace the robot.
3. The game has two halves, the first and second, each last for 2 minutes. The game is conducted on a knockout basis.
4. The choice of goal and opening kick-off is determined by toss of coin. Both teams place their Forward robots in position first and then the Defending robots in their own respective penalty area. The kick-off team places its Midfield robot inside the center circle first followed by the opposing team to place its Midfield robot outside the center circle afterwards.
5. The timer begins to count when the referee signals start the game. The team taking the kick-off must kick the ball within five seconds otherwise the ball goes to the opposing team. All other robots may only move after the kick-off.
6. If the robots tangle over the ball for over 10 seconds, the referee may pause the match and separate the robots 300mm away from the ball and re-start the match.
7. Players of each team should stay at the designated areas to control their robots. Once the game starts, players are not allowed to touch the robots or the ball until either the ball goes into the opponent's goal or the match ends.
8. A goal directly from the opening kick-off or pushing the opponent and the ball together into the goal will not be counted.

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9. During the match, a request should be made to the referee for repair or replacement of a robot. Upon approval, the robot should only be removed from and placed back to the field by the referee. The timer does not pause, and the match continues. The robot on returning to the field at where it left should wait for the referee's permission to move and continue to play.
10. The team scored 1 point with the ball kicked into the opponent's goal. The opposite team re-starts the game from the midfield and the timer does not pause. The team with the most goals at the end of the game wins.
11. If it is unable to determine a winner at the end of the match, it will be treated as tied in the round-robin match. If it tied at the end of the knockout match, an extra time of 2 minutes is added to determine a winner via 'sudden death'. Each team sends 1 robot for the extra time match.
12. If it is still unable to determine a winner at the end of the extra time game, each team assigns 3 robots to take turn for the Spot Kick* Time of each goal is recorded and the team with the most goals wins. In the case of drawing, the team with the shortest amount of total goal scoring time wins. The second round will be conducted if they still draw until a winner is identified.
13. *Spot Kick: The ball is positioned in the center circle and the robot is given one minute, with no limit on the number of attempts, to shoot the open goal (i.e. without a defending robot) until a goal is scored and its time is recorded. Robots are not allowed to enter the penalty area to shoot but may get the ball inside the penalty area.
14. A warning will be served to the robot for purposely charges against its opponent for not handling a ball, ignoring the referee's instruction or disobeying the referee's judgment. Upon receiving two warnings, the team will be penalized with a penalty kick**.
15. **Penalty kick: The ball is placed at the middle of the top of the penalty area. The team taking the kick is to place the shooting robot outside the penalty area first. The defending team then places its defending robot (the robot must with its forward movement facing the ball) in the middle of the goal line. The Defending robot cannot move before the shooting robot touches the ball otherwise it will receive a warning, and the kick will be retaken.
16. The Panel Referee's decision is final.