

# **Robot Battles 3.0**

## **Iron League**

### **Rules and Regulations**

#### **1. Introduction**

##### 1.1 Event Overview

The Robot Football Championship is a competitive event organized under the “Robot Battle 3.00 : Iron League” initiative by the Department of Science and Technology, Uva Wellassa University. It features a fast-paced, team-based game in which participants control radio-controlled robots within a structured arena to simulate a football match. The event provides an engaging platform for students to apply engineering concepts in a real-world setting while experiencing a dynamic and technology-driven competition environment.

##### 1.2 Competition Objective

The primary objective of the competition is to evaluate the performance, control, and effectiveness of participant-built robots in achieving match success through goal scoring and defensive play. The event is designed to develop technical competencies in robotics design and control, while encouraging strategic decision-making, collaboration, and compliance with established rules and safety standards.

#### **2. Participant Eligibility**

##### 2.1. Eligibility Criteria

To be eligible to compete in “UWU Robot Battles 3.0 : Iron League”, entrants must pass a technical/safety inspection.

##### **Technical Inspection**

The technical/safety inspection shall include (but is not limited to):

- Eligibility compliance with “UWU Robot Battles 3.0 : Iron League” Competition Rules & Guidelines.
- Weight and size check.
- Appearance suitability for competition.
- Functionality Test:
  - A functionality test will be conducted to confirm that the robot can be operated safely.
  - A simple “driving” test may be conducted as part of the technical/safety inspection.

#### **3. Team Composition**

3.1. Each team must have at least two (2) robots and no more than four (4) robots.

3.2. Each team is permitted to bring one additional spare robot, which may be used in the event of a failure of any primary robot.

## **4. Registration**

- 4.1. Teams are required to complete their registration prior to the deadline. All registrations will be subject to verification and approval by the organizing committee.

## **5. Robot Specifications**

### 5.1. General Requirements

- 5.1.1. The robots should be self-made or custom-made.  
(Modified or factory-made vehicles are not permitted).
- 5.1.2. The robots must operate as fully remote-controlled systems.
- 5.1.3. No technical materials, tools, or equipment will be provided; participants are solely responsible for bringing all necessary resources for the competition.
- 5.1.4. No robot shall, under any circumstances, pose a hazard to judges, spectators, or opposing operators. During operation, a robot shall not cause damage to anything other than an opposing robot.
- 5.1.5. All robot cars will be subject to a technical inspection prior to the match. Failure to disclose any operating principle will be grounds for immediate disqualification.

## **6. Size and Design**

- 6.1. Each robot, including any expanding or movable parts, must remain within the maximum allowable dimensions of 30 cm × 30 cm × 30 cm at all times.  
(Length x Width x Height)
- 6.2. The weight of the robot shall be between 500 g and 5 kg.
- 6.3. The power supply must be internal (no external power is allowed).
- 6.4. The use of internal combustion engines will not be allowed.
- 6.5. The maximum voltage between any two points within the robot shall not exceed 24 V at any time.
- 6.6. All power sources must be fully and safely enclosed within the robot and appropriately secured to withstand the expected impacts during competition. As robots may flip or operate in any orientation, all batteries must be safe to use in any position.
- 6.7. Robots must not use any weapons or mechanisms that can damage the ball, the arena surface, or other robots. This includes sharp objects, cutting tools, high-impact devices, harmful attachments, or any form of signal jamming or wireless interference devices.
- 6.8. Robots are allowed to use only ball-handling mechanisms such as pushing, guiding, or controlling devices, provided they are safe and do not cause damage. Robots shall not catch, grab, or hold the ball using arms or similar mechanisms; the ball may only be pushed or guided during play.
- 6.9. All entries must comply with the general rules of the facility and the event.

Note: All power sources must be adequately protected (e.g., enclosed or guarded) to withstand the expected impact and stress during the competition.

It is advised to bring fully charged batteries and extra batteries to the competition. In the event any additional charge is required, a limited number of charging bays will be provided.

Battery charging shall only be conducted at the designated charging bays for safety reasons. Any violation of this rule may result in team disqualification to prevent potential hazards.

## 7. Prohibited Actions

7.1. The robot must operate without causing any damage to the arena.

7.2. Competitors shall not enter the arena without the referee's permission during the match.

## 8. Competition Arena Specifications

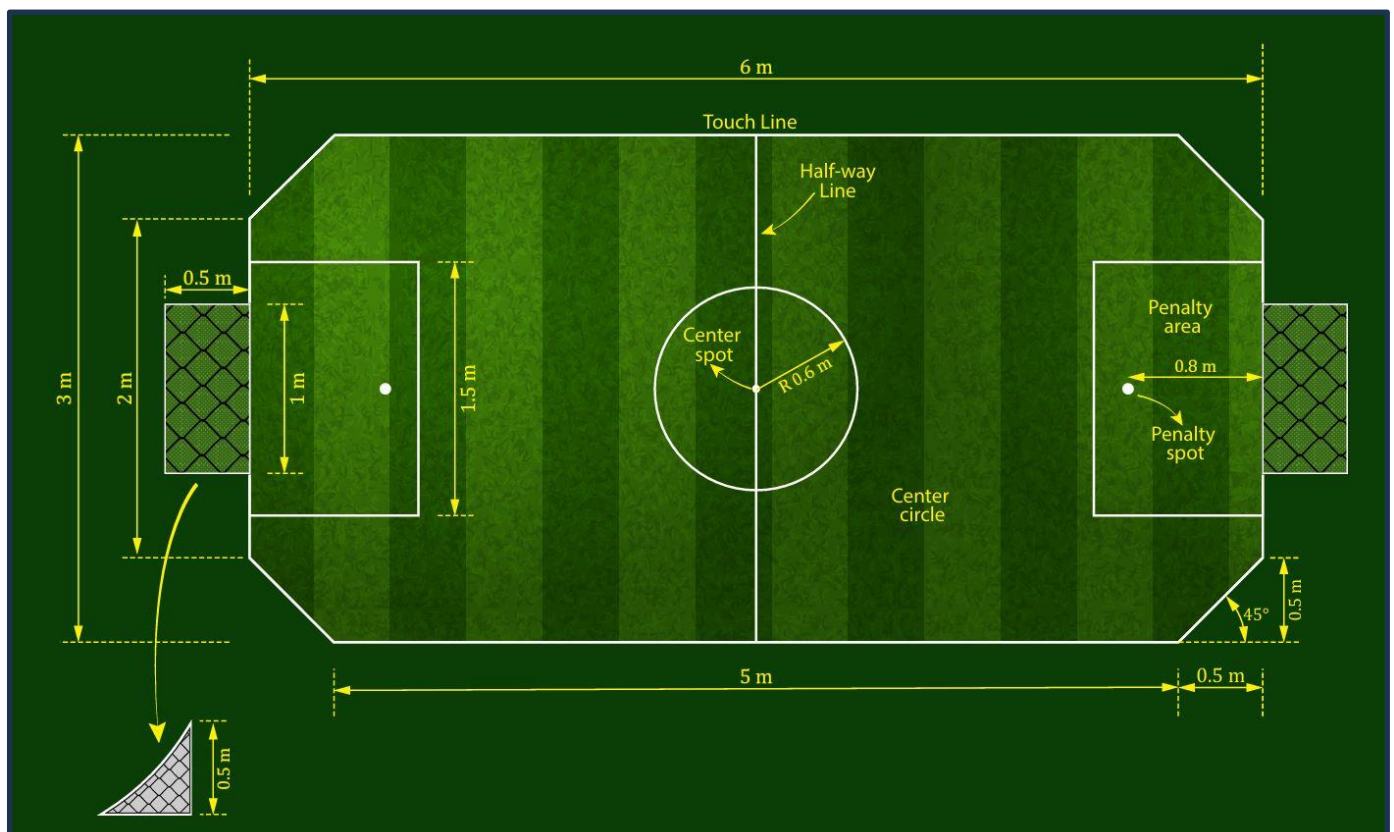


Figure 01



Figure 02

Arena floor: Polypropylene loop pile floor carpet

Note : A gap of up to **5 mm** may be present at the joints between carpet sections of the arena floor.

## 9. Ball Specification

- Weight : 40 g ( $\pm$  5 g)
- Diameter : 12.4 cm ( $\pm$  0.5 cm)
- Material : Plastic

## 10. Lighting and Environment

10.1. The competition may take place under varying ambient conditions, including temperature ranges of 7°C to 35°C and humidity levels from 60% to 90%. Participants should be prepared for possible variations in lighting, temperature, and humidity during the event.

## 11. Time Limit

11.1. **Round 1:** 7 minutes

11.2. **Interval between Round 1 and Round 2:** 5 minutes

11.3. **Round 2:** 7 minutes

## 12. Adjustments and Repairs

12.1. Participants may make adjustments or replace batteries only under approved conditions.

12.2. All adjustments must be reviewed and approved by the judges prior to implementation.

- **The organizers will not be responsible for any damage that may occur during the competition.**
- **In-game rules will be published and uploaded later.**