

# UNI KL ROBATTLE COMPETITION 2019

Rules and Regulations (Version 3.2)



Logos at the top: UniKL, Industrial Automation, ROBOTIQUE SOCIETY, YAYASAN BANKRAKYAT.

**UniKL** DOME OF STEEL  
**ROBATTLE**  
COMPETITION **2019**

**2-3 November 2019**  
**UniKL MFI, Bangi Selangor**

19 AUGUST 2019  
ROBOTIQUE SOCIETY



# 1. OVERVIEW

## 1.1. Game Overview

**Four (4)** teams consisting of (Red, Blue, Yellow and Green) **will operate a wireless remote robot**. There are **three (3) battle** phase in this competition:

- 1.1.1. First phase: 1 vs 1 (30 seconds)
- 1.1.2. Second phase: Free for all (2 minutes)
- 1.1.3. Third phase: Conquer the Area (30 seconds)

The match will start at the **ONE (1) second** mark. After the **first thirty (30) seconds**, **first (1<sup>st</sup>) phase** door will open and **second (2<sup>nd</sup>) phase** begins. All the robots are free to attack another opponent and there will be obstacle on the game field during the second phase. Once the timer reaches **TWO (2) minutes** mark, the **third (3<sup>rd</sup>) phase** will begin. The obstacle will deactivate until the end of third phase. Any team who **conquer the Area** at the end of the game shall be granted **ONE HUNDRED (100) points**. The **most accumulated points** earned by any team during the three (3) minutes will be declare as the winner.

## 1.2. Game Play

### 1.2.1. Group Stage

- There is a total 16 groups.
- Each group consisting of 3-4 teams.
- There are 3 matches in each group.
- 3-4 robots/teams will compete simultaneously in each match.
- Each match points will be counted and accumulated for placing.
- Top 2 teams from each group will proceed to first elimination round.

### 1.2.2. Elimination Round

- There is a total 8 groups.
- Each group consisting of 4 teams.
- There are 3 matches in each group.
- 4 robots/teams will compete simultaneously in each match.
- Each match points will be counted and accumulated for placing.
- Top 2 teams from each group will proceed to quarter-final.

#### 1.2.3. Quarter-Final

- There is a total 4 groups.
- Each group consisting of 4 teams.
- There are 3 matches in each group.
- 4 robots/teams will compete simultaneously in each match.
- Each match points will be counted and accumulated for placing.
- Top 2 teams from each group will proceed to semi-final.

#### 1.2.4. Semi-Final

- There is a total 2 groups.
- Each group consisting of 4 teams.
- There are 3 matches in each group.
- 4 robots/teams will compete simultaneously in each match.
- Each match points will be counted and accumulated for placing.
- Top 2 teams from each group will proceed to final.

#### 1.2.5. Final

- There are 4 teams in final round.
- Final round consists of 3 matches.
- 4 robots/teams will compete simultaneously in each match.
- Each match points will be counted and accumulated for placing.

## 2. ROBOT SPECIFICATION

### 2.1. Dimension and Weight

2.1.1. The following are general specifications for all robots:

- Maximum Width x Length: 40cm x 40cm
- Maximum Height: Unlimited
- Maximum Weight: The weight of the robot must be approximately 8000g / 8kg including full charge battery.
- Robot must be remote controlled via radio controller (RF) (e.g FlySky FS-i6, RadioLink T8FB).
- The weight of the controller will not be counted.
- Robot's batteries must be located inside the chassis and protected all the time.

2.1.2. A robot must fit within a square tube of the appropriate dimensions.

2.1.3. There are no limits to the types of motors, servos, actuators, sensors and battery used but the judges will have full authority to disqualify the usage of certain components if deemed unsafe for competition. Remember this – **safety matters.**

2.1.4. The total mass of a robot at the start match must be under the designated weight.

2.1.5. A robot may expand in size after a match begins, but must not physically separate into pieces, and must remain a single centralized robot.

- Robots may expand once \*switched on\* but **NOT EXCEEDING** 50cm in width and length.
- Robots violating these restrictions shall lose the match.

2.1.6. The robot will get a number or label for registration purposes. Display this number or label on your robot to allow spectators and officials to identify your robot.

## **2.2. Robot Control and Electronics**

- 2.2.1. There is no restriction in voltage usage.
- 2.2.2. The radio-controlled frequencies shall only be FM 27 MHz or 2.4 GHz Digital Spectrum Modulation (DSM).
- 2.2.3. Radio control jamming is **PROHIBITED**.
- 2.2.4. Wi-Fi control is **PROHIBITED**.
- 2.2.5. It is the team's responsibility to make sure the controller connections is secured.

## **2.3. Robot Weapon**

- 2.3.1. Active weapon is allowed. Lifting and spinning weapons are recommend. Projectile weapons are **PROHIBITED**.
- 2.3.2. Robots **SHALL NOT** throw liquid, powder, or other substances at the opponent.
- 2.3.3. Robots shall not secure itself on the ring surface by using cups, diaphragms, sticky treads, glue or other related devices.
- 2.3.4. Robot must restrain from grounding the power to the robot body.

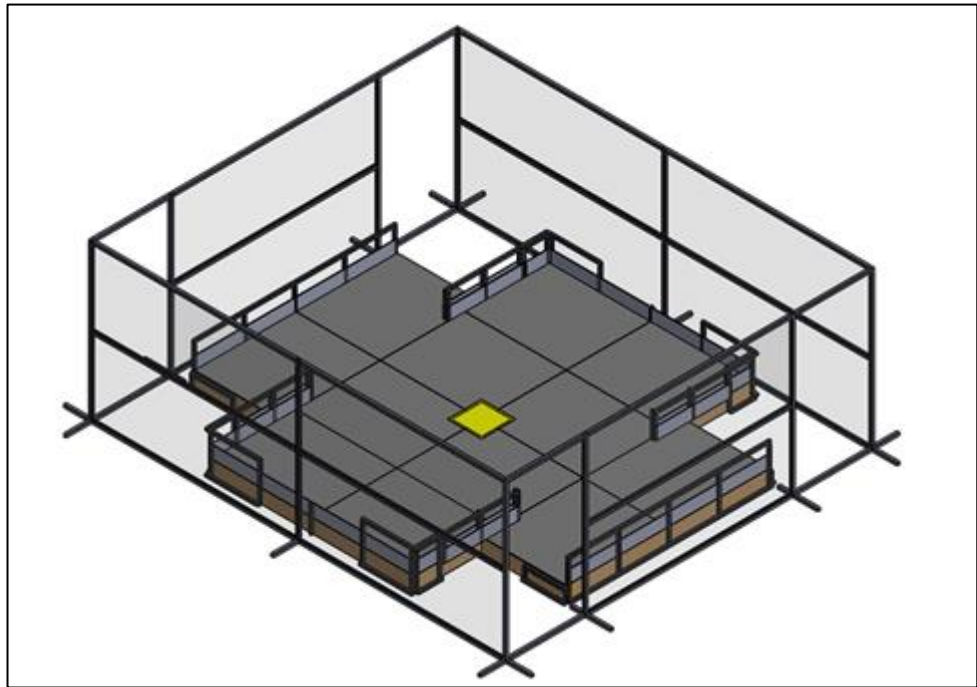
### 3. GAME FIELD

#### 3.1. Game Field Specifications

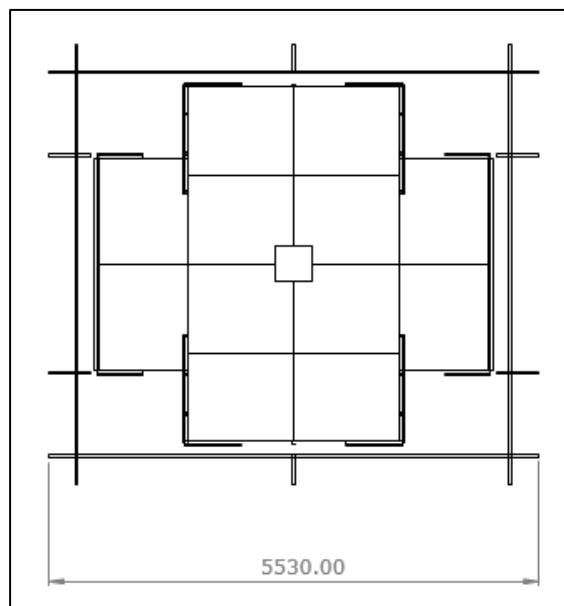
3.1.1. Game field size is 3 meters x 3 meters.

3.1.2. Battle Arena Specification

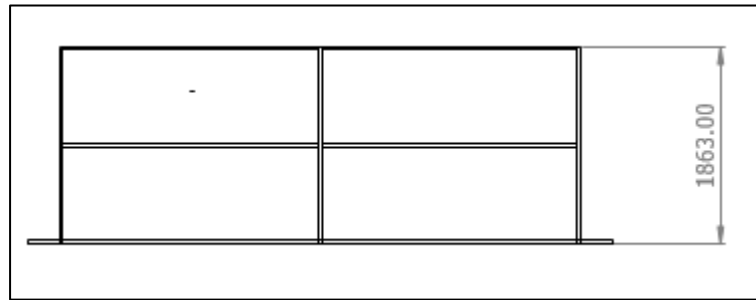
3.1.2.1. Isometric View



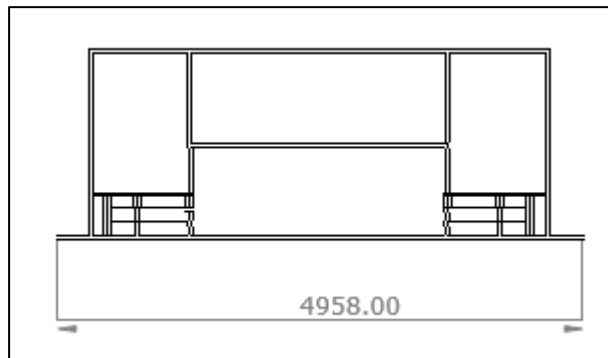
3.1.2.2. Top View



### 3.1.2.3. Front View

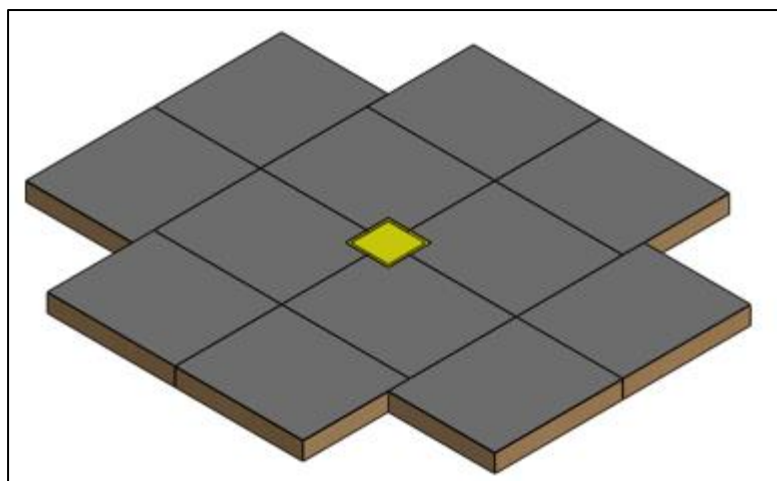


### 3.1.2.4. Side View

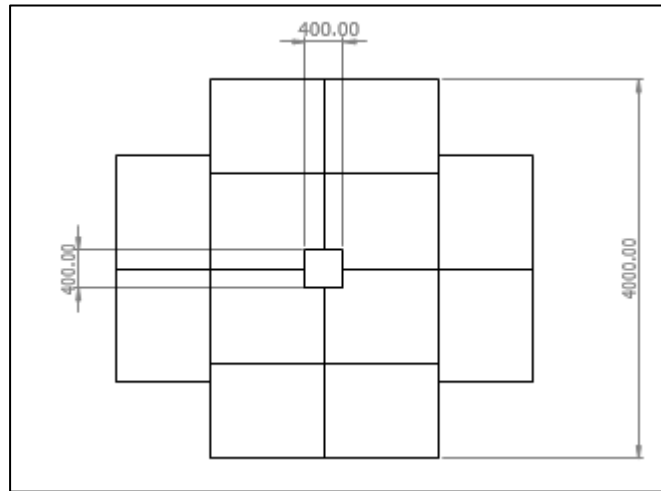


## 3.1.3. Game Field Specification

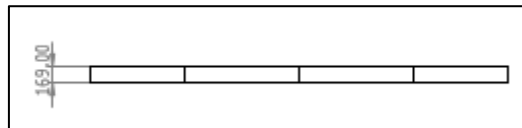
### 3.1.3.1. Isometric View



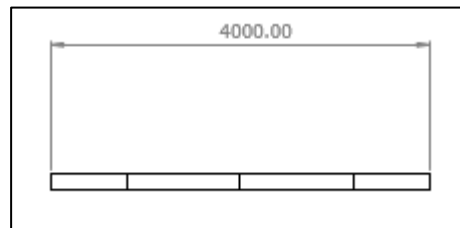
3.1.3.2. Top View



3.1.3.3. Front View



3.1.3.4. Side View





## 4. TEAM RULES

### 4.1. Team Members

4.1.1. Each team shall comprise of **maximum FOUR (4)** members consisting of:

- Maximum of **THREE (3)** students and **ONE (1)** instructor/manager (lecturer **OR** student) and all are from the same institute **OR**
- Maximum **FOUR (4)** participants from any organization, group or company.

4.1.2. ONLY the **FOUR (4)** students/participants are **ALLOWED** to enter the Game Field.

- There are **TWO (2)** pilot for each robot.
- Only **TWO (2)** pit crew are **ALLOWED** to set up and bring their robot into the battle stage.

4.1.3. Pit crew are permitted to give advice and strategies **WITHOUT** touching the controller.

## 5. SETTING UP ROBOT

### 5.1. Set Up Robot

5.1.1. Only **TWO (2)** team members are **allowed** to setup the robot in the Game Field.

The other team member (pilot) are needed to standby in the control area.

5.1.2. Each team has **60 seconds** to place and power up their robot after referee announces, "Set up your robot."

5.1.3. No reset or retry is allowed after 60 seconds 'set up' timed up.

## 6. SCORING

### 6.1. Positive point

- 6.1.1. **+100 points** for any team who conquer the Area completely within the time given.
- 6.1.2. **+50 points** for any team that successfully push down completely an opponent robot into the death pit.
- 6.1.3. **+50 points** for any team that successfully immobilize an opponent.  
(Immobilize means robot does not move by using its mechanical movement feature such as tyre/chain (tank). Referee will count until 10 seconds and if the robot do not move within 10 seconds, the referee will rise the white flag and announce the robot are officially immobilized. Movement using weapon will **not included**)
- 6.1.4. **+10 points** for any team that successfully make a damage to the opponent (main component of robot part are pulled off and removed from the chasis).
- 6.1.5. **+5 points** for any team that successfully pushed out opponent from the battlefield during second phase until end of battle.

### 6.2. Negative point

- 6.2.1. **-100 points** for any team that failed to attend scheduled game. (PLEASE TAKE NOTE)
- 6.2.2. **-50 points** if a robot purposely falls in the death pit.
- 6.2.3. **-20 points** for deliberately damaging the battlefield. (If it happened three times on the match, the robot will be DISQUALIFIED)
- 6.2.4. **-10 points** for attempting to damage the battlefield. (If it happened three times on the match, the robot will be DISQUALIFIED)
- 6.2.5. **-10 points** for jump-start. (If it happened twice on the match, the robot will be DISQUALIFIED)
- 6.2.6. **-10 points** for ignoring warning from referee.

## 7. INSPECTION

### 7.1. Registration

- 7.1.1. Each team must register their robot **before every match**. This includes players and robots.
- 7.1.2. Any major changes are **NOT ALLOWED**.
- 7.1.3. Any team that that swaps their robot with a new robot OR swapping the registered robot with a robot identical to the registered robot, the team will be **DISQUALIFIED** from the competition.
- 7.1.4. Any **attempt to lie, bad behavior or misconduct** to any of the UniKL Robattle Competition crews will lead to disqualification.
- 7.1.5. Any attempt to **disrespect the referee** will result in disqualification and are unable to continue competing in UniKL Robattle Competition.

\*WHEN IN DOUBT, THE DECISION OF THE JUDGES ARE FINAL \*