

Participant (age)	Team Formation	Game Method	Robot Condition	Robot Type
No Restriction	3 person (robot) per team	League / Tournament	Pre- Assemble	Remote Type

1. Category Summary

Robot Craft is an event to acquire basic skills about hardware and software that can implement strategic movement with humanoid and joint typed robots. This event requires that high understanding of robot design ability, control algorithms and remote control skills.

2. Robot Standard

A. Robot Specification

- i. Robot must be built up with ROBOTIS kit or using Dynamixel to participate the competition. **Please note there is no restriction to attach 3D printing parts or any other materials in participate robot.**
- ii. **Equipping dangerous weapon such as drill, saw blade, knife or any types of threatening equipments are strongly prohibited.**

B. Robot Component

- i. Robot must be pre-assembled to participate on competition.
- ii. If robots cannot be pre-assembled in advance, participants are allow to assemble their robots inside competition hall. However, there will be no additional time and venue will be provided.
- iii. There is no restriction on the size of robot, but if the match cannot be operated due to the size of the robot, it may be restricted to participation.
- iv. Each Team must participate event with 3 team members with 3 robots.
Each team must consist at least one of humanoid robot. (Other two robots can be participate with any kind of joint based robots).
※ Humanoid robot is a robot with its body shape built to resemble the human body.
- v. Wheel Type/ Caterpillar based robots are prohibited to join the competition. Must be participate with joint based (leg type) robots.
- vi. **Total weight of the team robots should be less than 6kg (sum amount of 3 robots).**
- vii. **Maximum working voltage for all robot should be less than 12V.**
- viii. Robot's sensor types and numbers of sensors are not limited. However, the use of the

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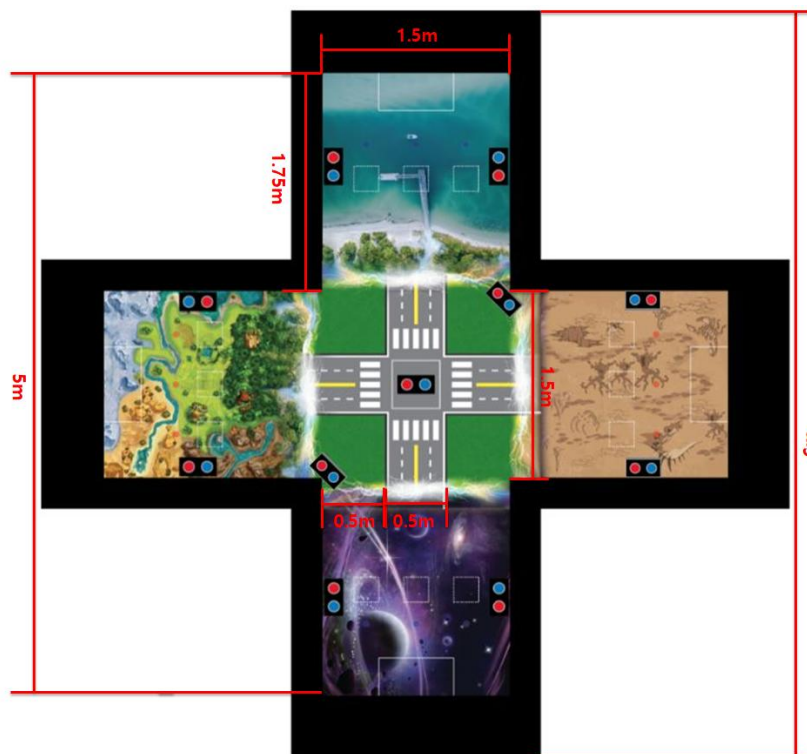
sensor may take critical effect due to lighting of competition arena. In case, if the participant is using video recognition system for their competition, participant may use their PC to set up, but you cannot operate PC after the actual game starts.

- ix. If the violation occurred above A and B regulations, participants are allowed to modify their robots during the event period, but if the judge decides this delays the time competition, the participant team will be assumed as disqualified.

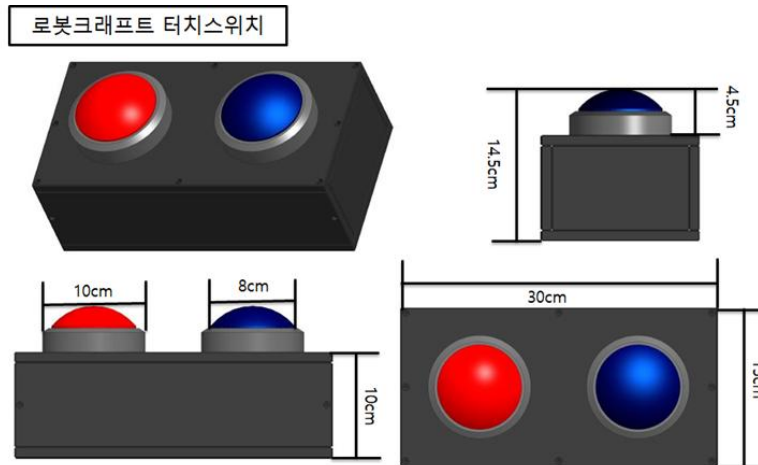
3. Robot Craft Arena Regulation

A. Arena Structure

- i. The Robot Craft arena will be structured with a cross shape and it will consist of 5m width, 5m length, 1m height of structure. (please refer to the image below).
LED switches will be installed in the position shown below.
- ii. The intersection of the center (middle part) is 50cm wide and green parts will be made of **Fine Tex** material.
- iii. There will be a 30cm high outer acrylic wall installed in the arena. It is a protection wall for robots from falling off.
- iv. Obstacle weights are 800g each and they will be located in all positions with different shapes. (Meteor, Wood, Pyramid, Rock). All obstacles will not be fixed on the arena ground and each obstacle can freely change position from 3 of the obstacle points.



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Rock	Wood	Meteor	Pyramid

4. General Rules

A. Robot Start

- i. Starting position could be decide by rolling the dice. Each team leader comes out and rolls the dice to positioning the team robots in their terrain. Location will be defined from the dice. If the dice face with "WE", the team can place their robots on the desired terrain. If you see the dice side of "YOU", you can designate the opponent's terrain.
(If both team come up with same formation of dice, both team will throw the dice again.)

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- ii. Check robot's communication status and abnormal conditions according to the judge's instructions before the game start.

B. Competition Progress

- i. Total 11 LED switches (Blue&Red colors) located on 5 different area and participant must turn their team color LED lights on match time. (Each team must choose Blue/ Red team color).
- ii. The team that turns more on their LED light color (Blue/Red) will win the match.
- iii. There will be NO Restrictions on tactics (eg. Fighting skills, Push, movement interrupt).
- iv. Robot's control should be controlled at the designated position. But, **the referee may redefine the location due to competition situation.**
- v. Three Robots will play as one team and matches will be played in league and tournament system.
- vi. The each team match will be played with single time only and total match time is 3 minutes per match. But giving up the match will count as a victory for the opposing team.

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C. Evaluation

- i. Drawing match for League will record as drawing but the tournament match will have extra one more minute to decide winner.
- ii. If the robot or any competition facilities are touched without any prior approval from the committee during the match, the participant will be automatically disqualified and removed from the stadium.

D. Other

- i. There will be no practice time will given on competition match dates, however, practice time may provide 1 day before the competition start. (Changeable due to condition)
- ii. It will be participant's responsible for any damage of their own robot unless opponent's make intentional damage.
- iii. Anything that does not included in this regulation will be played according to the decision of the STEAM CUP committee.
- iv. Other than contestant such as teachers, instructors, parents may not object to the argue or interferes the competition. If their participant is involved in the competition, the team may be disqualified on event.