

2018 STEAM CUP

Open Embedded Contest

v. 2018.1.1

Qualification	Team Formation	Game Method	Robot Condition	Robot Form
No Restriction	3 person (robot) per team	Evaluation	Pre-built	Autonomous Mobility

1. Category Summary

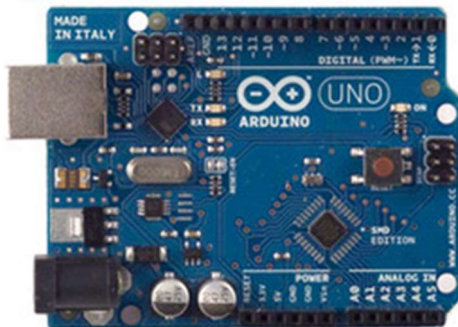
By combining a robot with open source hardware which is a technological innovation trend represented by SW and realization HW (3D printer) using embedded board, the Open Embedded Contest provides opportunities to the general public and professional engineers as easier way to approach and creatively build a robot.

2. Robot Qualification

A. Robot Types

- i. The control board must use an **open source** based controller that discloses the SW and HW information and **is limited to the following products.**

Entire Arduino series products



Example Image

Entire OpenCM series products



Example Image

A. Robot Components

- i. Robots must be pre-built to participate.
- ii. Robots may be built at the stadium, but there will not be a location or time set aside for this.
- iii. The work with your robot must not exceed 50cm (width) X 50cm (length) X 60cm (height) when the power is turned on.
- ii. There are no restrictions on the motor, the sensor, and other components.

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- iii. There is no restrictions to the robot's weight or power.
- iv. If A or B (iii, iv) is violated, robots may be modified at the stadium but should not interfere with the game operation. The team will be disqualified if not ready in time.

3. Arena Regulations

A. Arena Structure

- i. The arena for this category is a demo table and the robot must be placed in front of the description board.
- ii. The description board generally uses a foam board and is 60cm (width) X 90cm (length) in width. (However, there is no restriction on the material if it is the same size.)
- iii. There are no fixed form for the description board but **must consists of the name of the work and submitter and explanation of the motion (switch location).**

B. Arena Adjuncts

- i. There are no other adjuncts other than the demo table and the entry information of the work entered is displayed.

4. Game Method

A. Competition

- i. The description board and robot must be placed at a designated location.
- ii. **Participants must present their robot within 5 minutes.**
(Failure to present will lead to disqualification.)
- iii. The judging committee selected by the organizer will judge based on the evaluation criteria for each category to offer the total points for each work.

B. Scoring Method

- i. The pre-selected judges will evaluate the entries according to the following topics and evaluation criteria for each item.

- ii. **Theme : "Environmental Protection"**

#	Category	Evaluation Criteria	Points
1	Creativity	<ul style="list-style-type: none">- Should be an unique form that is not with pre-built technology or introduced to the media- Should not be an example produced by the manufacturer- Should not be a work that you or another person has submitted to another competition	20

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2	Completion	- For operating works, operating source will be evaluated - Evaluate the harmony between the robot parts used in the works and other small items - Evaluate whether the color combination of each part matches	20
3	Usefulness	- Evaluate how helpful it is to human life - Evaluate whether it is actually implemented and feasible	20
4	Technique	- Evaluate the high degree of mechanical mechanism during operation - Evaluate whether the level is appropriate for the student's age	20
5	Presentation	- Evaluate topic understanding and presentation contents - Evaluate presentation delivery	20

C. Others

- i. Exhibits are displayed according to the evaluation time and the direction of the committee members.
- ii. **Participants must present and answer questions in front of the judge within 5 minutes.**
- iii. If a robot is damaged while being displayed, you will be responsible unless the opponent was intentional.
- iv. For matters undisclosed in this regulations, the competition shall proceed according to the decision of the Committee.