organized by EDUTUS UNIVERSITY

EDU ROBOTICS CUP 2025

Engineer Challenge

ROOKIE GAME RULES

Edu Robotics Cup

2024-2025

Engineer Challenge - Rookies Rulebook

… the start of our space journey

Everyone has a dream about being an astronaut, travelling to infinity and beyond! Just like everything, it starts with small steps-by-steps…

1. Special Rules
   - 1.1. The robot can function on its own, with remote control via Bluetooth or WiFi, or it can be a combination of the above mentioned two.
   - 1.2. In accordance with rule 1.1. teams in Rookie age group do not have to show the Bluetooth/WiFi switched off in the recorded video – as it does not matter for them.
   - 1.3. Rookie age group teams can use the following LEGO Education Robotics Sets: LEGO WeDo 2.0; LEGO Spike Essential; LEGO Mindstorms EV3; LEGO Mindstorms Robot Inventor; LEGO Spike Prime.
   - 1.4. Team members are allowed to touch the robot in the upper city area (top left corner of the game field) and the black and white line in the area. Team members can touch the robot if any part of the robot touches the upper city area (robot does not have to be completely inside the area)

2. Game Mat

Below you can see the game mat:

3. Game Objects

Lego mini figures on 4 x 4 x 2 LEGO stand
(only head + body + legs, no other accessories allowed)
Amount: 2
Size: standard Lego mini figure
Placement: touching the areas marked with red circles **(1)**

Dog statue (Laika)
Amount: 1
Size: max. 100 x 100 x 50 mm
DIY How to Make An Easy Paper DOG. Origami Tutorial for Kids and Beginners
Placement: touching the city center marking in a standing position (marked with a purple circle in the picture below). **(2)**

Soda can (space rocket)
Amount: 1
Size: standard with base diameter 58 mm, can be full or empty
Placement: the base of the soda can has to be completely inside the area marked with light blue on the picture below. (3)

Plastic bottle cap
Amount: 2
Size: standard size 23 – 28 mm diameter
Placement: place the cap completely inside the small circle area marked with yellow. **(4)**

Ruler
Amount: 1
Size: 30 cm
Placement: to show us in the video that the game mat is of the correct size you have to place a ruler on the scale graphic bottom-right of the game field

Important: whenever a game object has to be placed on an area the bordering lines of the area are not considered part of the area. If there is no bordering line then the edge of the color of the area is considered the border.

4. Game Objects on the Game Field

See picture below where to place the different game objects:

In case of rule infringement: If a game object is not placed on the game field in the correct position points for that object will not be awarded for the team.

5. Game Tasks

The robot has to start completely inside the upper city area in the upper left part of the game field bordered by the purple dotted line.

5.1. Deliver future space cadets

Lois went to the forest with friends for stargazing, Clark is feeding their animals on the farm. They both want to be astronauts when they grow up. Help them to watch the space rocket launch at Space Center.

Goal: Bring the models(mini figures and stand) to touch the Space Center building.

5.2. Tribute to the first

The first living being in space was Laika the soviet space dog. The city wants to create a tribute with a statue in the MusEum.

Goal: Deliver the origami dog from the city center so it is **completely inside** the area of the MusEum building (bottom left)

Bonus: After the delivery look around in the MusEum, with a 360° turn, and make audible robot sounds.

5.3. Ready to launch

Move the space rocket from the hangar to the launching pad.

Goal: Move the rocket so it is touching the rocket graphic on the field.

Bonus: Countdown, or beep 5 times to launch the rocket.

5.4. Safe river

During the operation, the safety buoys must be untouched, to secure the river traffic.

Goal: The plastic caps have to stay in their starting circles.

5.5. Parking

A mountain is a good place for your robot to watch the launch.

Goal: Park the robot so it is touching the Mountain area in the center of the field. Points are only awarded if any other points are achieved by the team from tasks 4.1. - 4.3.

6. Scoring

Tasks	Score
Deliver future space cadets	
Lois carried from the forest, **touching** the Space Center building area	**20**
Clark carried from the forest, **touching** the Space Center building area	**20**
Tribute to the first	
Laika statue moved **completely inside** the museum graphic	**30**
Look around the museum with 360° turn, the robot **touching** the museum graphic and make audible robot sound	20
Ready to launch	
The soda can is **touching** the rocket graphics on the field.	**30**
Countdown initiated by robot. (numbers, or beeps)	20
Safe river	
Water buoy stays **completely inside** the river buoy circles	**20** **10 / buoy**
Parking	
Robot parked **touching** the mountain area.	**10**
Not allowed to touch the robot	
If a participant touches the robot, when its completely outside of the base area (upper city area)	**touch/-5**
Technical points	
Recorded and uploaded video includes all requested parts: ● robot, ● game field and game objects, ● robot run, ● end position of robot and game objects.	**10**
The team uploaded only one video file and one program documentation, which apply to the requested format and naming format.	**5**
Total score	**185**

6.1. Definitions for scoring

Completely inside: every part of the game object that touches the game field only touches the target area not including the surrounding line.

Touching: the game object touches the target area not including the surrounding line. Important that in this case the game object is not completely inside the area, because that is a different case.