

Robot Line Tracer (No FAN)	Level Junior / Senior	Team 1-2 person	Construction Pre-Made
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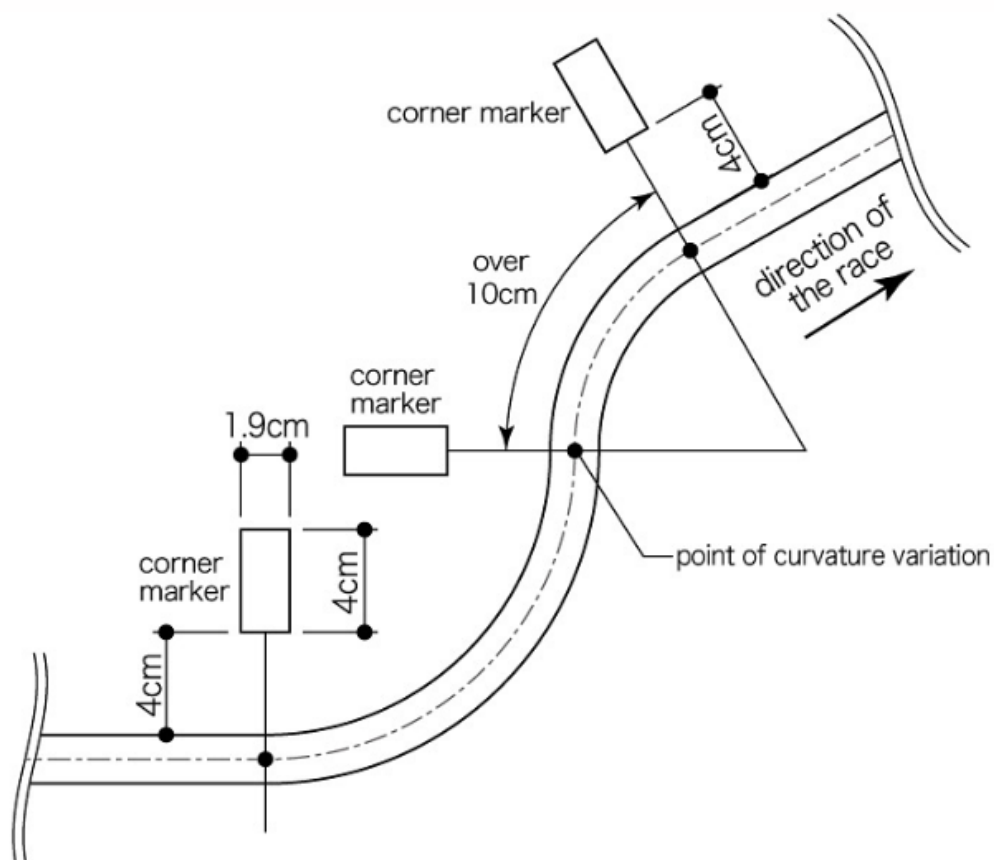
This competition uses autonomous robots to follow a line and race to the finish line. The team whose robot reaches the finish line in the shortest time will be the winner.

1. Robot Qualifications

1. The robot must not exceed the size of 20 x 20 cm. There are no restrictions on weight or height.
2. Only one robot is allowed to be used throughout the competition.
3. Robots may not be shared with other teams. If detected, the team will be immediately disqualified.
4. The robot must use any type of control board or microcontroller. The robot must be programmed and operated fully autonomously. Human communication or control is prohibited, except for pressing the start button on the robot once to begin operation.
5. The use of duct fans as a component of the robot is prohibited.
6. The robot's structure may be made from any components or materials.
7. The robot must move on wheels following the line. There is no limit on the number or type of sensors and motors used. No parts or devices that cause damage to the competition field are allowed.
8. There is no restriction on the electrical power used, but liquid batteries or damaged batteries that could explode or cause danger during the competition are prohibited.
9. Robots may be pre-assembled.
10. Screws, nuts, or any fastening devices on the robot must be securely fixed. If any parts detach, break, or fall onto the field during competition, the judges will remove those parts and allow the competition to continue. The judges are not responsible for any consequences resulting from removing fallen parts.
11. The robot must not damage or cause harm to the competition field. Any team whose robot damages the field will be disqualified immediately.
12. Only competitors are allowed in the competition area. Parents or team supervisors are not permitted to enter this area. If found, the team will be disqualified immediately.

2. Competition Field

1. The field consists of a flat surface with white lines on a black vinyl floor.
2. The main running line is white, with a thickness of 20 mm ($\pm 10\%$ tolerance).
3. At the START point, there is a Timer Gate. The robot must be capable of triggering the timer. If it cannot, the time may not be recorded.
4. There are corner markers at every curve point, which are straight lines located 4 cm from the main running line, as shown in the illustration.
5. The field layout and mission details will be announced on the day of the competition.



Points where the curvature of the course changes and corner marker

The image shows an example of the competition field with corner markers.

3.Competition Rules

1. Each team has the opportunity to compete in 2 rounds.
2. The time limit for each round is 3 minutes.
3. At the start of the competition, the robot must be placed behind the designated START line.
4. When the start signal is given, the competitor presses the button to release the robot to follow the line in the specified direction, passing through the timing gate until reaching the FINISH gate.
5. If there is still time remaining in each round, the competitor may release the robot as many times as desired to achieve the best time for that round.
6. If during the competition the robot moves off the line, the mission for that attempt is considered failed, and the robot must be restarted from the START point.
7. When the robot reaches the FINISH gate, the system will stop the timer, and the judges will record the time for each test attempt.

8. If the competitor voluntarily ends the competition, the judges will not record the time, and the mission will be considered failed.
9. The robot's name or number must be clearly displayed and easy to see and read on the robot's body throughout the competition.
10. If there is a tie in time, the competitors must race again.
11. Any situations or cases that arise during the competition which are not specified in the rules will be at the discretion of the judges.
12. The judges' decisions are final and cannot be contested.

