



DEATHRACE

Team should be of max 5 members.

- **A line tracer competition involves autonomous robots designed to follow a designated path marked by a visible line on the ground (Blackline on White).**
- **Participants create small, programmable robots equipped with infrared sensors to detect and track the line.**
- **The robots navigate through a course that includes turns, intersections, and challenges, showcasing their ability to follow the path accurately and efficiently.**
- **The competition emphasizes the integration of sensor technology, programming, and control systems to achieve optimal performance.**

A vibrant, fantastical illustration of a forest. The scene is filled with large, gnarled trees and a dense canopy. Numerous glowing yellow and orange spheres, resembling fireflies or magical orbs, float throughout the air. In the lower-left corner, a waterfall cascades over rocks. The ground is covered with various plants, including large, glowing mushrooms and clusters of small, round fruits. The overall atmosphere is mystical and enchanting.

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Line Tracer Robot Competition Rules:

Robot Specifications

- Each participating team must design and build a line tracer robot capable of autonomously following a visible line on the track.
- The robot must fit within specified size of 40cm x 40cm x 40cm.
- All power for the robot must be onboard; no external power sources are permitted during the race.

Track Specifications :

- The track will consist of a visible line on a contrasting surface, featuring curves, turns, intersections, and possibly challenges.
- The track layout will be disclosed to participants before 3 days of the competition to allow for sensor calibration.

The background of the slide is a vibrant, fantastical illustration of a forest. In the upper half, dark, gnarled tree branches are silhouetted against a backdrop of numerous glowing yellow and orange spheres, resembling fireflies or magical energy. Below this, a lush green landscape features a waterfall cascading over rocks on the left. The foreground is filled with various magical plants, including large, glowing mushrooms and clusters of small, colorful berries. The overall atmosphere is mystical and enchanting.

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Calibration Period :

- **Participants are allowed a specified calibration period before the race to adjust their robot's sensors for optimal line detection.**

Race Procedure :

- **Each robot will start from a designated starting point on the track.**
- **The goal is for the robot to complete the course in the shortest time possible by accurately following the line.**

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Obstacle Handling :

- **If the track includes obstacles, robots must be capable of navigating around or through them autonomously.**

Penalties :

- **Penalties may be incurred for actions such as straying off the line, interfering with other robots, or violating size and weight limits.**

Race Timing :

- **The official race time starts when the robot begins moving from the starting point and stops when it successfully completes the course.**



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Scoring and Winning Criteria :

- **The winning robot is determined by the fastest completion time.**
- **In case of ties, the robot with the highest accuracy in following the line may be considered.**

Fair Play :

- **Participants are expected to adhere to ethical standards and the spirit of fair competition.**
- **Any attempt to sabotage or interfere with other robots may result in disqualification.**

Judging :

- **A panel of judges may be present to monitor the competition, resolve disputes, and ensure that all rules are followed.**

A vibrant, fantastical illustration of a forest. In the foreground, there's a waterfall cascading over rocks. The ground is covered with various glowing mushrooms and plants. The trees are tall and dark, with many small, glowing yellow spheres (like fireflies or magical orbs) floating around them. The overall atmosphere is magical and ethereal.

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Safety :

- **Robots must be designed with safety in mind to prevent harm to participants, spectators, or other robots.**

Rule Modifications :

- **Organizers reserve the right to make rule modifications or clarifications before or during the competition if necessary**

Helpful Links :

- <https://quartzcomponents.com/blogs/electronics-projects/line-follower-robot-using-arduino>
- <https://youtu.be/5jh-5HGvC-I?feature=shared>
- https://youtu.be/UhucBLW_qIQ?feature=shared
- https://www.google.com/amp/s/www.instructables.com/Line-Follower-Robot-With-Arduino-Really-Fast-and-R/%3famp_page=true
- <https://circuitdigest.com/microcontroller-projects/arduino-uno-line-follower-robot>