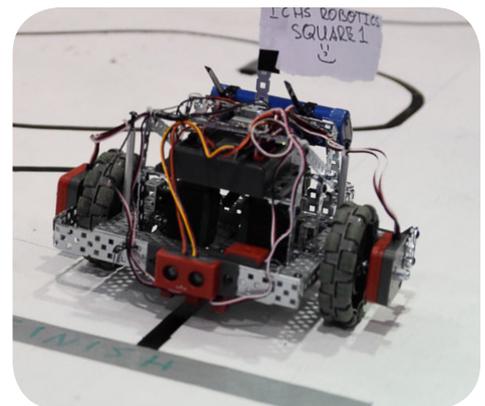# SOUTHWORKS ENGINEERING AND ROBOTICS OLYMPICS

Pathfinder Challenge

Objective

- Objective: Create an autonomous robot that follows a black line on a white platform.

Parameters

- The robot must be fully autonomous. Once it begins the course and the timer starts, interference or guidance of any kind (for example, voice, electronic, mechanical, touch) is not allowed.

- Once the robot leaves the path it cannot return to the path, and its run is judged to be over. For determining competition results, the point at which it first leaves the path is judged to be its final distance. The most forward point of the robot will be used to determine its distance traveled.

- A robot is judged to have left the path when any part of the black line/path is outside the perimeter of the robot.

- The robot must be narrower (measured perpendicular to the path) than 8 inches and shorter than 10 inches. Any extensions must fit into this build envelope while the robot is competing.

- Robots may not alter pathway or intentionally move obstacles while navigating the path.

- Various obstacles may be placed in the path, and robots must stay on the path.

- The path will be approximately 20 feet and will fit within an 8ft. x 8ft. area.

Notes

Competition: Each competitor has 3 minutes to complete the course. The winner is the robot that completes the course fastest. In the event that no competitor completes the entire course, the winner is the competitor that goes the furthest before leaving the path or at the end of its 3-minute run. In the event of a tie, a tiebreaker will be used to determine the winner. Only the competitors who tied will participate in the tiebreaker. The tiebreaker consists of each robot running the course from finish to start. The winner is the robot in the tiebreaker that completes the course fastest or goes the furthest before leaving the path or at the end of the 3 minute run. All competition rules apply to the tiebreaker.

Materials

- Robot must meet weight and size requirements

- No user input will be allowed to control robot during competition; it must be autonomous