SOUTHWORKS ENGINEERING AND ROBOTICS OLYMPICS

Autonomous Racer

Objective

- Objective: Teams will build a vehicle that can complete a 20-foot straightaway course with the fastest time. There will be various obstacles in the path of the vehicle that it will have to navigate over in order to complete the course. Likely obstacles include pebbles, foam rods, and plastic stripping; none will be any larger than ½ inch. Vehicles must be non-electrical. Race will be a head to head competition with the winner progressing to the next round.

Parameters

- The maximum weight for each vehicle is 12 pounds.
- The racer must fit into a 4-gallon crate that is 13"x13"x11".
- The racer must be fully autonomous. Once it begins the course, interference, external locomotion or guidance of any kind (for example, voice, electronic, mechanical, touch) is not allowed.
- Once the racer leaves the course it cannot return to the course, and its run is judged to be over. For determining competition results, the point at which it first leaves the course is judged to be its final distance. The most forward point of the racer will be used to determine its distance traveled.
- A racer is judged to have left the course when the racer breaks the vertical plane of the track perimeter.
- Racers may not alter the course or intentionally move obstacles while navigating the course.
- Various obstacles may be placed in the course, and racers must stay in the course.
- The course will be at least 3 feet wide.

Notes

- If no vehicles complete the course within the 3-minute period, the vehicle that finishes the greatest amount of the course will advance to the next round.

Materials

- Vehicle must meet weight and size requirements
- No user input will be allowed to control vehicle during competition; it must be autonomous
- No pre-assembled kits will be permitted