

2010 Laser Truck Rally

Rules Committee

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Important Dates

Monday, February 1, 2010 – Last day to register your team

Thursday, February 4, 2010 – First day to pick up cars in the ECEn office with student ID.

Wednesday, February 17, 2010 – Test Track Location TBA, available for trial runs from 6-9 PM

Thursday, February 18, 2010 – Competition Day; Trucks impounded at 10 AM; Races begin at 11 AM

Registration

Every team must be composed of 2-3 students. Teams will sign up at the ECEn Office with student IDs and e-mail addresses. They will be required to sign a statement that indicates a commitment to have an entry prepared for the competition on February 18 at 10 AM.

Guidelines

Each team will get an allocation of one New Bright R/C car with accompanying 6V charger and battery. They will also receive 2 AA batteries in the kit for the controller, and will have an allocation of \$25 for supplies from the ECEn Shop. Incidental supplies not available at the ECEn store may be purchased from retailers, but all purchases must stay within the \$25 total limit. Teams must provide receipts for any supplies not purchased at the ECEn Shop. However, you will not be reimbursed for supplies obtained outside of the ECEn shop. Some small incidental supplies, i.e. tin foil, tape, solder, will be available in the ECEn shop.

Teams are allowed to use any of the parts within the truck but the truck cannot use any other power supplies other than the 6V battery and 2 AA batteries. The only control mechanisms for the truck allowed are two Class IIIA laser pointers at 650 nm with a power rating of <5 mW each. We suggest you consider taking advantage of the electronics already in the R/C remote control unit, replacing the left/right and forward/backward switches with laser pointer controlled mechanisms.

We will provide two suitable Class IIIA laser pointers at 650 nm +/- 10 nm that can be used on the day of the competition. Trucks will be impounded so that a single truck can run the courses during the competition without any other possible RF interference.

The truck and associated electronics must fit within a 2 foot X 2 foot X 2 foot cube during the entire competition. Please mount the electronics securely so that in the event of a collision, the truck remains intact.

Tracks

There will be a Sprint Track and a Figure 8 Track. All trucks will have three attempts on both tracks.

Scoring

The best time from the three attempts will be recorded for both tracks. The time for the sprint track will be multiplied by 5.

$$\text{Total Time} = (5 \times \text{Sprint Time}) + (\text{Figure 8 Time})$$

The lowest total time WINS!

Prizes

The winning team will receive gift certificates valued at \$150. Second-place team will receive gift certificates valued at \$60. There will also be a \$50 certificate for the Judge's Most Creative Entry. All teams will be allowed to KEEP THEIR HARDWARE!

Exceptions

Rules questions must be put to the rules committee and a ruling will be posted by e-mail to the participants.

