



7th annual 2012

ROBOParade



Lawrence Tech


Macomb Community College



What is RoboParade?

- RoboParade is an annual Thanksgiving parade where autonomous robots are decorated as floats
- 7th Annual RoboParade will be held Saturday November 17, 2012 12:00 to 3:00PM at Macomb Community College Expo Center
- Videos of previous RoboParades
www.robofest.net/roboParade.htm


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Who can join the parade?

- Teams can register online at
 - www.robofest.net (registration fee \$20)
- Teams up to 7 students
- Any student in grades 4 to 12
- One float per team
- Teams must pass a qualifying test at Macomb Community College on Nov 16, 5pm~8pm *or* Nov 17, 9am~11am

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What must your autonomous robot do?

Without human help (remote control)

- Must be able to follow a black line on a bright surface (table)
- Must be able to detect the float in front of it using sensors (must stop and wait)
- Must display the current speed (every 2 seconds)


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Should we use only Lego robots?

- ANY kind of robot is OK
- We recommend advanced robotics platforms for high school students, VEX, Tertix, L2Bot, etc.
- The robot may be decorated any way you wish!

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Other Requirements

- Speed limit
 - 7cm/sec ~ 17cm/sec
 - Students must know how to program to calculate and display the robot's speed
 - Recommended display interval is 2 seconds (Display speed every 2 seconds)
- Must fit on the parade track (can't be too wide) – recommended width is less than 35cm
- Length: less than 35; otherwise see next slides
- Must have a rear bumper (see next slide)

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Required Rear Flat Bumper

Minimum size:
2.5" x 5"

2.5"

1"

Sonar or IR sensor

Touch sensor

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Rule for length of the robot (1)

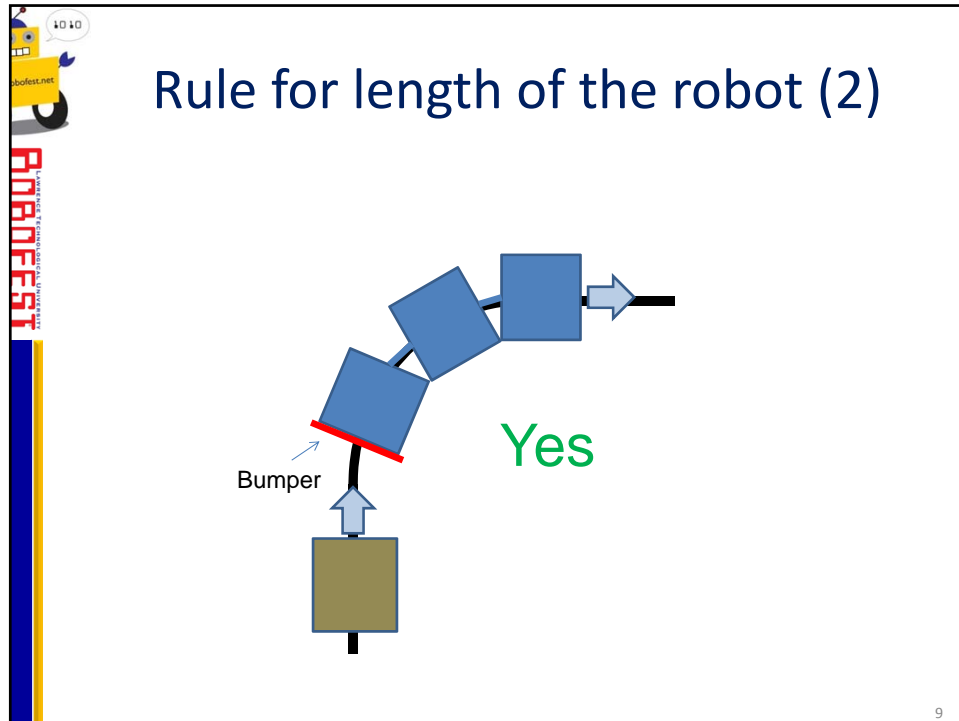
Long robot

Bumper

No

Hard to detect the float in front

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Qualifying Test Items


1. Line following
2. Object detection: wait and restart
3. Speed display: Judges will check if the displayed speed is correct
4. Speed limit observance
5. Rear bumper
6. Length; Whether robot bumper location is OK for the robot behind at the curve
7. Written exam for a team about math and science involved in RoboParade problem. All team members solve the problem together.

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Who can join the parade?

- Teams that pass test items 1 ~ 6
- Official flag with a number will be given




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ROBOFEST

Who can get the individual trophy?

- All the team members that pass all 1~7 items
- Teams who did not solve (7) the written exam part may schedule an appointment with Robofest office to retake the exam at Lawrence Tech to get the trophies, before Nov 31, 2012.




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Canstruction

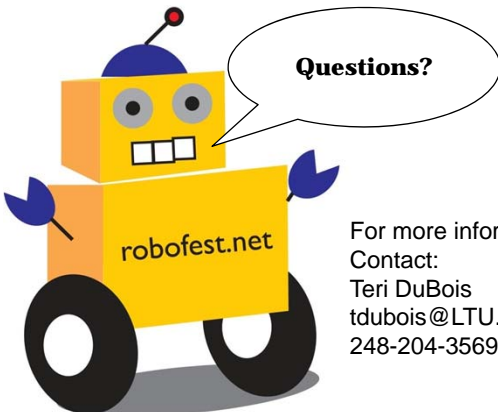
- Please bring cans to construct buildings along the parade route
- Cans will be donated to Gleaners Community Food Bank



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ROBOParade



For more information,
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