



2007 Student Showcase Exhibit

one day
contest

Robotic

One Day Competition

Teams will use different robots for each event. Plaques and other awards will be given to the first, second and third in all events. An overall team award for the school with the best combined score for all events.

The preference is for schools to compete in all events, but it is possible to compete in only one of the events. Passes will be provided for each four member team, instructor and four chaperons.

Find the HERO (follow the line)

The robot must follow the black line on a white background and find the HERO in the center of the playing field. Three timed runs for each robot. The lowest combined times for finding the HERO will win the Contest.

Sumo Circle

Build the worlds strongest robot! Use your design expertise to see how your robot can overpower your opponent. Face off with your opponent in the Sumo Circle.

Entry form for One Day Contests must be mailed in by May 2nd, 2007. Forms available at www.sdfair.com
Details and rules will be mailed after entries are received.

One Day Contests are

Open to All Schools in California.

Limit 20 teams in each Contest.

rev 3/1/07

Drag Strip

The objective of this contest is to beat your opponent to the finish line. Three timed runs with the Robot with the lowest combined times will win. Bonus points for winning a race will be part of the timed results.

one day contest

June 16, 2007

@ 10:00 a.m. to 1:00 p.m

entry deadline **May 2, 2007**

information www.sdfair.com/entry

Overall Winner

plaque

1st 2nd and 3rd place

Ribbons and Plaques in each contest

gifts for all team members

Questions contact:

Neil Bruington

coordinator student showcase

nbruington@cox.net

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<http://www.legoeducation.com>

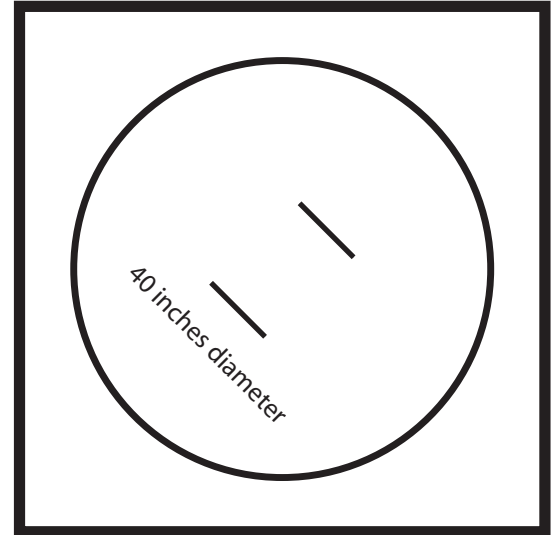
Sumo Circle

Dohyo

Build the worlds strongest robot! Use your design expertise to see how your robot can overpower your opponent. Face off with your opponent in the Sumo Circle. Objective; push your opponent to the outside line or lose mobility.

Rules

1. Two minutes will be allowed for setup and calibration before each round.
2. The robot must fit within 8.5 x 8.5 area.
3. The maximum number of motors is two.
Autonomous robots only - No remote control.
4. The robot must start behind one of the two central lines.
5. The team operator is only allowed to place the robot on the board and to push its starting button when told to do so.
6. The robot must beep when the button is pushed and start no sooner than 5 seconds after the button is pushed. (to allow the operator to remove his/her hand and step back).
7. The format of the competition will be round robin, double elimination, single elimination, or two out of three depending on the number of entries and time constraints. The preference will be for round robin.
8. The winning robot will receive 10 points. Second will receive 5 points in each round. Ties will be 2 points
9. During the round the first robot to touch the outer line or lose the ability to move, loses the round; a round will be 1.5 minutes . The robot with the red power button farthest from an outer line wins.
10. Teams are limited to four students. Schools are limited to two teams (unless space is available, a wait list will be established) No more than twenty teams for this competition.



Sumo Circle Board

48" x 48" no rails on the edge

The Dohyo surface will be white in color. The line will be .75 of an inch in flat black paint. Lines in the Dahyo will be light yellow paint. The board will be 48" x 48" and elevated 3" from the ground.

2007

San Diego County Fair

A Salute to HEROS

Student Showcase Exhibit

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Find the HERO

Follow the Line

Robot Specifications

Robots must be autonomous. Robot must follow line from beginning to end.

When a verbal command is given, the contestant will start his/her robot. Robots will have a delay of no more than 5 seconds after the start button is pushed. The timer will be stopped at the finish line when the robot crosses the finish line.

Materials will be Lego Mindstorms or built from scratch. Prebuilt kits are also ok. No limit on motors or sensors.

The maximum robot width is 8.500 inches (216 mm).
The maximum robot length is 11.00 inches (279 mm).
(That's a standard sheet of paper 8 1/2" by 11")

There are no constraints on robot height.
There are no constraints on robot weight.

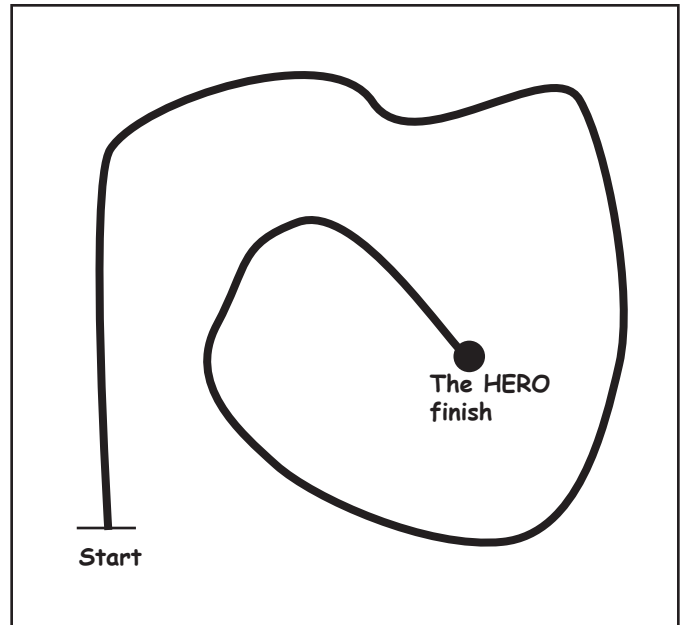
Track Specifications

The track surface is White Melamine. The overall size of The track surface is 4' x 4'. It will have no vertical sides. 1/8 inch (3mm). The course line is 0-3/4 inch (19 mm) wide black tape. The course line may have discontinuities, not to exceed 1/8 inch (3mm). The course line may be curved, with a center-line radius of 6 inches (152 mm). The line will be at least 6 inches away from the edge of the Board. The robot must deal with the lighting conditions as they appear. This Event is outdoors in the Paddock Stage Area of the Fair Grounds.. Also, flash photography and IR focusing cameras will be allowed, unless the judges deem such activities as interfering with the ability to hold the event in general.

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Find the Hero Board

48" x 48"

Scoring

The official score for a robot occurs when it crosses the finish line after reaching the HERO. Nudging/pushing or restoring a robot to the location it left the track incurs a five second penalty for each occurrence, including the time taken to place the robot. A robot that takes a shortcut, will be picked up and placed on the correct path, also incurring the time penalty. If the robot does not complete the course on the first attempt, it will be allowed another attempt. If unsuccessful again, it will be given a final (third) attempt.

There will be three timed runs. The Robot with the lowest combined time for the three runs will be First Place. There will be awards for Second and Third.

Basic line-following track was laid out as pictured above. There may be a slight variation as the line for the course may be rearranged for this contest.

Drag Strip

Robot Specifications:

Robot will be **Autonomous**

Number of Robots per Event: **Two**

Length of Event: **1 minute maximum**

Robot Weight Range: **Any**

Robot Dimensions: **Any**

Drag Strip Specifications

4 foot wide, 16 feet long white background with a standard 3/4" black electrician's tape line traversing lengthwise to the end of the Strip.

Tournament Format: **Round Robin (time permitting)**

Event Rules:

The objective of this contest is to beat your opponent to the finish line.

Once a Robot starts the course, it must remain autonomous or be disqualified

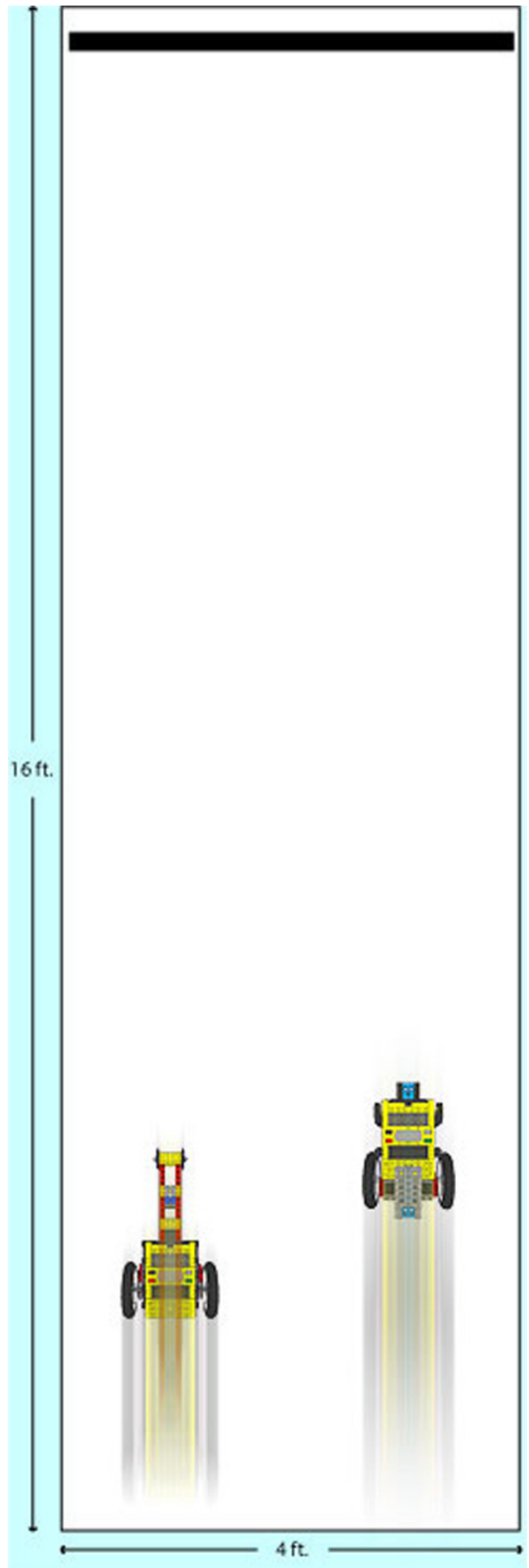
A robot must wait 5 seconds after the "RUN" button is pressed before moving down the course. Any robot not waiting the five seconds will be given a "false start". Each robot is granted one "false start" per heat. If the robot false starts twice the robot is disqualified. If the robot must be reprogrammed for any reason it is disqualified for that heat.

A robot that wanders off the race course will be disqualified

Upon reaching the finish line the robot must perform some action to signify that it has reached it (play a song, turn on a light, do a little dance...").

Scoring:

There will be Four Runs for each Robot. The Robot with the lowest combined times will win First place. There will be awards for Second and Third Place.



ROBOTICS COMPETITION ENTRY FORM

*Completed Forms & Fees must be USPS postmarked on
or before Wednesday, May 2, 2007*

No Processing Fee

Mail to:
San Diego County Fair
Attn: Student Showcase
P.O. Box 685
Solana Beach, CA 92075

Exhibitor # _____ (office use)

EXHIBITOR'S NAME (First Name Middle Initial Last Name)

Grade Level

Exhibitor name is the group leader/contact. Also attach a list of names of participating students.

 Address (Street, P.O. Box, Etc.)

 City State ZIP Phone #

SIGNATURE OF EXHIBITOR (mandatory)

Exhibitor e-mail

I wish to receive Fairgrounds info by e-mail

The exhibitor agrees to defend, indemnify and hold harmless the Fair, the County and the State of California from and against any liability, claim, loss or expense (including reasonable attorneys' fees) arising out of any injury or damage which is caused by, arises from or is in any way connected with participation in this program or event, excepting only that caused by the sole active negligence of the Fair. The Fair management is not responsible for accidents or losses that may occur to any of the exhibitors or exhibits at the Fair. The exhibitor (or parent or guardian of a minor) is responsible for any injury or damage resulting from the exhibitor's participation in the program or event. This includes any injury to others or to the exhibitor or to the exhibitor's property.

I certify these entries are my work and that these entries comply with the Local and State rules. I acknowledge that these entries do not violate copyright or trademark laws. I agree that my name may be released to the press. I certify that I have read the statement listed above.

School Name: _____ School Phone # (____) _____

Instructor's printed name _____ Home Phone # (____) _____

Instructor's e-mail address _____ I wish to receive Fairgrounds info by e-mail

Instructor's Signature (mandatory)

Instructors: If your student is an award winner, we will need to contact you. Please be sure we have your home phone number so we can notify you about the awards presentation.

Please mark the box next to the class(es) in which you will participate.

No	Register	Date	Class	Brief Description	Entry # (Office Use)
1.	<input type="checkbox"/>	Robotics June 9	First Teams	Fabricated Robotic Expo	
2.	<input type="checkbox"/>	Robotics June 16	Find the Hero	Snap Together	
3.	<input type="checkbox"/>	Robotics June 16	Sumo Circle	Snap Together	
4.	<input type="checkbox"/>	Robotics June 16	Drag Strip	Snap Together	

This form may be photocopied