

IEEE Women in Engineering Robot Challenge NJ



Robot Challenge Event Day Video



Robot Challenge SNJ Event

- For current dates for the NJ Robot Challenge, see the website at:
http://ewh.ieee.org/r2/southern_nj/wie/
 - Start time is 9:00 AM
 - Generally finishes by 1:00 PM
- Three judged events:
 - Fabrication review of robot
 - Track Event (the Race!)
 - Oral Presentation
- Written report due earlier (early April)

Robot Challenge Event

- Ensure students have transportation with backups
- Teachers have driver contact information in case of emergency
- All team members must be ready and available when called for the fabrication review, track event, and the oral presentation
- Bring lunch, or \$ for snacks and/or box lunch
- Team picture will be taken



The Pit

- There will be a repair pit for emergency repairs and/or assistance
- Experienced robot builders will be on hand to help



Scoring the Challenge

Reports	Percentage
Written Report	15-25 %
Fabrication Review	20-30 %
Track Event (Race)	25-35 %
Oral Presentation	15-25 %

Winners - Prizes & Awards

Results, pictures, and event article posted on WIE webpage

http://ewh.ieee.org/r2/southern_nj/wie

We use scoring rubrics for each event to ensure consistency in judging

Written Report

- Written reports are due 2-3 weeks prior to the Robot Challenge Event – must be sent by email
- Each report is scored by 2 judges and all reports are reviewed by oversight panel
- Report requirements are listed in the manual (TOC, references used, etc.)
 - Reports must be neat and have a cover
 - Minimum of 6 pages of text and 4 pages of general description including sketches, pictures, diagrams, etc. and **the log**
 - Documents/discusses problems encountered and how they were overcome

Three Judged Events on Robot Challenge Day

- **Fabrication review of robot**
- Track Event
- Oral Presentation



Fabrication Review

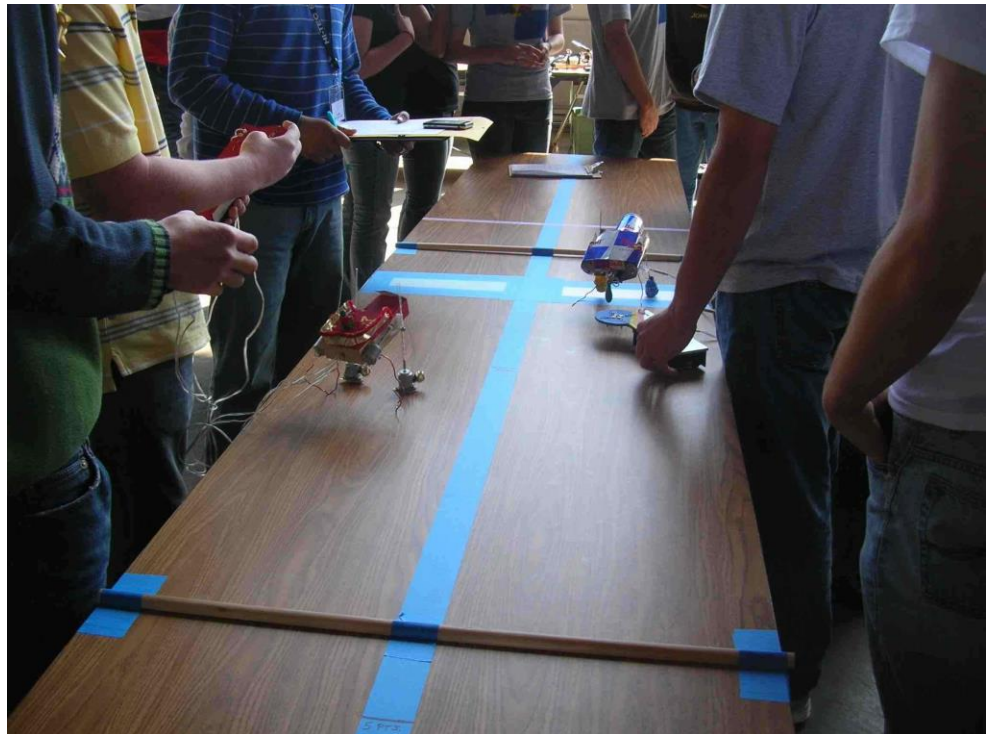
- The robot must be fabricated using parts provided in the kit: substitutions are not allowed, but additions are permitted.
- Instructions for robot design are provided in the manual supplied to the students/schools.
- Robot body must have a removable cover so the team can show its operation to the judges.
- Robot storage/travel container is judged for theme and durability

Fabrication Review (cont'd)

- Discuss quality and workmanship, problems and solutions
- Points awarded for creativity, originality, and neat housing of power unit
- Decoration of robot is expected
- Robot must meet the design criteria and walk or it will be sent to the pit for repair
- If robot walks – team put into the track queue

Three Judged Events on Robot Challenge Day

- Fabrication review of robot
- **Track Event**
- Oral Presentation



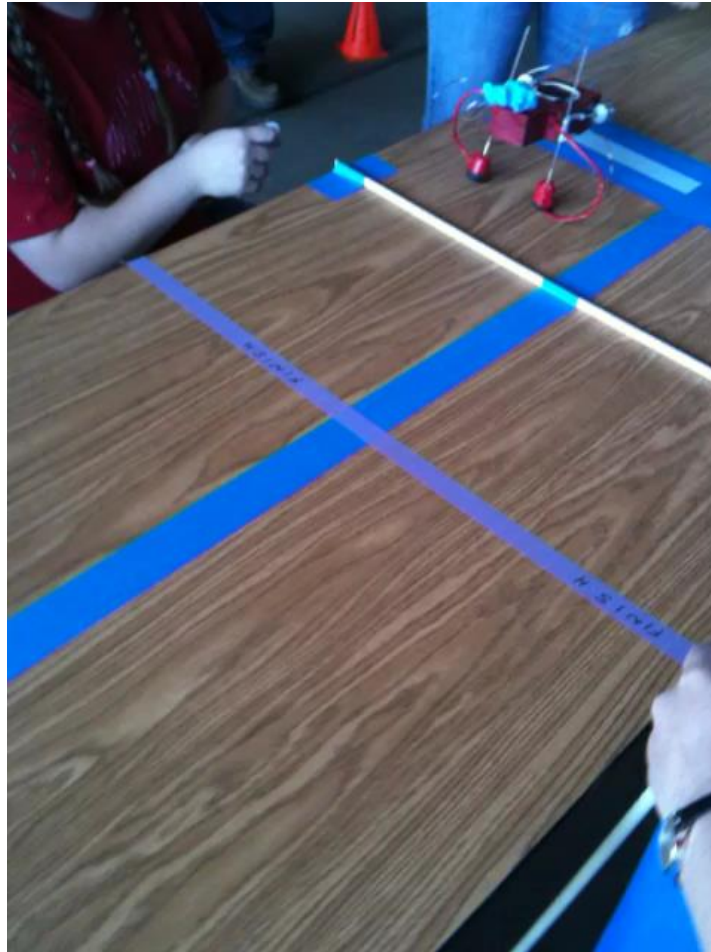
Track Event

- 25-35% of score
- Goal – robot walks along a 6' course on a table over two 1/2" obstacles placed at 1' and 5' on the track. There is a maximum of 20-minutes for this timed exercise.
 - Each leg is operated by one student
- At the Challenge, points will be awarded for the time taken, the distance travelled, and the coordination of the operating team
- Penalties are added for handling robot after start of race

Track Event (cont'd)

- Two tracks are on each table
- Team will be called to track
- One judge for each team, two judges at each table
- The rules will be explained

Track Event Video



Three Judged Events on Robot Challenge Day

- Fabrication review of robot
- Track Event
- **Oral Presentation**



Oral Presentation

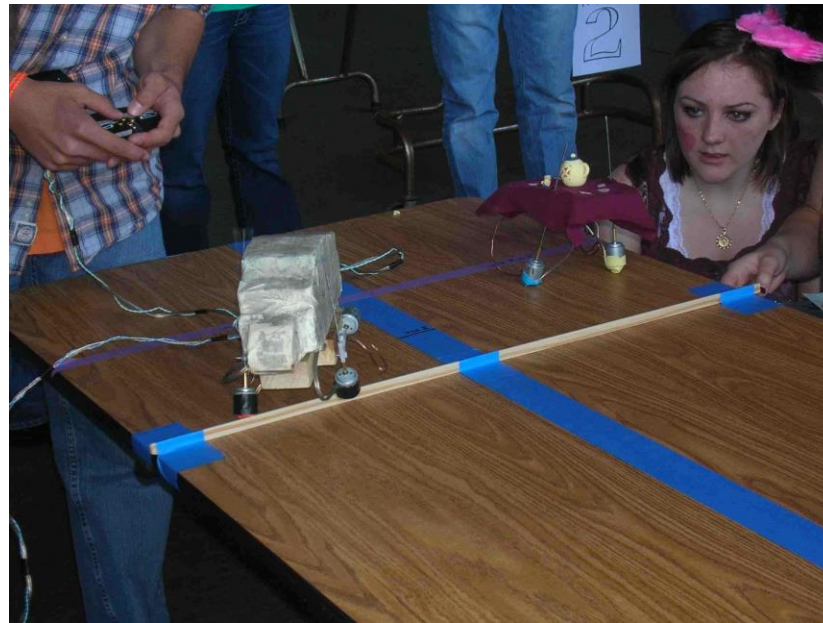
- All team members attend and participate
- ONLY students and judges are present
- 20-minute limit (bring any presentation equipment)
- Judges may ask questions

Student Requirements

- Each Team (2 – 5 students)
 - Build the robot
 - Maintain a log of activity (pics and diagrams too)
 - Prepare written report (send by email in early April)
 - Design and implement
 - Robot body covering
 - traveling container
 - team identification – name & flag
 - Demonstrate the robot operability (@ challenge)
 - Present the project results orally (@ challenge)

Student Teams

- Have a theme for robot, robot covering and storage/travel container and team with team flag
- Be aware that the covering may affect the robot's center of gravity
- Body covering must be removable!
- Beware of fabrics (for example, felt or fur) with fibers that can affect mechanism
- Read the manual ... repeat often



Questions

- Contact WIE Robot Challenge Chair (coordinator)
 - Christina Young 609-485-5086