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

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## 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