NEW MEXICO TECH MECHANICAL ENGINEERING

Robotics Outreach Program Fall 2023 - Spring 2024 Missions:

NMT Rover Challenge or NMT Miner Mayhem

Mission: NMT Rover Challenge

Mission: The goal is to create a rover that can collect samples, navigate obstacles, and return the sample to a designated location. Students will be given a bare bones design that they are to customize and improve for the competition by adding navigation systems and tools.

- Develop skills and an understanding of the physics of motion:
  - Optimize for ground clearance
  - Optimize for traction
  - Optimize for climbing ability
- Develop skills and an understanding topics related to electronics and coding:
  - Add an sampling tool
  - Add feedback sensors

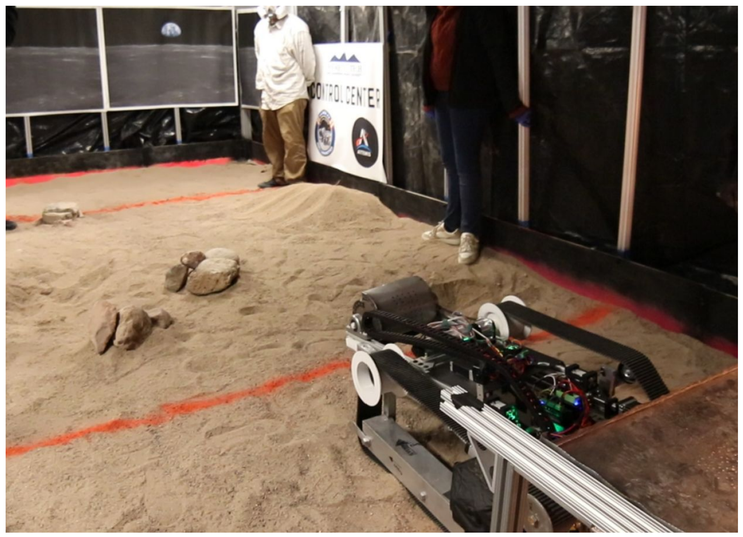
Inspiration

The rover challenge is inspired by the NASA Lunabotics team here at New Mexico Tech.

NMT LUNABOTICS ...ad astra

Program Objective

The program's mission is to promote interest in STEM education at all levels of education through robotic challenge program, and robotic sporting events.



Program Highlights

- Our program offers an introduction to STEM related topics and can be adjusted for all age groups and classes
- We work to introduce students to STEM experiences to help spark their interests
- We strive to offer this program to schools and districts that do not have a STEM related curriculum

Get More Info

To learn more about our program please visit our website or contact Dr. Curtis O'Malley at **curtis.omalley@nmt.edu**

Mission: NMT Miner Mayhem

The task is to design, build, and test a combat robot. Teams will design bots for one of 3 classes:

Category 1 - MESA Bots (MS/HS teams)
Develop basic wiring/circuit diagrams
Develop electronics fabrication skills
Develop basic arduino coding skills

Category 2 - 150 gram Bots (HS/College teams)
Develop intermediate circuit design skills
Develop soldering skills
Develop drafting and manufacturing skills

Category 3 - 3lb Bots (College/Experienced HS)
Advanced electronics design skills
Advanced drafting/design skills
Advanced additive and traditional fabrication skills

Combat Bots