LUNAR MINING ROBOT

Problem Statement
To design and build a robot for NASA's Lunabotics competition in order to test our capabilities in robot building as well as competing and winning the Lunabotics competition.

Motivation
• To stimulate interests in science, technology, engineering, and mathematics.
• Explore innovations in autonomy

Objectives
• Excavate lunar soil, “BP-1”
• Traverse difficult terrain
• Deliver payload to competition receptacle, with a minimum of 10 kg of BP-1

Constraints
• Max. Mass: 80 kg
• Max. Dimensions: 0.75 m width x 0.75 m height x 1.5 m length
• Max. Average Bandwidth: 5 Mbps

Testing
• SolidWorks Simulation will be used to analyze excessive stresses
• Simulation of competition arena will be done
  • Crater filled terrain
  • Excessive dust environment
• Autonomous solutions will be sought after