



Design Solution Stage

Rice Robotics Club - URC Wheel Design

Problem Decomposition

Key Functions & Features

Our design must satisfy the following core functional blocks:

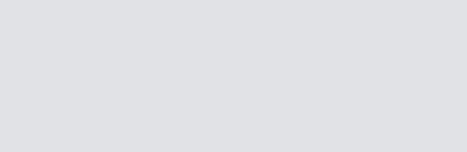


Figure 1: Functional Block Diagram

Traction Interface: Must grip soft sand and rock surfaces (Grousers/Tread).

Structural Support: Support 50kg rover load without deformation (Core/Spokes).

Mounting Interface: Securely attach to rocker-bogie suspension (Hub).

Impact Dampening: Absorb shock from drop tests and boulders (Flexible Material/Geometry).