

Project ID:		Client:	Marc Carmichael
Project Title:	UTS Rover Team Chassis Redesign	Affiliation:	UTS Rover Team

Description:

The UTS Rover Team is a student led semi-autonomous rover team that competes in the Australian Rover Challenge (ARC) every year, against 20+ teams from around the world.

This DMMS project aims to improve the chassis of the rover, with a focus on improving rigidity, reliability and reducing component count. Removing 3D printed components in high load locations will be a major goal of this project.

Your team will be tasked with redesigning the frame, rocker bogie arms, suspension linkages, and pivot bearings. This project is largely mechanically focused with substantial CAD design, FEA simulation, hand calculation, and design for manufacture elements. The team must work closely with other DMMS projects and the Rover team to ensure compatibility with other projects and subsystems.



Deliverables:

- CAD design of redesigned chassis components
- FEA and hand calculated verification of strength of designed components
- Consideration for systems being mounted to and interfacing with the chassis
- Manufacturing – once mechanical design is completed and approved complete manufacturing, testing and validation of system in conjunction with UTS Rover Team

Skills Required	Not required at all	Might be required	Some experience required	Moderate experience required	Significant experience required
Mechanical engineering					X
Mechatronic engineering		X			
Electronics	X				
Programming	X				
Hands-on manufacturing					X
CAD (e.g. Solidworks)					X
Artistic Design	X				