SPONSOR:

Ira Fulton College &
BYU Mechanical Engineering

BYU Mars Rover

The Ira A. Fulton College of Engineering and Technology and BYU Mechanical Engineering Department sponsored a team of students to design, build, and compete with a robust, versatile, lightweight rover in the University Rover Challenge (URC). The URC competition is recognized as the most prestigious collegiate Mars rover competition in the world and is sponsored by the Mars Society. The purpose of the competition is to design and build the next generation of Mars rovers that will one-day work alongside human explorers in the field.

This year's team has collaborated together to create a world-class rover composed of several innovative sub-systems. The rover incorporates a modified rocker-bogie frame that is robust against many types of terrain, a six degree-of-freedom arm with inverse kinematics, long distance Wi-Fi communication, 3D sensing using LIDAR, and a modular electrical system based on PCB design. All of these subsystems contribute to a final design that is easy to use, robust, and competitive.

This year's team will compete and represent BYU in Hanksville, Utah on June 1-3 against 36 teams from 7 countries. BYU has a reputation of consistently being a top performer at this competition. We are confident that we will continue the heritage that past teams have left for us. Our history of participation and success speak strongly about the global influence of engineering students at Brigham Young University.

This year's BYU entry into the University Rover Challenge. This design is a combined effort from 16 mechanical, manufacturing, and electrical engineering capstone students.

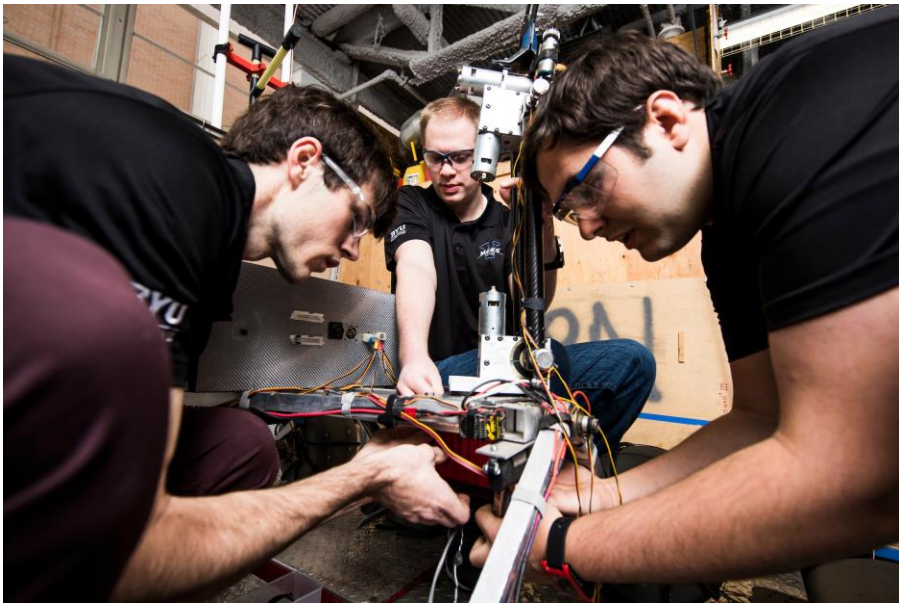
BYU
CAPSTONE

YEAR
2016–17

TEAM
30: BYU Mars Rover

COACH
Dr. Marc Killpack

STUDENTS
Westley Barragan, Angus Cameron, Michael Farrell, Jacob Greenwood, Taylor Greenwood, Benjamin Hilton, Brian Jackson, Garrett Jones, Richard Livingston, Steven Markham, Jameson Marriott, Jordan Oldroyd, Peter Schleede, Drew Warren, Taylor Welker, and Mary Wilson



Team members (Jordan Oldroyd, Steven Markham, and Drew Warren) working together on the robotic arm, an integral part of a successful rover. Teamwork and coordination facilitate a successful project.

Team members (Westley Barragan, Jameson Marriott, and Mary Wilson) discuss the design. Capstone teaches students to create a desirable and transferable design that improves the world in which we live.