

American Solar Challenge

Introduction

“The American Solar Challenge is a competition to design, build, and drive solar-powered cars in a cross-country time/distance rally event. Teams compete over a 1,500-2,000 mile course between multiple cities across the country. The event has had over two decades of organized events in North America”. (www.americansolarchallenge.com) This cross-country journey first starts with teams competing in the Formula Sun Grand Prix, a track race designed to test the limits of the solar powered electric vehicles.

Goal

Building a Montana State University Solar Car will create a multidisciplinary team for many students to be a part of. From designing the car, to building it, and to racing it all grade levels are engaged and learning. The goal of this capstone project is to kick start the MSU team by designing and building a chassis with an integrated roll cage. The design must meet the rules and regulations of the single-occupant class in the 2018 American Solar Challenge. Due to the nature of this project these students would need to work directly with the ECE students who are helping to design the electronic systems of the car. Students would also work directly with the MSU IEEE Solar Car Team. The IEEE Solar Car Team plans to use this chassis to compete in the 2019 Formula Grand Prix.