The Chemical Engineering Car Team is a team of students that design and run a car powered and controlled entirely by chemical reactions. Over the course of the school year the car teams will design, construct, and operate vehicles in a regional competition against other schools.

For competition, there are many requirements that must be met. First and most important, the car must be started and stopped by a chemical reaction. Secondly, it must be able to carry a container ranging from 0 to 500mL of water. Last but not least, the car must be able to travel a specified distance between 50 to 100 feet. The distance and amount of water are not given to the teams until one hour before the competition. Teams use a variety of methods to accomplish their vehicle, from acid-base reactions and hydrogen fuel cells to air-die grinders. The possibilities of approaches to run a car are endless. The Grubby Mobile uses a combination of an organic clock timer and a hydrogen fuel cell to run and stop itself. The fuel cell converts hydrogen to electricity that can operate the motor. The organic clock timer is a reaction called the “Blue Bottle” reaction. We use a photocell to detect the blue solution color change to clear, and this breaks the circuit.

The SDSM&T American Institute of Chemical Engineers Chemical Engineering Car Team is an opportunity for engineers to work with exciting technology to overcome challenges given by both faculty and society. In the coming years, we will continue to advance our knowledge with innovative technology and the fierce desire to learn more!