Registration Form

TEAM INFORMATION

Team Name/Project Title: CU Denver Motorsports Formula SAE

Department: Mechanical Engineering

Faculty Advisor(s): Ronald Rorrer, Doug Gallegher, Joseph Cullen

Team Members:

Alex Fenstermacher, Michael Baker, Mark Haden, Byron Pindell, Chris Allen, Tabitha Overton, Orlando Paredes, Austin Voss, Zack Landgren, Drake Soule, Matt Bunsness, David Richards, Curtis Sharpsteen, Arthur Boo

PROJECT INFORMATION

Description:

A Formula SAE racecar will be designed and built with the objective of contending in a collegiate competition in Lincoln NE in June 2015.

Abstract:

The CU Denver Motorsports Formula SAE team is designing and building a competition racecar to compete in the Lincoln Nebraska SAE competition in June 2015. The SAE competition requires that all competition cars follow a strict set of rules and regulations to ensure the utmost safety for both participants and observers. Using these rules and regulations as a template, the FSAE team has designed a vehicle with an estimated weight of 425 pounds. A 4130 chromoly steel space frame will provide the base for the vehicle.

The suspensions will utilize short-long A-arm construction with pull-rod front and push-rod rear springs and dampers. Four 10 in. will be mounted on a wheelbase of 60 in. (1.524 m). Hoosier 18.0 x 7.5-10 tires will provide the necessary traction to corner and brake at 1.2g. There will be four wheel disc brakes utilizing Wilwood single piston calipers and a dual master cylinder with adjustable balance bar set up. A rack and pinion steering setup with a paddle shifter integrated into a removable steering wheel will be used to provide control.

A Suzuki GSX-R600 engine naturally aspirated through a 0.748 in. (19 mm) restrictor will run on E-85 fuel. This engine setup will produce an estimated 75 Hp (55928 W). To get this power to the ground a six speed transmission will run through a limited slip differential that transfers power through two rear
wheel constant-velocity (CV) axles. This set up will accelerate the vehicle over 82 yards (75 m) in under 4.5 seconds.

A carbon fiber body and under tray, with removable inspection panels, will provide protection and reduce the overall drag of the vehicle. A baffled bladder style fuel tank will be located behind a firewall between the driver and the engine. A 5-point harness will keep the driver securely fastened into the car in a 30-degree driving position.

**Illustration:**

![Car diagram](image-url)