# What is Formula SAE?

Formula SAE (FSAE) is a student design competition endorsed by the Society of Automotive Engineers. Each year SAE International challenges students to design, build, and race a small formula style car. During the design phase, students must adhere to competition rules created by SAE International. These rules



encourage students to create more innovative designs and test their engineering skills with real world problems.



## Competition

The Formula SAE competition takes place in different parts of the world and teams from all over the world compete in these events. The competition is designed to test each team by static events which test design and knowledge of various aspects of vehicle design and manufacture. The cars are rigorously tested during dynamic events which test

drivability, reliability, and the overall performance of the car. The car is also presented to members of industry who judge the design and manufacturing work and give the team guidance and advice. These critiques help our team learn about and improve upon designs.

## Mission

To enable students to learn about the design, manufacture, and analysis of vehicles while creating a competitive car that is innovative and unique.



# A Brief Introduction

## Sir MVIT

Sir M Visvesvaraya Institute of Technology (Sir MVIT) is located on the Bellary road near Air Force station, Yelahanka, close to Bengaluru International Airport, on a sprawling campus spread over an area of 130 acres. It is an Institute of repute in the



state of Karnataka founded by Sri Krishnadevaraya Educational Trust (Sri KET) in 1986. The Institute is affiliated to Visvesvaraya Technological University and approved by All India Council for Technical Education, New Delhi and is accredited by National Board of Accreditation, New Delhi. Sir MVIT is an ISO 9001:2008 Certified Institution.

## From Principal's Desk

Sir M Visvesvaraya Institute of Technology proudly presents its very own formula-style racing team VULKAN MOTORSPORTS. It consists of bunch of budding automobile enthusiastic students keen on producing a prototype racing car. We would be honoured if you could extend your wholehearted support to us. Looking forward to your active participation.

Regards, PRINCIPAL (SMVIT)

## A Brief History

Sir M Visvesvaraya Institute of Technology is also proud of producing some successful teams in the past. The students of Mechanical Engineering Department have participated in some International and National competitions like SHELL ECO MARATHON and Human Powered Vehicle

Team Inferno has been participating in prestigious SHELL ECO MARATHON since 2012. They have achieved a mileage of 240 Km/L at the event. The team successfully participated in SHELL ECO MARATHON Asia-2016 held in Manila, Philippines and achieved 9<sup>th</sup> place in Asia and the only Indian team to be placed in top 10 in the Gasoline Prototype category.

## **About Us**

VULKAN MOTORSPORTS is a team that spends an enormous amount of time together throughout the school year which helps the team work together effectively. We work together to find new ways to combine our wide array of engineering talents and experiences to build and design a unique formula type race car. Students utilize engineering skills and state of the art tools to design and verify the car. Our team is comprised primarily of mechanical engineering students, but we also welcome students from other majors.

## What we do?

## Design

The team must design the car they will take to competition. This involves learning how to use CAD packages and their offered features, applying the design skills learned in classes, working together as a team, and communicating effectively so different systems can be designed on parallel time lines. The design phase also requires the team to analyse the performance of car and make design changes that will improve the overall performance of the car.



# Manufacture and Assembly

Our team does all the manufacturing needed to complete the design. This gives our members very valuable experience in the machine shop. Further the manufactured elements are assembled to complete the car for testing processes. The experience gained through this opportunity teaches students about manufacturing, design validation, machining techniques, and time management skills.

## **Testing**

Once the car has been completely assembled, it is tested. The testing done before competition allows the team to see what changes need to be made to the car and what can be improved upon to yield better results at competition. Testing also allows our team to gain knowledge about how the car performs



and how it needs to be taken care of for optimal performance at competition.

## **Problem Solving**

Throughout the year, the team must collaborate to find creative solutions to problems that arise. Problems can arise during any phase of the project, from designing and packaging the car with CAD programs to the final testing of the car. Each challenge that arises is a chance to improve the car's design as well as the team's knowledge of the car.

# Vulkan Motorsports Strengths and Skills

Members of our team have experience with and work actively in the following areas:

- Leadership
- Project Management
- Time Management
- Technical Knowledge and Skill
- Design Creation and Analysis
- Computer Designing and Manufacturing (CAD and CAM)
- Machining Skills (Lathe, Mill, Hand Tools, CNC, etc.)

## Teamwork

"Coming together is a beginning. Keeping together is progress. Working together is success." --**Henry Ford.** We believe that with team work comes success.



# **BECOME A SPONSOR**



## What Sponsorship Means To Our Team

Sponsorship with Vulkan Motorsports means that your company supports our program and goals. Through donations of time, parts, material, equipment, or funds, your company is supporting our students' desires for a hands-on and real life learning experience. Sponsorships also help build relationships between companies and our students, who will be entering industry in the near future.

## Why We Need Sponsors

The Vulkan Motorsports car is completely student designed and built, and it is required that the students also obtain the funding for this project. The budget for a Formula SAE car can range between Rs.10,00,000 lakhs to Rs.15,00,000 per year, due to design and material changes. We must receive funding each year to purchase the materials and supplies needed to meet our design standards and to build a competitive car.

## **Sponsorship Benefits**

Everywhere Vulkan goes, so do you!

## How Can Sponsoring Our Team Help You?

#### **UNVEILING:**

Each year, Vulkan Motorsports invites all of its sponsors to the unveiling of its new race car. During the unveiling of the new car there will be media coverage where the Sponsors logos are presented to the media in form of banners. This is a great opportunity for the sponsors to share with the media the great sense of accomplishment that the project entails.





#### RACECAR

Perhaps the most basic and effective form of advertisement is the racecar itself. Vulkan is one of the few teams to compete internationally. The team will be travelling to different competitions worldwide. Detroit, Nebraska, Germany, Austria, England, USA, Japan and Australia. With our car spending most of its time traveling to these competitions, sponsors have gained tremendous international exposure.

#### Team Merchandise

Sponsors are also prominent on team clothing such as a variety of shirts and sweatshirts. Each year a dedicated sponsor shirt is produced to include all of our more prominent sponsors. These shirts are worn by team members during the competition and other important events. Exposure is extensive.



#### **WEBSITE**

Vulkan Motorsports has a dedicated website followed by students and race enthusiasts. Sponsors will circulate through the Home Page and will always be listed under the Sponsor Page of the site along with a link to the sponsor's website. Sponsors can also put up their ads on our website.



#### **PUBLICATIONS**

Vulkan Motorsports will be publishing its articles in different magazines and newspapers. Prominent sponsors are also listed on team related publications such as quarterly newsletters and brochures. The promotional videos of the team also include sponsor logos.

#### **Public Events**

The Vulkan Motorsports presents its car at different automotive shows and exhibitions. The car is presented with banners containg the logos of our sponsors.



# Budget Requirements and Allocation for 2017

Based on our planning, we have determined the minimum requirements for the upcoming car. The budget given below is an outline of the costs which may be incurred throughout the production of the car which factors in the engine tuning processes along with the amount necessary for shipping the car etc.



