



Mechanical Engineering  
Attn: Formula  
113 Randolph Hall  
Blacksburg, VA 24060

VT Motorsports  
Phone: 540-231-5459  
Fax: 540-231-1771  
[www.vtmotorsports.com](http://www.vtmotorsports.com)

August 24, 2010

Dear Prospective Sponsor:

My name is T.J. Whalen; I am a Mechanical Engineering student at Virginia Tech and a member of the Virginia Tech Formula SAE team. I have volunteered to raise the necessary materials and funds for the 2011 senior design team. VT Formula SAE is a non-profit organization that challenges Virginia Tech engineering students to design and fabricate a Formula 1 style race car from initial concept to reality. Upon completion of the car, the team participates in a formal competition that judges the design and performance of the race car. Virginia Tech's Formula SAE team draws some of the best and brightest engineers and has consistently been a top contender at competition.

Each year VT Motorsports brings to competition a better design and improved vehicle performance. To maintain a competitive advantage, high performance parts and high quality materials are used. This year we have designed an ultra lightweight, single cylinder powered car with an advanced suspension system that will be extremely competitive at competition. As with building any high performance car, the design and construction is expensive; the cost of design and manufacturing is expected to be \$60,000. The majority of our team funding comes from our generous sponsors every year. Support of any amount, whether it is a donation or discount, is very beneficial to our project and vital for us to be successful.

I have attached a sponsorship proposal which includes more information about our team project, the sponsor benefits we offer, as well as tax deduction documents. Any support is extremely important and we are very grateful to companies who have sponsored us in the past as well as the companies that are currently sponsoring us. If you have any questions, concerns, or would like to discuss the levels of investment and forms of support please do not hesitate to contact me through email at [tjwhalen@vt.edu](mailto:tjwhalen@vt.edu) or by phone at (804)–698–0780. On behalf of the Virginia Tech Formula SAE team, thank you for your time and consideration in this matter and we hope to hear from you soon.

Sincerely,

A handwritten signature in black ink, appearing to read 'T.J. Whalen', is written over a light-colored, textured background.

T.J. Whalen  
VT Motorsports Formula SAE





## Formula SAE Team Sponsorship Proposal and Funding Request 08/24/2010

**To:** Prospective Sponsor

**From:** T.J. Whalen, Formula SAE Marketing Team Leader

**Subject:** Request for Ware Lab Project Support

**Project Name:** Formula SAE

**Faculty Advisors:** Robert West, Ph.D.; Department of Mechanical Engineering  
Srinath Ekkad, Ph.D., Department of Mechanical Engineering  
John Ferris, Ph.D., Department of Mechanical Engineering

**Tentative Budget:** \$60,000

### Funding Request Summary

The Virginia Tech Formula SAE senior design project is requesting support for the 2010-2011 year. The Formula SAE series is a competition sponsored by the Society of Automotive Engineers which challenges design teams to design and build a car that competes in a wide range of autocross style race events. This international competition will take place in May at the Michigan International Speedway.

### Student Participation Summary

The 2010-2011 Formula SAE team consists of two smaller teams of mechanical engineering students. The Maroon Team is a group of 17 seniors enrolled in the ME 4015 Capstone Design course. They are currently working on fabricating and testing a car that was designed during their junior year. The Orange Team consists of several junior undergraduate students earning independent study credit; they are currently working on the design of the 2012 car which they will build the following year. The team at the 2010 MIS competition is shown in Figure 1. There are also several more underclassmen volunteers whose goal is to learn the basics of the team and begin to formulate new ideas for the year they will be designing their component on the car. It is important for all student levels to be involved to effectively transfer knowledge down.



**Figure 1.** The team at the 2010 Michigan Competition.



## **Proposal of Activities**

Due to the consistently large scale and high performance aspect of this project, fundraising has always been a major focus of the team. Without the continued support of team sponsors and the generous donations they provide, the team would not be able to remain competitive year to year. It is the goal of the team to place in the top ten at competition every year. Last April, the team attended SAE's first VIR competition in Danville, Virginia and the annual MIS competition in Brooklyn, Michigan. They placed 9<sup>th</sup> out of 24 teams at VIR, taking 3<sup>rd</sup> place in design, 4<sup>th</sup> place in acceleration, and 6<sup>th</sup> place in autocross. The team placed 28<sup>th</sup> out of 98 teams at MIS, taking 12<sup>th</sup> in design, 10<sup>th</sup> in presentation, and 13<sup>th</sup> in autocross. This success has inspired the 2011 team to compete at a higher level. This year, the team strives to place in the top 10 overall and make it to the final round in the design competition. One of the reasons why the team continues to grow and be successful is because of the change to a two year design cycle. A few years ago, the Formula SAE program became one of the only two year design projects in the mechanical engineering department at Virginia Tech. This has led to more success due to the added time for design, fabrication, and testing for each year's team. Currently the team is working diligently to have more underclassmen involved at the freshmen and sophomore level with the intention to form the Orange Team earlier in the year. Building the Orange Team earlier in the semester will allow more time to analyze and validate designs as well as increase knowledge transfer. Although early participation promotes a stronger design it also places a financial burden on the team. Increased participation requires additional project and research materials to be purchased.

## **Budget**

Similar to past years, the total projected costs for the 2011 VT Formula SAE car are high in order for the team to excel at competition in both design and performance. Total projected 2010-2011 VT FSAE expenditures is shown in Table 1. Due to budget cuts within the Mechanical Engineering Department, the level of funding to the VT FSAE program has been reduced and a stronger emphasis has been placed on fundraising. Fundraising and sponsorship has always been an important part of the VT FSAE program. The team has made important moves to push the fundraising program forward. Improvements include a sponsorship database, more focus on future team progress, and increased sponsor interaction through newsletters and a yearly sponsor event. This is an on-going process and the team is excited about expanding our opportunities to work with companies and professionals. The goal for 2010 is to raise a minimum of \$55,000 to make up for a potential budget cut from the Mechanical Engineering department.



**Table 1:** VT Formula SAE 2010-2011 Projected Expenditures

Sub-system	Part	Cost
Suspension	Front Uprights	\$400.00
	Rear Uprights	\$400.00
	Steering	\$600.00
	Chassis	\$2,500.00
	Bell Cranks	\$500.00
	Springs/Dampers	\$2,500.00
	Body/Seat	\$6,000.00
	ARB's	\$300.00
Drivetrain	Hubs	\$800.00
	Wheels	\$2,500.00
	Shifting	\$400.00
	Brakes	\$1,200.00
	Bearing Blocks	\$600.00
	Differential	\$1,000.00
	Halfshafts	\$2,500.00
	CV Stubs	\$1,600.00
Engine	Oil	\$1,000.00
	Engine/MoTec	\$10,000.00
	Electrical	\$2,500.00
	Intake	\$600.00
	Clutch	\$800.00
	Restrictor	\$400.00
	Throttle	\$350.00
	Fuel	\$900.00
Exhaust	\$800.00	
Misc. Expenses	Driving Equipment	\$650.00
	Tooling Consumables	\$1,000.00
	Office Supplies	\$200.00
	MIS Registration	\$2,000.00
	Travel	\$15,000.00
<b>Total:</b>		<b>\$60,000.00</b>

## SPONSOR INVESTMENTS AND BENEFITS

### PLATINUM: \$10,000+

- Three decals in prominent position on the car
- Multiple company banners to be displayed at competition
- Multiple company banners to be displayed in the shop
- Sponsorship design board for company use with company logo and a description of how the donation benefited our team.
- Company logo patch on team uniforms at competition
- Company logo on design board in shop and in paddock area at competition
- Hyperlink on website (name and logo) on multiple pages
- Complete Virginia Tech Formula SAE team member resume packet
- Company logo on printed promotional material, such as newsletters and posters.
- 10 VT Motorsports t-shirts or 5 polo shirts



### **GOLD: \$4,000-\$9,999**

- Two decals in prominent position on the car
- Large company logo on banner to be displayed at competition
- Company banner to be displayed in the shop
- Design board for company use that features an overview of formula car design and competition
- Company logo patch on team uniforms at competition
- Company logo on design board in the shop and in paddock area at competition
- 8 VT Motorsports t-shirts or 4 polo shirts
- Hyperlink on website (name and logo) on multiple pages
- Complete Virginia Tech Formula SAE team member resume packet



## SPONSOR INVESTMENTS AND BENEFITS CONTINUED...

### Silver: \$2,000-\$3,999

- Two decals in prominent position on the car
- Medium company logo on a banner to be displayed at competition
- Design board for company use that features an overview of formula car design and competition
- Company logo patch on team uniforms at competition
- Company logo on design board in shop and in paddock area at competition
- 6 VT Motorsports t-shirts of 3 polo shirts
- Hyperlink on website (name and large company logo)
- Complete Virginia Tech Formula SAE team member resume packet

### Bronze: \$1,000-\$1,999

- Large decal on car (logo if possible)
- Small company logo on banner to be displayed at competition
- Design board for company use that features an overview of formula car design and competition
- Company logo on display board in the shop and in team's paddock area at competition
- 4 VT Motorsports t-shirts or 2 polo shirts
- Hyperlink on website (name and company logo)



### Associate: \$500-\$999

- Medium decal on car (name only)
- Company name on display board in the shop and in team's paddock area at competition
- 2 VT Motorsports t-shirts or 1 polo shirt
- Hyperlink on website (name only)

### Affiliate: \$200-\$499

- Small decal on car (name only)
- Company name on display board in the shop and in team's paddock area at competition
- 1 VT Motorsports t-shirt
- Hyperlink on website (name only)



**Your Company  
Name Here**

**Sponsors**



VIRGINIA POLYTECHNIC INSTITUTE AND STATE UNIVERSITY

## What is Formula SAE?

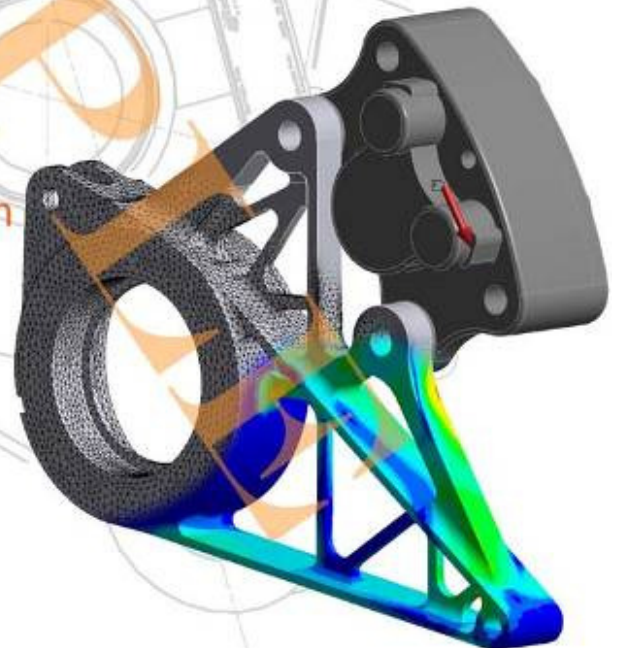
Teams worldwide design, fabricate, assemble high performance open wheel racecars for competition sponsored by SAE.



0-60 mph: 3.2 s  
Lateral G's: 1.5

### Competition Events:

- Skidpad
- Acceleration
- Autocross
- Endurance
- Design Presentation
- Sales Presentation
- Cost Analysis



**SAE**  
**SAE**®