University of Pennsylvania’s Formula SAE Team

Red & Blue Racing

Sponsorship Package 2011-2012
What is Red & Blue Racing?

Red & Blue Racing is the University of Pennsylvania’s Formula SAE team. We design, build, and race a small-scale, formula-style, high-performance car every year and aim to stimulate interest in engineering, the automotive industry, and auto racing throughout the University.

Penn’s car competes in “Formula SAE,” an intercollegiate competition organized by SAE International, Society of Automotive Engineers. Teams from all corners of the world compete at events in the United States, Brazil, the United Kingdom, Australia, Germany, and Italy. In each of these 4-day competitions, teams are scored on design, cost, and marketing presentations, as well as four racing events. Red & Blue Racing competes in the Michigan Formula SAE event every May.

Red & Blue Racing is a recognized Penn extracurricular activity, open to undergraduates from across the University. We are a cross-disciplinary team welcoming anyone - from the experienced shade-tree mechanic to the novice – who wants to experience racing from the inside out. Our members come from various backgrounds and work together to teach, learn, and innovate while developing a competitive race car. The academic year starts with a semester-long design and analysis phase followed by building and testing the car in the spring. Compared to many schools, Penn has a relatively young team, but we are proud to have participated successfully every year since we began in 2003.
What is Formula SAE?

SAE began the Formula SAE program in 1978 to introduce college students to automotive engineering in its most exciting form – racing. From the beginning, the competitions have stressed engineering, creativity, and above all, safety. Four-day competitions begin with rigorous technical and safety inspections, followed by dynamic and static events. Dynamic events are designed to showcase the vehicle’s acceleration, braking, handling, and durability. Each team designates four members as drivers for the dynamic events -- our drivers are selected based on a combination of driving skill and team participation. The vehicle is judged on aesthetics, cost, ergonomics, maintainability, manufacturability, and reliability. Static and dynamic events are described below.

**Dynamic Events**

**Autocross (15%)**

The objective of the autocross event is to demonstrate the maneuverability and handling of the car through a tight course. Cars do not race against one another on the track, but rather against the clock.

**Acceleration (7.5%)**

This event tests the car’s straight-line acceleration over a set distance. The event is timed and cars are ranked accordingly.

**Skid-Pad (5%)**

The purpose of the skid-pad event is to test the cornering ability and handling of the vehicle on a figure eight course. Cars with the shortest times are judged to have the best handling.

**Endurance & Fuel Economy (40%)**

In this event, the car’s durability, reliability, and performance are tested in a 22km race. Fuel level is measured before and after the race to determine the fuel economy. Typically, only about half of the teams complete the endurance race.

**Static Events**

**Engineering Design (15%)**

The purpose of the engineering design event is to evaluate the team’s engineering efforts. In addition to submitting a document detailing the design, the team must justify its design decisions to professional engineers drawn from the automotive industry.

**Cost and Manufacturing (10%)**

In the cost and manufacturing event, team members present a cost report, complete with a bill of materials, and defend their choices to cost engineers from the motor vehicle industry. These judges also quiz the team on manufacturing processes and standards.

**Marketing Presentation (7.5%)**

The premise of this event is that the collegiate teams are engineers at a manufacturing company and the board has given the teams the task of building a prototype vehicle for the weekend autocross market. Each team must try to persuade a panel of industry experts, acting as company executives, that its car makes good business sense.
Goals

We have lots of exciting plans for our eighth year – we’re making significant advances in powertrain, suspension, and electronics. This year’s car will be significantly more sophisticated than any we’ve built before.

New Developments for 2011-2012

Powertrain

- Traction Control optimized using tire data
- Real time engine data logging
- Dyno tuned engine
- Fully sequential firing for higher fuel economy
- Full acoustic model of intake and exhaust

Chassis & Suspension

- Lighter and stiffer chassis for increased performance and safety
- New suspension and chassis package developed with full lap time simulation
- Improved driver ergonomics

Corporate and personal sponsorship is essential in maintaining and growing our team. We take pride in our ability to stretch a dollar, but the annual "no frills" budget for designing, building, and racing a car exceeds $45,000! Expenditures fall into two categories: vehicle-related and team-related. Among team related expenses are competition registration fees, travel costs, investments in tools and shop equipment, and driver safety equipment. Money for the vehicle goes towards raw materials and equipment for all of the subsystems.
Sponsorship

We hope you will consider a contribution – whatever size – to keep Penn Red & Blue Racing competitive. All donations are tax deductible, and unless you wish otherwise, sponsors’ names and logos are prominently displayed on the competition vehicle, as well as the team’s web site. Companies who recruit at Penn have found that FSAE sponsorship helps forge ties with some of the most practical, hands-on, and team-oriented students at the University of Pennsylvania. We keep all sponsors regularly informed of progress, and welcome you to visit us at Penn or at the competition.

**Bronze Sponsors**
*up to $1,000 (business) or up to $300 (personal) and discount providers*

**Business Sponsors:** A small-sized business logo will be featured on the team website. A small sized company logo will also be featured on the car.

**Personal and Family Sponsors:** Your name will be featured on the team website: [www.seas.upenn.edu/~fsae](http://www.seas.upenn.edu/~fsae)

**Silver Sponsors**
*$1,000 to $5,000 (business) or $300 to $1,000 (personal)*

**Business Sponsors:** In addition to the Bronze Sponsor benefits, a mid-sized business logo will be featured on the team website, with a link to your homepage. The company logo will be featured on the car, and we will provide you with a high quality team photo upon request.

**Personal and Family Sponsors:** In addition to Bronze Sponsor benefits, your name will appear on the vehicle, and a team shirt will be provided to you upon request.

**Gold Sponsors**
*$5,000 and above (business) or $1,000 and above (personal)*

**Business Sponsors:** In addition to Silver Sponsor benefits, your company logo will be moved to a prominent place on the car and Gold Sponsors can request the team and car’s presence for special events, time and location permitting.

**Personal and Family Sponsors:** In addition to Silver Sponsor benefits, your name will be moved to a prominent place on the car.

**In-Kind (Material) Sponsors**
Red & Blue Racing will gladly accept contributions in the form of needed materials or services. We can always use resources such as engines and engine fluids, tires, team attire, vehicle rentals, printing services, and much more! Your sponsor level will be determined by the value of your contribution.
Benefits of Sponsorship

Exposure
By sponsoring Red & Blue Racing, we will bring your business exposure on a local, national, and global level, as a result of the nature of the diversity of teams that participate in the competition. The major FSAE competitions attract not only a hundred-plus collegiate teams, but also hundreds of industry leaders and thousands of spectators, every one of them keen on automobiles and racing. In this setting, your name and logo will be seen repeatedly by a knowledgeable and motivated audience, reinforced by your association with such a widely respected event. The value of such national or even global exposure is not easy to calculate, but it is real. Additionally, as a special thank-you to Gold Business Sponsors, we will be glad to make the car and team available for your special event.

Education
The team dedicates each year to improving the car and furthering its understanding of vehicle dynamics, electronic systems, and manufacturing, including machining, welding, and composites, among other things. It also works to develop its leadership, investigative, and professional skills each year, trying to find innovative and more inventive ways of building the car and managing the team. The engineering challenges that the team faces and overcomes provide educational experience that is paramount in today's fast paced world, and your support will serve as an invaluable investment in the future of ingenuity. Simply put, sponsoring Red and Blue Racing is a praiseworthy way of making a positive difference in the world, giving you and your company a sense of achievement and fulfillment.

Expertise with Products and Brand Name
By sponsoring Red & Blue Racing, you give our exceptional students the opportunity to accumulate precious experience with any products that you supply us with, as well as the service that we encounter when corresponding with your company. The more we use your products and services, the more comfortable and informed we become with them, allowing us to vouch for their quality to future employees and clients, as well as use them ourselves. This experience will be with the team members for the rest of their careers, helping your company to expand its consumer base, in addition to building a dedicated and devoted group of followers.

Performance
Because you expect your company to do well, why wouldn’t you expect the same of the team you are sponsoring? Red and Blue Racing, in only its eighth year, has already proven that it can compete and even outperform teams with many more resources and experience. We have steadily improved our rankings during our brief racing history, and we proudly placed 18th out of 120 teams in last season’s competition, making us the one of the top Ivy League schools in the competition, as well as the best team in the state of Pennsylvania. With your support, we expect to continue this success and finish even better this season, all while promoting the cultivation of our engineering abilities and expertise.
Contact Information

Formula SAE is a unique opportunity for students to apply concepts learned in the classroom and to put their practical and academic skills to work. The project is full of real-world challenges, providing students a rare and rewarding engineering experience they will never forget. Designing, building, and driving a race car are intense processes which build teamwork, planning, and leadership skills. Red & Blue Racing is building strong engineers for the future and is one of few opportunities available for hands-on engineering in a university environment.

The continuation of the University of Pennsylvania Formula SAE program depends on the generous support of our sponsors. In order to maintain a competitive program, the team needs continued and new support each year. **No donation is too small!**

If you have any questions, **please do not hesitate to contact us.**

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