Warrior Racing
2015 - 2016
Sponsorship Package
Warrior Racing

Wayne State University's Formula SAE team, Warrior Racing, is in need of your help to continue our tradition of intercollegiate engineering competition. Our design and production budget comes directly from your private and corporate donations and sponsorship. Your contributions allow students to apply knowledge accumulated in the classroom to real-world scenarios through hands-on experiences.
# Table of Contents

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>BACKGROUND</td>
<td>4</td>
</tr>
<tr>
<td>HISTORY</td>
<td>5</td>
</tr>
<tr>
<td>COMPETITION</td>
<td>8</td>
</tr>
<tr>
<td>RW9</td>
<td>10</td>
</tr>
<tr>
<td>SPONSORSHIP BENEFITS</td>
<td>11</td>
</tr>
<tr>
<td>SPONSORSHIP DETAILS</td>
<td>13</td>
</tr>
<tr>
<td>CONTACT INFORMATION</td>
<td>14</td>
</tr>
</tbody>
</table>
Background

Engineering Skills

All of the knowledge gathered in the classroom is indeed valuable to the student and goes a long way once a student joins the workforce. However Warrior Racing provides its members an opportunity to apply this knowledge and build on top of what they already know. This is achieved through hands-on experience obtained through designing, building, and testing a formula-style race car.

Collaboration and Presentation Skills

Being able to apply all of the laws of engineering to a project like Formula SAE is without a doubt crucial, but effective use of this talent can only be possible with proper organization. At Warrior Racing, members learn to work in a team environment while constantly interacting with faculty, sponsor companies, the College of Engineering, and other students. In addition there is a heavy emphasis on cost and marketing in our program, diversifying the skill set of our members.

SAE & Formula

The Society of Automotive Engineers is a non-profit, educational, and scientific organization dedicated to the advancement of mobility technology for use in everyday life. The Formula SAE competition requires SAE student members to conceive, design, fabricate, and compete with a single seat open wheel racecar. Limitations are placed on the size of the car, displacement, and power of the engine, which enhances the focus on the ingenuity and problem-solving abilities of students. Dynamic events such as skid pad, autocross, acceleration, and fuel economy test the engineering capabilities of the students. Static events such as cost, design, and business presentation emphasize organizational skills that become useful in the professional world.

The cars are designed and built solely by the students and then transported to one of many international competitions at which large fields of highly competitive colleges from around the world challenge each other to earn points in each of the different events.
<table>
<thead>
<tr>
<th>Year</th>
<th>Events and Achievements</th>
</tr>
</thead>
<tbody>
<tr>
<td>2003</td>
<td>Marks the first year of involvement for Wayne State University in Formula SAE</td>
</tr>
</tbody>
</table>
| 2004 | Rookie year in Formula SAE competition at Michigan  
|      | Placed overall 96th place out of 146 teams  
|      | Competed in all static and dynamic events |
| 2005 | Overriding design goal was to reduce the weight of the car resulting in a 100 lbs. weight reduction  
|      | Awarded Henkel Technologies Award for “Best Use of Structural Foam”  
|      | Placed in all static events and most dynamic events at FSAE Michigan before experiencing a suspension failure. |
| 2006 | Developed new braking system  
<p>|      | Increased efficiency of the cooling system |</p>
<table>
<thead>
<tr>
<th>Year</th>
<th>Events</th>
</tr>
</thead>
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| 2007 | - First year of overseas competition at Formula SAE UK  
- Placed in all static events  
- Unable to participate in dynamic events because of customs/logistical issues |
| 2008 | - Overall 42nd out of 75 teams at Formula SAEWest  
- Placed 7th in Cost Presentation – Highest placement in team history |
| 2009 | - Overall placement of 67th out of 123 teams  
- First ever comprehensive endurance finish  
- Placed 31st out of 100 teams in Endurance and Fuel Economy – Highest ever placement |
| 2010 | - Overall placement of 38th out of 80 participating teams at Formula SAE West  
- Placed 16th in the Design Event  
- Lightest car in the history of the team  
- First implementation of a dry sump lubrication system |
<table>
<thead>
<tr>
<th>Year</th>
<th>Description</th>
</tr>
</thead>
</table>
| 2011 |  - Best logistical year for Warrior Racing  
       - Completed all Static events  
       - Placed 29th out of 121 teams at Marketing Presentation Event |
| 2012 |  - Completed in all static and the most challenging dynamic events  
       - Placed 23rd out of 80 teams in Endurance/Fuel Economy event |
| 2013 |  - Reduced weight by 10 lbs.  
       - Placed 13th overall in cost event  
       - Completed all static events |
| 2014 |  - Reduced weight by 15 lbs.  
       - Completed all static events at Formula North and Formula West  
       - Placed 4th out of 80 teams in the cost event  
       - Placed 17th out of 80 teams in the marketing event |
## Static Events

### Design Presentation: 150 Points

The design event aims to evaluate and critique the engineering effort that went into developing the competition car. Each subsystem is critically analyzed by several judges, and the appropriate subsystem captain must answer any questions the officials have. It is an intense event where all the work and effort the team has done in a year is evaluated.

### Cost Analysis: 100 Points

The cost event aims to teach the participants of Formula SAE the importance of balancing finances during the design and manufacturing of a product. Each team must prepare and present a cost report on all components of the car. In addition, they must be able to convince the judges of opportunities to minimize cost. The most valuable lesson of the event is to educate the teams on the difficult decisions that need to be made while considering construction and cost.

### Business Presentation: 75 Points

The business presentation event evaluates the team’s ability to develop and present a business case. It must convince company executives that the team’s organization or product designs will thrive in the modern market. Target consumers would be those participating in weekend competition groups such as SCCA (Sports Car Club of America) Solo II.

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### 2015 Competitions

- Placed 2nd in the cost event at Formula West and at MIS
- Placed 12th overall out of 80 teams at Formula West
- Ranked as #1 team in Michigan at Formula West
- Set multiple team records
## Dynamic Events

### Skid Pad: 50 Points

The main goal of the skid pad event is to measure effectiveness of the car’s corning abilities on a flat surface while executing a constant radius turn.

### Acceleration: 75 Points

The acceleration event determines how quickly the car can accelerate on a flat, straight course over a distance of 75 meters. A well-tuned engine is critical to succeed in this event.

### Autocross: 150 Points

The autocross event evaluates the cars drivability on a tight, closed course, while no other competition vehicles are on the course at the same time. All vehicle capabilities are tested throughout the event, including braking, cornering, and acceleration. Doing well in this event gets a team a good seed in the Endurance event.

### Endurance + Fuel Economy/Fuel Efficiency: 350 + 50 Points

The endurance event tests the overall durability and reliability of the car over a 22km distance in a similar setting to the autocross event. This is the most demanding event, as it combines every event over an extended period of time. As well as having the car’s dynamics stressed, the event also measures the vehicles fuel economy. Measuring how much fuel the car is using creates a need for a well-balanced tune of the engine.

Specifications

**Powertrain**
- Honda CBR 600RR 4-Cylinder Engine
- Fully Programmable Engine Control Unit
- Chain Driven-Limited Slip Differential

**Suspension**
- Independent Front/Rear Suspension
  - Unequal length A-Arms
- Fully adjustable coil-over dampers

**Frame & Bodywork**
- Tubular 4130-Steel Space Frame
  - 100% TIG welded joints
- Carbon Fiber Nosecone

**Wheels & Tires**
- 13” Jongbloed Aluminum Rims
- Hoosier 25RB Racing Slicks
  - Single Lug Configuration
Sponsorship Benefits

As mentioned before, Warrior Racing considers sponsors to be the backbone of the project; our annual design and production budget comes directly from your private and corporate donations. A sponsorship represents an investment with an unlimited benefit. Your company will be gaining international exposure while preparing future engineers for industry. There are many benefits that come from supporting Warrior Racing and it is a privilege to offer our sponsors the following:

**Recruiting Future Leaders**

SAE provides a real-world experience not available to students in the traditional classroom environment. Sponsors have an instantaneous recruiting connection to knowledgeable student engineers. Warrior Racing team members are challenged to think creatively and to develop skills such as time management, organization, teamwork, communication, leadership, and meeting the needs of a customer. Exposing students to a company sponsorship makes a lasting impression, because it allows them to become familiar with the company’s products and services while building a business relationship that continues after graduation.

**Company Recognition**

As a sponsor, your company and its products will receive unlimited exposure to various professionals and potential customers across the automotive and racing industry. Warrior Racing recognizes sponsors at many presentations, university activities, and sponsored events with SAE.

If your donation is in the form of products used in our car, your product will be exposed to a wide variety of people. Sponsors are invited to display marketing publications during racing events, which are also a prime place for the local racing community to view your product. The car is also often presented on campus, where it is viewed by thousands of faculty members, students, and guests. Adding to the publicity, the competition requires members to explain the functions and manufacturing processes of different components to design judges who are well known professionals in the industry; this being another excellent way of gaining public exposure.

Whether your donation is a product or financial contribution, your company’s logo will be place on the bodywork of our race car. Your company’s logo will also be featured on our website. For specifics, please refer to the sponsorship details on the following page.
Tax Deductions

Any financial contributions or product donations are acknowledged as donations that are tax deductible under current federal and state regulations. Warrior Racing will issue the sponsoring company a tax receipt so they can claim the donation on their taxes.

How you can support us

Material:

In-kind donations are greatly appreciated from any company that can supply parts that are beneficial in creating the formula race car or supporting logistical operations.

Knowledge:

Any knowledge in a certain trade or topic that you can help educate us on and move us forward

Manufacturing:

Any donation of tools, machines, or services that can support our manufacturing needs and broaden our capabilities

Financial Support:

Financial contributions which are all tax deductible are greatly appreciated and help Warrior Racing to select certain parts for the car to perform optimally during competitions. Also financial contributions help fund the team to travel to competitions.

Sponsor Packages

Different options are available to companies that are interested in sponsoring Warrior Racing, each with its own benefit. Packages allow us to keep track of sponsors and to guarantee that each company is being recognized appropriately.
Woodward Avenue Sponsorship Level
Donation of $5-$99.00 or equivalent in parts, materials, or services.
- Newsletter recognition and subscription to monthly editions.
- Company name and link on website.
- Shop tours available upon request.

Wayne State Sponsorship Level
Donation of $100-$499.00 or equivalent in parts, materials, or services.
- In addition to the benefits of the Woodward Avenue sponsorship level:
  - Company name, logo, and link on website.
  - Company logo on sponsor banner and in promotional videos.

Midtown Sponsorship Level
Donation of $500-999.99 or equivalent in parts, materials, or services.
- In addition to the benefits of the Wayne State sponsorship level:
  - [3x3] inch logo on competition car.

Belle Isle Sponsorship Level
Donations of $1000.00-4999.99 or equivalent in parts, materials, or services.
- In addition to the benefits of the Midtown sponsorship level:
  - [5x5] inch logo on front nosecone.
  - Company logo on team tent.

Motor City Sponsorship Level
Donations of $5000.00-9999.99 or equivalent in parts, materials, or services.
- In addition to the benefits of the Belle Isle sponsorship level:
  - [7x7] inch logo on front nosecone.
  - Company logo on driver helmet and suit.
  - Laser cut of company logo done in shop.
  - Availability of team and car to company events upon request.

Detroit Legacy Sponsorship Level
Donations exceeding $10,000 or equivalent in parts, materials or services.
- In addition to the benefits of the Motor City sponsorship level:
  - Invitation to testing and competition events.
  - Exclusive Warrior Racing apparel.
Contact Information

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