

UNIVERSITY OF NEBRASKA-LINCOLN 2014 HUSKER MOTORSPORTS

BAJA SAE



Email: huskerracing@gmail.com
Website: <http://www.baja.unl.edu>

LETTER FROM THE PRESIDENTS

In 2008, with next to nothing but some old tools and a desire to learn, UNL BAJA SAE came back to life. With the help of talented, driven students and sponsors that had a will to see them succeed, the team is quickly rising to one of the top teams in the nation. And all of us at Husker Racing Baja SAE want you to be part of the success.

In 2013 we set a goal of placing in the top three at both of our competitions. At our first competition in Bellingham, WA, we did just that by placing third. However, we fell short of this goal in Rochester, NY finishing 17th after an unforeseeable break down. Fueled by our recent success and desire to win, we decided to set our sights on first place.

This year we also hope to attend all three competitions hosted by SAE. The first of the three will be in El Paso, TX. Then we will be close to home in Pittsburg, KS and finally we will be in Peoria, IL. This will be the first year we've tried to make it to all three competitions. By doing so, we hope to earn the Iron Man Award that is given to the team with the highest point total across all three competitions. However, this is only possible with the help of our sponsors.

Every year the majority of our funding goes towards travel and registration expenses. With average fuel costs of over \$2,500 per competition and every registration costing \$1,100 this leaves us with little extra money left for new tools, machining equipment, or the ability to create and test different designs. That's why for the 2014 season, one of our most difficult yet most crucial goals was to purchase a mill for our new shop. With the help of the Mechanical and Materials Engineering Department, we were able to do so. With this addition, we now have almost all of the equipment we would need to make all of our parts for the 2014 season which should significantly reduce the time to complete our car.

With our high goals for competition set, and new shop equipment to help us, we have set our fundraising goal to \$20,000. As high as this seems, we realize that Baja SAE isn't just about building an off road vehicle. It is about providing UNL students a chance to develop key engineering skills, team work principles and give them the chance to explore their talent. All of which would be impossible without the help of our sponsors.

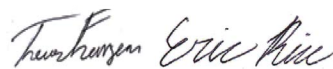
In 2013, we started another Husker Racing first. Our first year team brought home the first place trophy for the acceleration event at our Bellingham, Washington competition. With such success we want to continue this new trend by having another junior team at one of this year's competitions.

With your help Husker Racing Baja SAE won't just be one of the top teams, it will be THE top team. Early commitment of funds will make our path to the top even smoother. Our schedule for the 2014 season is a very aggressive one. With a solid design foundation to work from, we want to spend more time testing and optimizing our designs this year. By December, we plan to have a rolling chassis and complete the car by Mid-February. Our first competition is April 22 in El Paso, TX.

To show our gratitude to our sponsors, we want to put your logo on our new car and offer team apparel and team visits with the new car at your local business or special events. Come join a driven, ambitious, and dedicated team. Be a part of Husker Racing Baja SAE.

Sincerely,

Trevor Franzen and Eric Rice



2014 UNL Baja Presidents

ABOUT BAJA SAE

Baja SAE consists of competitions that simulate real-world engineering design projects and their related challenges. Students are tasked with designing and building an off-road vehicle that can survive the brutal punishment of rough terrain and off-road racing. These designs are then put to the test at any of three competitions held across the country each year.

The object of these competitions is to provide SAE student members with a challenging project that involves the design, planning and manufacturing tasks found when introducing a new product to the consumer industrial market. Students must function as a team to not only design, build, test, promote, and race a vehicle within the limits of the rules, but also to generate financial support for their project and manage their educational priorities.

All vehicles are powered by a ten-horsepower Intek Model 20 Briggs & Stratton engine. Use of the same engine by all the teams creates a more challenging engineering design test. In order to be competitive it is crucial to design the lightest weight car possible, while maintaining the necessary strength to endure the challenges faced at competition.

Each competition is four days long and scored by totaling each team's performance at the static and dynamic events. Competitions consist of a hundred plus teams from all over the United States, Canada, Mexico, Brazil, and China just to name a few. The static events occur on the first two days, and are made up of a sales presentation, design presentation, cost report, and prototype cost. Each team competes against each another to have their design accepted for manufacture by a fictitious firm in the sales presentation. The design process is then presented to a panel of judges from across the powersports industry. Teams are awarded points based on how well they can justify their design. Teams are also scored based on their cost of production versus the other teams at competition. Each team must pass a rigorous technical inspection prior to competing in any dynamic events.

The dynamic events occur on the last two days, and consist of acceleration, hill climb or sled pull, maneuverability, rock crawl or suspension and traction, and an endurance race. The dynamic events are scored by the time taken to complete the event, or how far each team could make it through an event. The endurance race is a four hour race with all one hundred teams racing wheel-to-wheel. Points are awarded based on the number of laps completed. Below is a breakdown of the scoring at each event this season.

SCORING SUMMARY - STATIC EVENTS - 300 points	UTEP	Kansas	Illinois
Design Evaluation	150	150	150
Cost Report	15	15	15
Prototype Cost	85	85	85
Sales Presentation	50	50	50
DYNAMIC EVENTS - 700 points			
Acceleration	75	75	75
Hill Climb	75	75	75
Land Maneuverability	75	75	75
Rock Crawl	-	-	75
Suspension and Traction	75	75	-
Endurance	400	400	400
TOTAL POINTS	1000	1000	1000

2014 GOALS

- **Competition Goals**

- Attend All 3 Competitions
- Complete All Events
- Place Top Ten in Maneuverability
- Place 1st in at least one competition
- Win Iron Man Award

- **Team Goals**

- Build solid team foundation to be used for years to come
- Develop model for new car design process
- Build up funds for maintaining good account balances
- Recruit and retain 10 new members
- Obtain \$20,000 through sponsorships and fundraising

- **Shop Goals**

- Teach members good Welding and Machining techniques
- Develop regular maintenance schedule and tasks
- Secure Plasma Cutter/Table for tube and sheet metal cutting
- Replace worn out tools

2014 ESTIMATED EXPENSES

Shop

				Total
Consumables				\$200
Power Tools				\$100
Other Tools				\$100
Welding Gas				\$600
Machine Tooling				
Mill				\$500
Lathe				\$500
			Total	\$2,000

Wish List

Plasma Table				\$7,000
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Vehicle

				Total
Tires				\$350
Electrical				\$450
Paint				\$1,500
Tubing				\$1,000
Sheet Metal				\$1,000
Other Materials				\$1,500
Miscellaneous				\$500
			Total	\$7,000

Travel

	El Paso	Pittsburg	Peoria	Total
Registration	\$1,100	\$2,200	\$1,100	\$4,400
Miles	1950	624	1002	3576
Truck Fuel (8 mpg)	\$1,000	\$320	\$465	\$1,785
Van Fuel (20 mpg)	\$400	\$125	\$180	\$705
Truck Rental	\$320	\$320	\$320	\$960
Van Rental	\$240	\$240	\$240	\$720
Hotel	\$264	\$268	\$376	\$908

Total				\$9,478
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Junior Team will be going to Pittsburg
Competition

8 day rental (4 days driving, 4 days at
competition)
4 nights per competition

2014 Total Expenses **\$17,778**
Wish List Items **\$7,000**

PHOTO GALLERY



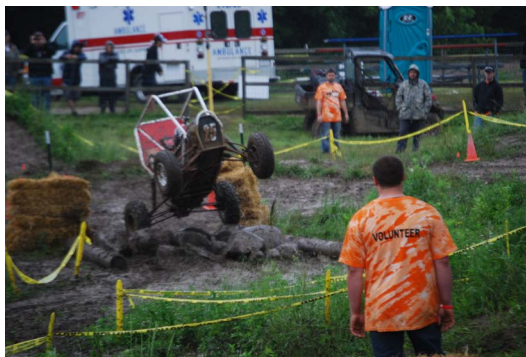
Selling the car at the design presentation



Existing sponsors



Tearing up the test track



Getting air at the Suspension and Traction event



Fighting for position in the endurance race



Hugging the corner in Manueverability

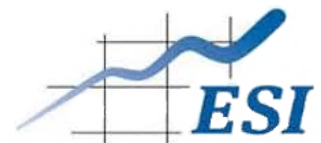
COMPETITION RESULTS

Bellingham, WA - Spring 2013

Rank	School	Overall (1000)	Overall Dynamic (300)	Overall Static (300)	Cost (100)	Design (150)	Presentation (50)	Acceleration (75)	Land Manueverability (75)	Rock Crawl (75)	Hill Climb (75)	Endurance Race (400)
1	Univ of Michigan - Ann Arbor	874.43	237.91	236.52	97.52	105.00	34.00	68.68	61.18	41.79	66.26	400.00
2	Oregon State Univ	848.51	283.04	277.97	98.97	130.00	49.00	69.67	69.26	75.00	69.11	287.50
3	Univ of Nebraska - Lincoln	839.17	216.76	247.41	86.91	115.00	45.50	65.07	48.45	43.74	59.50	375.00
4	Ecole De Technologie Superieure	813.73	228.79	222.44	48.94	135.00	38.50	68.07	67.79	17.93	75.00	362.50
5	Univ of Louisville	788.25	210.60	265.15	82.15	136.00	47.00	67.68	60.07	17.15	65.70	312.50
6	California State Poly Univ - Pomona	785.91	187.35	236.06	67.56	125.00	43.50	61.17	49.62	16.37	60.19	362.50
7	Ohio Northern Univ	784.16	193.56	215.60	81.60	95.00	39.00	58.80	56.13	22.08	56.55	375.00
8	Univ of Maryland - Baltimore County	763.01	175.01	288.00	97.00	150.00	41.00	59.87	34.09	16.97	64.08	300.00
9	McGill Univ	753.42	187.14	228.78	81.28	115.00	32.50	61.47	30.86	31.25	63.56	337.50
10	Rochester Institute of Technology	753.32	271.05	132.27	46.77	46.00	39.50	61.44	63.96	73.55	72.10	350.00



THANK YOU 2013 SPONSORS



SPONSORSHIP LEVELS:

Platinum (\$5,000 +)

TWO LOGOS ON SIDES OF CAR,
NAME ON WEBSITE,
CAR AT BUSINESS FOR 1 WEEK, TEAM POLOS

Gold (\$2,500 - 4,999)

TWO LOGOS ON SIDES OF CAR,
NAME ON WEBSITE, CAR AT BUSINESS FOR 1 WEEK, TEAM T-SHIRTS

Silver (\$1,000 - 2,499)

TWO LOGOS ON SIDES OF CAR,
NAME ON WEBSITE, CAR AT BUSINESS FOR 1 WEEK

Bronze (\$100 – 999)

ONE LOGO ON REAR OF CAR,
NAME ON WEBSITE

HOW YOU CAN SPONSOR:

Call 308-529-3455 or email huskerracing@gmail.com

CHECKS PAYABLE TO: UNL Baja SAE

SEND TO: W342 Nebraska Hall, Lincoln NE 68528-0526