

# Team Captains

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**2023**  
**Sponsorship**  
**Information**





# What is Baja SAE

In Baja SAE, engineering students are tasked with designing and building a single-seat, all-terrain sporting vehicle that is to be a prototype for a reliable, maintainable, ergonomic, and economic production vehicle that serves a recreational user market. The students must function as a team to design, engineer, build, test, promote, and compete with a vehicle within the limits of the rules.

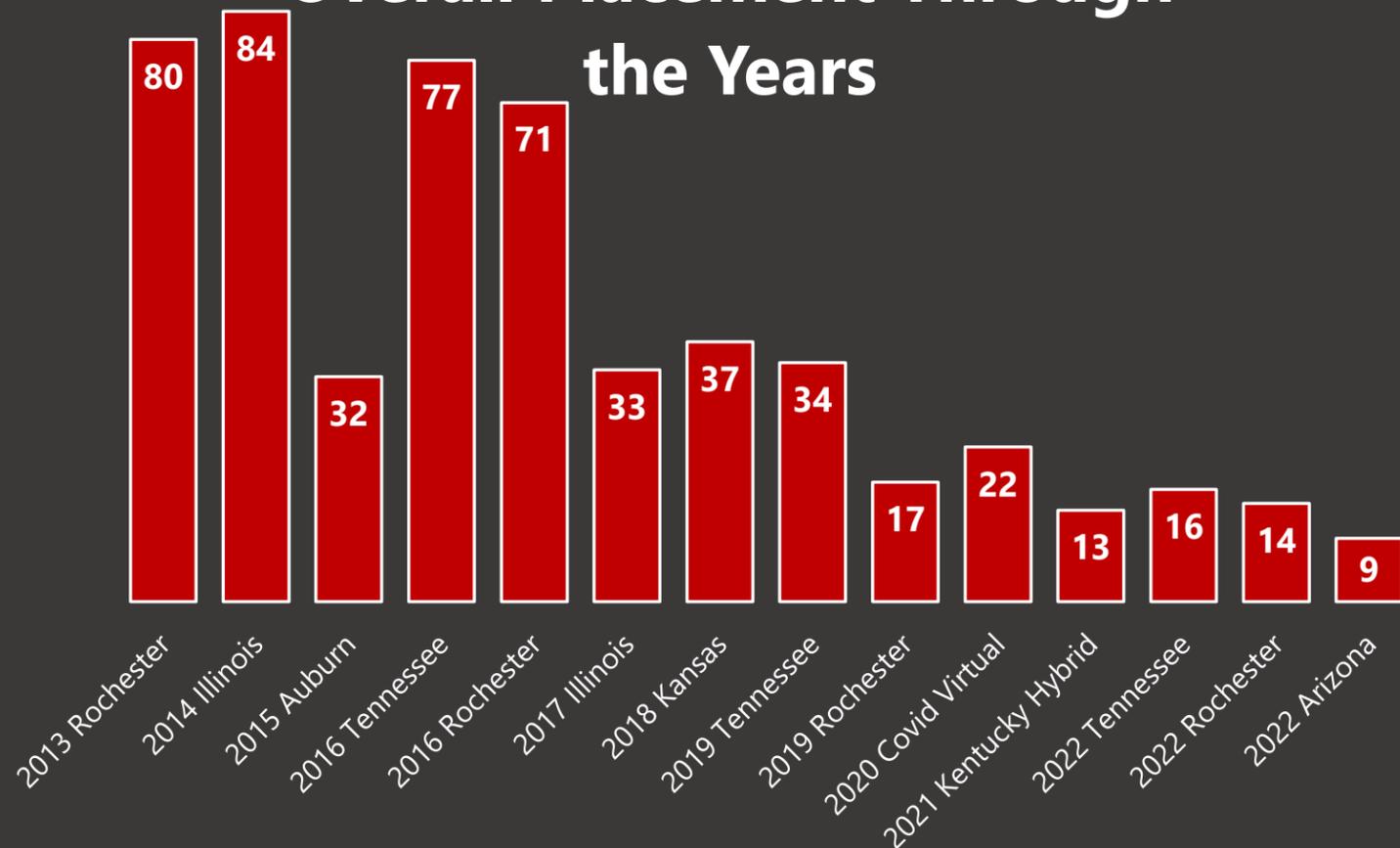
## Who is *Penguin* Baja Racing

Penguin Baja Racing is a student competition team from Youngstown State University (YSU) dedicated to providing real world experience for its members. Following a closed loop design process, the team iterates through research, CAD, analysis, and testing. In this way PBR prepares YSU engineers with the tools to succeed in the industrial workforce and beyond.





## Overall Placement Through the Years



## History of Success

Penguin Baja Racing has a history of continuous improvement throughout the years. After rejoining Baja SAE in 2013, PBR has climbed the ranks from 84<sup>th</sup> to a high of 9<sup>th</sup> place overall at the end of our most recent season. This success has been realized through the combination of our attention to the continuous design process, coupled with the real-world challenges of machining and fabrication. Despite facing challenges as a small team, PBR still managed to place highly amongst our internationally established competitors.



# 2022 Race Season

## Cookeville, TN

- First Ever 1<sup>st</sup> Place Finish in Business
- 12<sup>th</sup> Place Finish in Design
- Overall Placement 16<sup>th</sup>

## Rochester, NY

- 2<sup>nd</sup> Place Finish in Business
- 13<sup>th</sup> Place in Overall Static Events
- Overall Placement 14<sup>th</sup>

## Green Valley, AZ

- 1<sup>st</sup> Place Finish in Business
- First Ever 2<sup>nd</sup> Place Finish in Sled Pull
- First Ever 4<sup>th</sup> Place Finish in Design
- First Ever 4<sup>th</sup> Place in Overall Static Events
- First Ever Top 10 Finish at 9<sup>th</sup> Place Overall



# Partner Levels

	Contributor (\$250+)	Bronze (\$1000+)	Silver (\$2500+)	Gold (\$5000+)	Elite (\$10000+)
Publication Recognition	[Red bar]				
Personalized Photo	[Red bar]				
Logo on Pit Banner	[Red bar]				
Logo on t-shirt	[Red bar]				
Logo on Vehicle	[Red bar]				
Sponsor Appreciation Gift	[Red bar]				
Prototype Visit*	[Red bar]				
Personalized Thank You Video	[Red bar]				
Personalized Pit Banner	[Red bar]				
Access to Team Resumes	[Red bar]				

\*Near the Youngstown Area



## By Check

Donations to the 2023 Penguin Baja Racing team can be made by sending a check made out to YSU, Mechanical Engineering-Baja, to be picked up by a student representative or mailed to Youngstown State University, Mechanical Engineering, One University Plaza, Youngstown OH, 44555.

## YSU Foundation

Donations through the YSU Foundation can be made at <http://ysufoundation.com/give-now/>. Click College of STEM and choose either a one-time or recurring gift. Please type "Penguin Baja Racing, Mechanical Engineering" in the "Gifts Details or Comments" box.

The team's affiliation with SAE International has the team exempt from federal taxes under section 501©(3) under the Internal Revenue Code and public charity under sections 509(a)(1) and 170(b)(1)(A)(vi) of the Internal Revenue Code.

Federal Tax ID Number: 25-1494402





# Powertrain

# Suspension, Steering, & Brakes



**Kathryn Chludzinski**  
**Captain**

- Lead Machinist
- Transfer Case

**Colin Heinrich**  
**Mechanical Eng.**

- Business Team
- Reduction Box

**John Gula**  
**Mechanical Eng.**

- Business Team
- CV Transmission

**Dante Flak**  
**Mechanical Eng.**

- Mechanic
- Differential

**Jesse Irons**  
**Design Lead**

- Rear Suspension
- Brakes

**Landon Morucci**  
**Mechanical Eng.**

- Mechanic
- Steering Knuckle
- Brakes

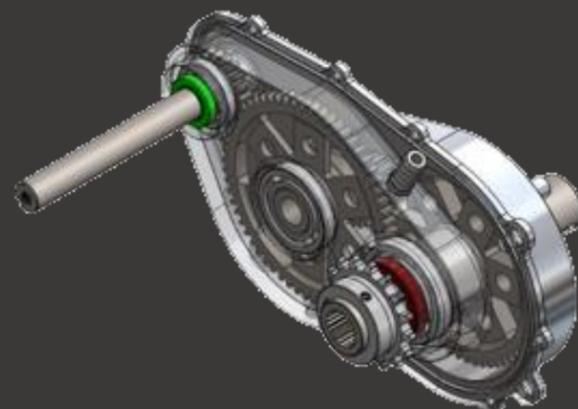
**Joshua Entrikin**  
**Mechanical Eng.**

- Business Team
- Steering
- Data Collection

**Ahmed Mousa**  
**Mechanical Eng.**

- Mechanic
- Front Suspension

Powertrain encompasses the design of the transmission, reduction gear box, front drive system, axles, and hubs. In addition to the all new 14 horsepower engine from Kohler, this year's team is challenged with the further development of a custom four-wheel drive system, as well as an innovative continuously variable transmission.



This team oversees the front and rear suspension as well as the steering and braking systems. This year's suspension team is focused on improving the fully aluminum suspension through the implementation of carbon fiber components. This year, the team will be working on the development of our first custom shocks, brake calipers, and master cylinder.





# Chassis & Ergonomics

# Team



**Jared Bryarly**  
Captain

- Fabricator
- Chassis



**Reece Wilson**  
Mechanical Eng.

- Business Team
- Ergonomics



**Christian Compton**  
Mechanical Eng. Tech.

- Mechanic
- Chassis



**Kyle DeBucci**  
Mechanical Eng.

- Junior
- Statistician



**Madilyn Kelly**  
Mechanical Eng.

- Junior
- Transcriber



**Charisma Ojeda**  
Mechanical Eng.

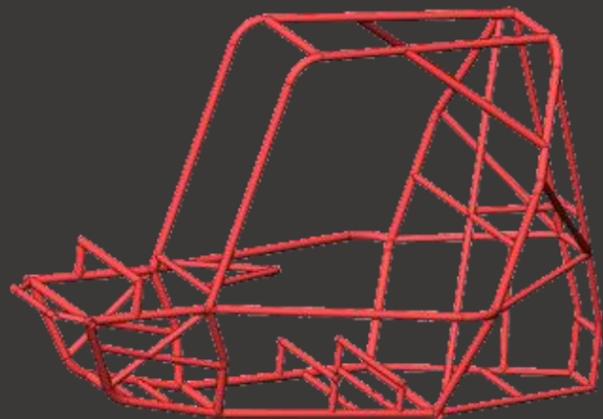
- Junior
- Social Media



**Spencer McGarrity**  
Mechanical Eng.

- Junior
- Assembly

The chassis & ergonomics team is responsible for building a frame that can protect the driver and components of the vehicle, as well as to ensure a smooth and comfortable ride for the driver. The goal for this year is to perform extensive experimental testing to validate our finite element models, accommodate all components from other subsystems, as well as make continuous improvements to driver comfort.



**Ian Miller**  
Mechanical Eng.

- Sophomore
- Business Team



**Michael Sandora**  
Electrical Eng.

- Junior
- Testing



**Bobby Harris**  
Mechanical Eng.

- Freshman
- Machinist



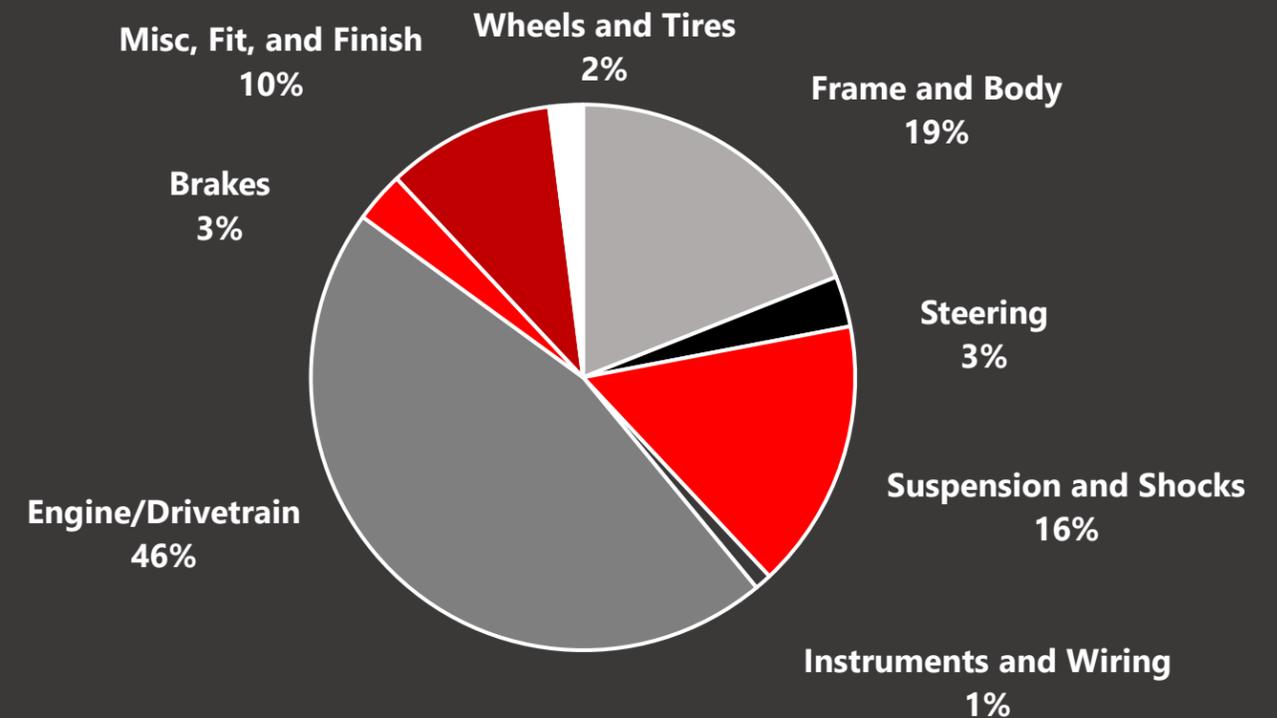
# Expenses

Being a part of Penguin Baja Racing is a very enriching experience, and a great addition to our engineering coursework. However, participating in this event is a large financial undertaking. The support from our sponsors is the foundation in funding our season.

## Overall Team Expenses Include:

- Vehicle Build
- Maintenance
- Daily Operations
- Equipment and Machinery
- Competition Fees
- Vehicle Rentals and Fuel
- Travel Lodging

# Vehicle Breakdown





# 2023 Competitions

Baja SAE Oshkosh (May 4 – 7, 2023)



Baja SAE Oregon (May 31 – June 3, 2023)



Baja SAE Ohio (September 6 – 10, 2023)



We can't wait for you  
to join our 2023 team!



We would especially like to thank our 2022 sponsors. We know that our current level of success could not have been achieved without your generous support. We look forward to continuing our partnership into the 2023 season.

*~Penguin*  
**Baja Racing**