



NORTHERN  
ARIZONA  
UNIVERSITY

## SAE Baja 25 Team Charter

### Signature Cover Page

Each team member will copy the following statement in their own handwriting (LEGIBLY) in one of the designated areas below:

I agree to do an equal amount of work in the team. I understand that my grade will reflect my effort in the team.

Print Name: Ryan Carley

Signature:

I agree to do an equal amount of work in the team. I understand that my grade will reflect my effort in the team.

Print Name: Ethan Niemeyer

Signature:

I agree to do an equal amount of work in the team. I understand that my grade will reflect my effort in the team.

Print Name: David Polkabila

Signature:

I agree to do an equal amount of work in the team. I understand that my grade will reflect my effort in the team.

Print Name: Taylor Hewitt

Signature:

I agree to do an equal amount of work in the team. I understand that my grade will reflect my effort in the team.

Print Name: Ryan Latulippe

Signature:

I agree to do an equal amount of work in the team. I understand that my grade will reflect my effort in the team.

Print Name: Seth Scheiwiler Signature: Seth Scheiwiler

I agree to do an equal amount of work in the team. I understand that my grade will reflect my effort in the team.

Print Name: Brennan Pangratz Signature: 

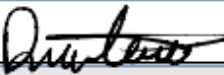
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Print Name: Oliver Hasmann Signature: 

I agree to do an equal amount of work in the team. I understand that my grade will reflect my effort in the team.

Print Name: Rowan Jones Signature: 

I agree to do an equal amount of work in the team. I understand that my grade will reflect my effort in the team.

Print Name: Dylan Corley Signature: 

I agree to do an equal amount of work in the team. I understand that my grade will reflect my effort in the team.

Print Name: Wyatt Walker

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I agree to do an equal amount of work in the team.  
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Print Name: Matthew Dale

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I agree to do an equal amount of work in the team. I understand that  
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Print Name: Ryan Key

Signature: Ryan Key

I agree to do an equal amount of work in the team.  
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Print Name: Charles Anderson

Signature: Charles Anderson

I agree to do an equal amount of work in  
the team. I understand that my grade will reflect  
my effort in the team.

Print Name: Nolan Stamp

Signature: Nolan Stamp

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To: David Willy

From: SAE Baja 2025

Date: September 6, 2024

Re: Team Charter

## **1. Team Purpose:**

The purpose for this team's formation is to design a lightweight, durable, reliable offroad vehicle for the SAE Baja 2025 competition. The team intends to implement engineering design criteria. The team's intentions are to comply with the rules and guidelines, pass technical inspection, and meet all Mechanical Engineering Capstone requirements. The team will also comply with the latest required SAE documentation.

The stakeholders are the sponsors of the team and the team itself. The sponsors expect the Baja team to follow the intentions listed in the previous paragraph. The team expects to accomplish the goals listed in the paragraph below. Sponsors that help fund this year's vehicle are also critical for success. The Baja team is responsible for raising funds for the fabrication of the car and travel expenses needed for competition.

## **2. Team Goals:**

Some aspirations for this year's Baja team are to place top 10% in all events. Last time NAU competed in the Arizona competition, we placed 5<sup>th</sup> overall so the team would like to match or outperform those years showing. We plan to accomplish this by designing and manufacturing mature parts using the best materials that are within our budget.

As a team, we plan to learn more about automotive design and automotive manufacturing. As sub teams we will communicate clearly to integrate the engineering principles we've learned and the automotive design principles. Following the rule book as closely as possible is the best way for us to make the design as compliant and as safe as possible. Doing so will increase the chances of passing technical inspection.

## **3. Team Member Personalities/Roles/Responsibilities:**

With a team consisting of 15 members, it is important to properly utilize everyone's technical skillset to effectively design and fabricate a successful vehicle. There is also a large mix of personalities that must be considered when creating a winning team dynamic. That information is summarized below in *Table 1*.

Table 1: Team Member Information

Team Member	Sub-Team	Role/Responsibility	Skills
Charles Anderson	Chassis	Web Design/ Fabrication. Rear End Design.	ENTJ-A, Welding, and manufacturing.
Ryan Carley	Chassis	Sub-team Lead, Front End Design	ENTJ-A, CAD
Wyatt Walker	Chassis	CAD Manager. Cockpit Design.	INTJ-A, CAD, 3D Printing
Brennan Pongratz	CVT	Project Co- Manager/ Lead Manufacturing Engineer	ESFP-A, CAD, CAM, Machining, Experience with SAE Baja
Seth Scheiwiller	CVT	Project Co- Manager/ Transmission Integration	ENTJ-T, CAD, Manufacturing
Dylan Carley	Drivetrain	Finance Expert	ENTJ-A, CAD, Time Management
Matthew Dale	Drivetrain	Logistics manager	INTP-T, CAD
Ethan Niemeyer	Drivetrain	Sub-team lead	ENTJ-T, CAD, Wrenching
Oliver Husmann	Suspension	Suspension analyst	ESTP-A, Suspension experience, basic mechanic work
Ryan Key	Suspension	Sub-team lead, Media	ENTJ-A, CAD, experience with offroad vehicles, manufacturing
Ryan Latulippe	Suspension	Suspension engineer	ESTJ-T
Taylor Hewitt	Steering/Brake	Team Submitter	ENTJ-A, CAD, Welding
David Polkabila	Steering/Brake	Sub-team Lead	INTJ-A, CAD, Communication
Rowan Jones	4wd	Technical Resources Manager	INTJ-A, CAD, Source Management
Nolan Stomp	4wd	Sub-team Lead	ISTJ-T, CAD, 2D Design

## 4. Ground Rules:

The team acknowledges the significant workload this project demands and recognizes that success will only come from consistent effort and collaboration from all members. To ensure smooth progress, we have established a set of guidelines that promote accountability, active participation, and professionalism throughout the project.

All team members are working towards the same goal of delivering a successful capstone project. To ensure this happens, all members need to participate and contribute effectively. Per capstone requirement, every member of the team will contribute at least nine working hours towards their respective sub-teams and goals to ensure a successful and completed project. The machine shop will be open from 3:00pm to 6:00pm on most weekdays to allow for the team to work on design, fabrication, or other tasks. **Outside of class meeting time.** In this weekly meeting, sub-teams can get together to discuss integration of components and complete tasks to ensure progress.

Due to the breadth of the project and the collaboration required to ensure successful completion, each team member must act professionally when working together. When new ideas are introduced involving the project, the team/sub-team will hear the said idea and hold respectful discussions on the applicability of the idea. If issues arise among individual members, sub-teams, or the team, these issues will be discussed as soon as possible to ensure the continuity of the project. Opposing views will be heard and handled respectfully and with kindness. If two conflicting design ideas arise, the decision will favor whoever can back the idea with numerical data and reasonable justification. To allow for more freedom of design and professionalism, members will not micromanage other members of the team. As the project progresses, under no circumstances will a team member make changes that affect other team members without notifying affected members of the changes. To ensure that the project progresses in a timely manner, each team member must be willing to work proactively with other members for cross-functional collaboration. Meaning, if one sub-team is unsure of whether they're responsible for the design of a specific component of the project, be willing to discuss with each other who will be responsible for that design. This also means that if one sub-team is behind, team members must be willing to offer help and be willing to accept help if you end up behind yourself. The team has also come to a consensus on technical rules that will allow for ease of integration between designs and the assembly phase to be effortless. During the design phase, all members will consider the manufacturability of their designs and use the imperial system for every measurement for this project's duration.

It is expected that each member of the SAE Baja team will show up to all team meetings, sub-team meetings, capstone class, and machine shop sessions, unless they notify beforehand that they are unable to be present for a valid reason. If said team member misses one of these activities, they are expected to make up for it in the same week. Sub-team leaders will be responsible for keeping track of sub-team members and their attendance and performance. If the sub-team lead feels that a member is underperforming, a meeting will be held with the sub-team, and the topic will be discussed and assessed.

## **5. Potential Barriers and Coping Strategies:**

Disagreement and arising problems are inevitable in any project, let alone a project of this size and number of people. It is essential to recognize that not everyone will agree, and everyone must know how to civilly and effectively talk to one another to deal with a disagreement or problem. While it is easy for teammates to believe their viewpoint is always right, each member must listen to the other teammates' points and be open to change with their opinion. One of the driving points of any team effort is making sure that each team member is heard and recognized, along with everyone being given the opportunity to share their thoughts and ideas.

Another common challenge is coordinating schedules, especially when team members have different obligations like classes, jobs, or extracurriculars. These differences can make it hard to find a common time for meetings, fabrication, and or testing. To address this, effective communication is essential. Implementing a clear process for updating absent team members will be critical. If someone cannot attend a meeting, ensuring they get a summary, and tasks promptly will keep the team aligned. Tools like shared calendars and project management platforms can also streamline communication and make coordination easier.

From past team dynamics, issues like unclear roles or uneven workload distribution can lead to frustration and inefficiency. In the context of an SAE Baja project, it is important to clearly assign roles based on each member's strengths, whether in CAD design, testing, or project management. Ensuring that everyone has a well-defined area of responsibility will prevent overlap and ensure accountability. If problems with workload distribution or role clarity do arise, open communication during team meetings will help realign tasks and expectations, making sure the project runs smoothly from design to competition.