

University of Illinois at Urbana-Champaign

OFF-ROAD ILLINI

FALL 2021 EDITION



WHAT'S INSIDE:

Back to In-
Person - 2

Previous Car Updates
- 3

Roadmap to
Competition - 4

New Member
Spotlight - 5

BACK TO IN PERSON

Two years ago, COVID hit, resulting in the team being unable to finish fully manufacturing Jill. Last year, COVID only allowed us to attend one competition with Margaret and forced virtual team meetings and an occupancy limit at the shop. This year, we're back at it! Classes and all team activities are back in-person, ESPL is open, and we're signed up for three competitions! Masks are still required in all university spaces, but there is no longer an occupancy limit at the shop so all team functions are happening again. This includes Saturday shop days, which were unable to happen last year. Further, university sponsored travel is less restrictive this year, which resulted in a very fun drive day two weekends ago. We had such a good time seeing so many alumni there!

Not all team members were able to return to campus this year, but these members are still able to contribute through design and research projects, as well as having the option to attend all meetings virtually.



In-person GMs again. Woohoo!

PREVIOUS CAR UPDATES

Margaret is sadly in a bit of a tough shape. After drive day, her CVT was broken and the gearbox tabs had to be completely redone. On the bright side, however, things are starting to look up! Tabs have been rewelded and CVT repairs are underway



After a long semester of beautification, Roamer is officially in his new home, the Sidney Lu Mechanical Engineering Building. He will be on display next to the Innovation Studio starting next semester! A big thank you to all our alumni for signing the body panels!



Jill's driveshafts are officially fixed and she has been up and running this semester at drive day and at various ABE Events!



ROADMAP TO COMPETITION

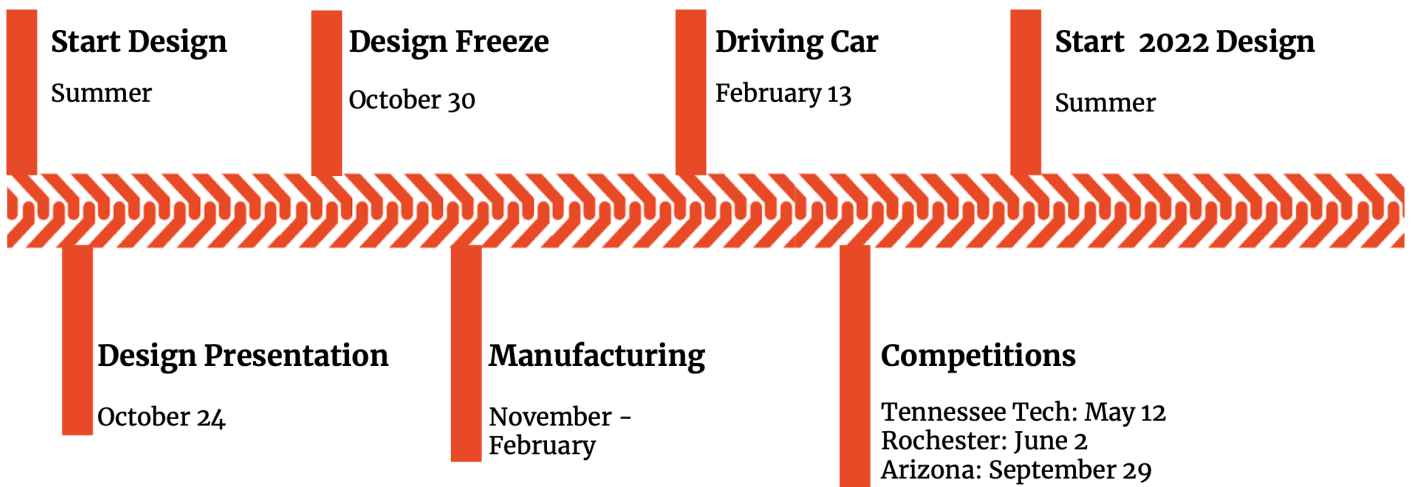
The Off-Road Illini have been working hard to complete our 2021-2022 car, Beckley. This is our second four wheel drive car. As usual, design started in the summer. We recently had our annual design presentation to alumni, from which we got very useful feedback that has been integrated into our designs. Thanks to the hard work of our component designers and feedback from alumni, this car should be a good one! Machining drawings are in and parts will start to be sent out to sponsors and machined in-house soon. Jig design is now underway and everyone is looking forward to starting manufacturing. Driving car is planned for February 13th of next year, giving the team three months with a driving Beckley before our first competition. Our goals for this year are,

Overall:

- Decrease acceleration time by 0.75 seconds
- Achieve a minimum driver training of 15 hours per driver prior to competition
- Be off the track for less than 25% of the total endurance race time

Team:

- Better allocation of tasks as we transition back to in-person
- Increase in the team's knowledge transfer
- Create—and stick to—a more achievable timeline
- Minimize member burnout



NEW MEMBER SPOTLIGHT: MEET NIKHIL GORUR

This semester, the team has large group of amazing new members. One of them is Nikhil Gorur, a freshman in mechanical engineering from Andover, MA.

Nikhil is a member of the chassis subteam. He joined Baja because he wanted to do something with his hands that would give him practical experience applying the skills learned from his coursework.

In Baja, Nikhil is most excited for the competitions, as drive day was a blast. Nikhil also likes being outside, and camping, which he'll get to do a lot of at competitions. He has also been enjoying working on the old cars (Roamer, Jill, and Margaret) but is particularly excited to start working on this year's car. On chassis, his project this semester is to CAD a model of Saab, our main driver this year, which allows us to better incorporate measurements from the driver to the frame into our frame design. Previously, we'd overcompensate by making the frame larger than it needed to be to ensure the proper clearance. His project will allow us to have the frame only be as large as it needs to so that it's lighter and Beckley drives faster.

Outside of Baja, Nikhil is in Engineers Without Borders and wants to get involved in a club or intramural soccer team on campus.

We're excited to see all of the great things that Nikhil does with the Off-Road Illini!



Nikhil after a fun ride with Jill at drive day