



## STUDENT SUSTAINABILITY COMMITTEE

### Scope Change

*From time to time unforeseen challenges or opportunities can affect the planned budget, timeline, or overall goals of a project funded by the Student Sustainability Committee. Past examples of these situations include projects coming in under budget but having additional opportunities available, or inclement weather delaying the planting of agriculture projects.*

*Below please include a brief project summary and your requested changes. Attach additional documents as needed. If you have any questions, please contact the Student Sustainability Committee at [sustainability-committee@illinois.edu](mailto:sustainability-committee@illinois.edu).*

### **General Information**

**Project Name:** Illini Formula Electric

**Total Amount Requested from SSC:** \$50,000

**Date of Scope Change Submission:** 10/14/2021

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### **Contact Information**

Project Lead Name: David Lam

Scope Change Applicant Name (if different than Project Lead):

Unit/Department: Mechanical Science & Engineering

Email Address: [wj6@illinois.edu](mailto:wj6@illinois.edu)

## Project Information

Please provide a brief background of the project, the goals, and the desired outcomes:

At Illini Formula Electric, we design, build, and compete an open-wheel electric performance vehicle each year for the Formula Society of Automotive Engineers competition. Our team is comprised of students across all engineering majors as well as others. The goal for the submitted proposal in 2019 was to develop an advanced all-wheel-drive vehicle for the 2021 competition. However, this plan was not able to be realized.

Please provide a brief summary of how students will be involved in the project's changes:

Due to the impact of COVID-19, our plans to build the AWD vehicle was not able to be realized in the 2020-2021 school year. Although a design was created for the vehicle, we were not able to offer our students the opportunity to build it because we did not have enough access to our shop. We are proposing to extend the project funding by a year so that we could utilize the funding this year to fully realize our plans. We currently have the largest team we've had in many years and all our members are looking forward to this year's new AWD design.

Mark the components for which you are applying to change. (Mark all that apply.)

Overall goals

Budget

Timeline

- Original Timeline:

2018-19: Built most advanced vehicle to date and placed 10<sup>th</sup> overall

2019-20: Small-scale changes to improve vehicle and initiate AWD plans

2020-21: Designing and building the AWD vehicle with custom motor controller, new battery pack, torque vectoring, and integrated gearbox

- New Timeline:

2020-21: Plans for the AWD was started but not finished due to lack of access to the shop. Major components designed but many issues still needed addressing.

2021-22: Full commit to AWD vehicle. Currently all initial designs are completed. Registered for 2022 Competition

Other

Please provide a brief summary of your requested scope change. How is your request different from your original plan? Please explain the reason for the proposed changes.

The proposed change to extend the funding to the end of this year is primarily a response to our inability to spend the allocated funding within the original timeframe due to COVID. We have major components to purchase such as the motor, inverter, and battery pack that we

decided not to purchase last year. This year, because we are fully committing to the AWD design and we have resumed almost normal operation, we are very much in need of the provided funding and are prepared to realize this goal. We also have expanded our team to recruit more electrical members which has been one weak spot of the team for many years. With the status of the team, we are very confident that this AWD vehicle will be realized and taken to competition in 2022.

Additional comments (Optional)

We are very grateful for the generosity and long-time support of SSC and very much look forward to being able to realize our long-desired goal of building an AWD vehicle. Thank you for considering this scope change.