STUDENT SUSTAINABILITY COMMITTEE

Funding Application – Step II

Funding Criteria

A. General Rules

1. Students, faculty, and staff are encouraged to submit requests for funding. Student-led projects require a faculty or staff sponsor in order to have funds awarded.
2. Funding can only go to university-affiliated projects from students, faculty, staff, and departments.
3. All SSC projects must make a substantial impact on students. This may be a direct impact or an impact through education and engagement. All SSC funding is 100% from student green fees, so the projects funded by the students must benefit them.
4. SSC encourages innovation and new technologies – creative projects are encouraged to apply.
5. Unless a type of expense is specifically listed below as having restrictions, SSC can generally fund it. The items referenced below should not be taken as comprehensive list.

B. Things SSC Can Fund, On A Case-By-Case Basis

1. SSC can fund feasibility studies and design work; however, it must work toward ultimately addressing a sustainability need on campus.
2. SSC can fund staff positions that are related to improving campus sustainability. Strong preference will be given to proposals receiving matching funding from departments and/or plans for maintaining continuity of the position after the end of the initial grant.
3. SSC can fund outreach events with a central theme of sustainability, provided their primary audience is the general campus community.
4. SSC discourages funding requests for food and prizes but will consider proposals on a case by case basis that prove significant reasoning.
5. SSC can fund repairs and improvements to existing building systems as long as it works toward the goal of improving campus sustainability; however, a preference is shown to projects utilizing new or innovative ideas.
6. SSC can provide departments with loans for projects with a distinct payback on a case by case base. Loans will require a separate memorandum of understanding between SSC and departmental leadership pledging to repay the award in full and detailing the payback plan.

C. Things SSC Will Not Fund:

1. SSC will not fund projects with a primary end goal of generating revenue for non-University entities.
2. SSC will not fund personal lodging, food, beverage, and other travel expenses.
3. SSC will not fund any travel expenses.
4. SSC will not fund tuition or other forms of personal financial assistance for students beyond standard student employee wages.

Your Step 2 funding application should include this application, the supplemental budget form, and any letters of support.

Please submit this completed application and any relevant supporting documentation to Sustainability-Committee@Illinois.edu. The Working Group Chairs will be in contact with you regarding any questions about the application. If you have any questions about the application process, please contact the Student Sustainability Committee at sustainability-committee@illinois.edu.

General & Contact Information

Project Name: EV Concept Car
Total Amount Requested from SSC: $18,697.13

Project Topic Areas: ☐ Land & Water ☒ Education ☐ Energy
☒ Transportation ☐ Food & Waste

Applicant Name: Dante Nava
Campus Affiliation (Unit/Department or RSO/Organization): EV Concept
Email Address: dgnava2@illinois.edu

Check one:
☐ This project is solely my own ***OR***
☒ This project is proposed on behalf of (name of student org., campus dept., etc.): EV Concept

Project Team Members

Name	Department	Email
Michael L Philpott	Department of Mechanical Science and Engineering	mphilpot@illinois.edu
Logan Rosenmayer	EV Concept	Rosenma2@illinois.edu
Richard Mauge	EV Concept	Rmauge2@illinois.edu
Robert Mauge	EV Concept	Mauge2@illinois.edu

Student-Led Projects (Mandatory):
Name of Faculty or Staff Project Advisor: Michael L Philpott
Advisor's Email Address: mphilpot@illinois.edu

Financial Contact *(Must be a full-time University of Illinois staff member)*
Contact Name: John Wierschem
Unit/Department: Department of Mechanical Science and Engineering
Email Address: jwiersch@illinois.edu

Project Information

Please review the proposal materials and online content carefully. It is highly recommended you visit a working group meeting sometime during the proposal submission process.

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

You may copy and paste your Step 1 application answer if nothing has changed.

Our team seeks funding to design and build a battery powered concept car to participate in the annual Shell Eco-marathon. In doing so we hope to promote the use of sustainable energy in the automotive field and educate our students and community about the technology behind electric vehicles. The automotive industry is predicted to greatly decrease its carbon footprint if we shift towards the use of electric vehicles over internal combustion engine vehicles. However, there is often backlash against the use of electric vehicles due to misconceptions about their abilities. Our team will educate its members to design and manufacture an energy efficient electric vehicle and the ecological advantages it can offer.

While we ask for funds from many sources which support the engineering aspects of our project, we have submitted our project to the Student Sustainability Committee because we believe our work has the potential to help our students develop skills valuable to their chosen field of study while learning about sustainable transportation solutions. Our team models its approach to this project as a small business. While there is a lot of engineering behind the outcome of the project, we must also complete tasks such as allocating funds, seeking sponsorships and sustainability grants, designing logos to brand our organization, maintaining communication with sponsors, and many other tasks which are essential to our organization's existence. With this project, we hope provide students from multiple fields of study with the opportunity to gain valuable experience while promoting electric vehicles at the same time.

Our current system design allows us to operate two 250-Watt motors to effectively drive our proposed vehicle. EV Concept will use the proposed car to teach students about the capabilities and ecological advantages of electric vehicles. Funds would be used to purchase carbon fiber fabric, various epoxy and resin systems, carbon fiber manufacturing materials, lithium batteries, electronic equipment, and building materials and tools. This project is scheduled for a 1-year timeline and we have already begun the preliminary operations in order to complete the vehicle in time for the Shell Eco-marathon Americas 2019 competition which begins on April 3rd, 2019. At the competition, our team often presents one of the best-looking vehicles. This project will be no different as it will sport great looks. Our team hopes to advance to the Drivers World Championship event by demonstrating great efficiency.

To accomplish such efficiency, we must use low weight/high strength materials such as carbon fiber composites. Because of the unrivaled strength of carbon fiber, we do not expect to find a replacement for carbon fiber as the primary component in our chassis and most of our body panels. However, like many other car teams seeking low weight construction, our team has used carbon fiber to create other components which are not necessarily as structurally demanding. One of the efforts we are making to highlight sustainability in the automotive industry is the use of natural alternative composites for some of our non-structural parts. We hope to use a fibrous material such as hemp cloth or coconut husk in an epoxy matrix to create lightweight rigid parts for our vehicle. Some ideas include using these alternative composites for our car's dashboard. Often, dashboards and other nonstructural car components are made from carbon fiber and we want to demonstrate that this is unnecessary.

Along with participating in events at UIUC such as Engineering Open House and Quad Day, our team participates in the annual Shell Eco-marathon Americas. This competition focuses on maximizing fuel efficiency. Over 100 student teams compete to complete the most fuel efficient 10 mile run in front of thousands of public spectators. Our team has historically represented the University of Illinois in the Concept car category of the competition. Because our car is one of the best-looking vehicles, it was placed in the front row for Shell's portrait of all the cars in the competition.

Where will the project be located? Are special permissions required for this project site?
If special permission is required for this location, please explain and submit any relevant letters of support with the application.
Our organization's major operations will take place in a leased off-campus workspace. We have secured a sponsor to pay for our lease and utilities for the school year. We are also making use of other campus resources to host meetings such as the ECE Open Lab. We will continue to seek on-campus workspace so that we can eliminate the cost of a lease in the coming years.

Other than the project team, who will have a stake in the project? Please list other individuals, groups, or departments affiliated directly or indirectly by the project. This includes any entity providing funding (immediate, future, ongoing, matching, in-kind, etc.) and any entities that benefit from this project.
Please attach letters of commitment or support at the end of the application.
One of our major contributors is the Engineering Design Council which provides matching funds for our team. They have agreed to provide up to $6,000 in matching funds this year. The other major contributors include Intren and the Shell Oil Corporation. Intren sponsors a cash donation of $4,000 while the Shell Corporation hosts the Shell Eco-marathon and provides a travel stipend of up to $2000. Our workspace lease was sponsored by a generous individual named Jonathan Eimerman Sr. in the amount of $8,500. We will continue to seek sponsorship and funding from outside sources throughout the school year and can report those to the committee upon request.

How will this project involve and/or benefit students?
This includes both direct and indirect impact.
EV Concept is student led and comprised of UIUC students. The major goal for this project it to provide educational value to our students. EV Concept provides students with the privilege to learn about one of the newest advances in renewable energy application as well as valuable skills that can be used in any career. Electric Vehicles are quickly becoming the focus of many automakers because they can reduce our carbon emissions, require less complex mechanical parts, and have much more potential when it comes to performance. Our team is focused on developing and implementing Electric Vehicle technology for our students to gain experience in the quickly growing field. If electric vehicles begin to phase out internal combustion engine vehicles, our students should be ready to effectively contribute to the development and implementation of the more sustainable and eco-friendly electric automotive field.
While it may be hard to see the direct impacts of our project on our campus' emissions, we hope to convey the value behind learning about sustainable energy and learning how to implement it. These skills are valuable to more than just engineering students. Our team relies on its student members to promote, organize, and sustain our organization's operations. Some of the many necessary skills that are essential to reaching our goal are properly marketing our team to potential sponsors, finding and recruiting students that are passionate about our goals, managing and organizing day to day operations, and the actual designing and manufacturing of the vehicle. These skills are valuable regardless of the industry in which they are applied but we hope our students will implement these skills to help drive the automotive industry towards electric vehicles.

How will you bring awareness and publicize the project on campus? In addition to SSC, where will information about this project be reported?
Our major public events are Quad Day and the Engineering Open House. Our team is also working to launch a YouTube channel to document our operations and disseminate information. We also use social media such as Facebook and Snapchat to provide our followers with information. We provide our sponsors with project information which they often publicize on their social media and websites. In the past, the MechSE department has written articles about our work and we expect the same with this project.

Financial Information

In addition to the below questions, please submit the supplemental budget spreadsheet available on the Student Sustainability Committee website. Submission of both documents by the submission deadline is required for consideration of your project.

Have you applied for funding from SSC before? If so, for what project?

Our team previously received SSC grant funding for the "Illini EcoConcept: Designing and Fabricating a Fuel Cell-Driven Vehicle for the Shell Eco-Marathon Competition". We are working on finalizing that project report and have completed building the car proposed under that project. The financial support provided by the Student Sustainability Committee was crucial to the completion of that project. The primary contacts for that project have since left the University and are no longer involved with the project. Moving forward, we are making sure to involve students that will remain at the University for the life of the project so that the goals behind this application fulfilled as intended.

If this project is implemented, will you require any ongoing funding required? What is the strategy for supporting the project in order to cover replacement, operation, or renewal costs?

Please note that SSC provides funding on a case by case basis annually and should not be considered as an ongoing source of funding.

The nature of our project requires our team to complete a new car build or major overhaul each year. Our team requires ongoing funding to complete these builds, so we devote much of our efforts to securing sponsorships and grants. We are currently revamping and revising our sponsorship packet to attract more outside sponsors and lessen the impact of our funding needs on the University. In the past, our efforts have received one-time funding from companies like Intren and John Deere. We have also received in-kind donations for some materials and tools such as high-density foam and Ansys software. We hope to further develop our sponsorship relationships to gain recurring sponsors.

Please include any other obtained sources of funding. Have you applied for funding elsewhere?

Please attach any relevant letters of support as needed in a separate document.

Engineering Design Council ($6,000);
Intren ($4,000);
Shell Corporation (travel stipend of up to $2000);
Jonathan Eimerman Sr. ($8,500);
We are currently pursuing Autodesk and many other companies as sponsors.

Environmental, Economic, and Awareness Impacts

How will the project improve environmental sustainability at the Urbana-Champaign campus? If applicable, how does this project fit within any of the Illinois Climate Action Plan (iCAP) goals?

Our project aims to promote sustainable energy usage in the automotive industry and educate our students about designing, implementing, and managing the technologies behind electric vehicles. We hope to familiarize our students and community with electric vehicles and their ability cut down transportation emissions.

As stated in the ISEE's summarized version of the iCAP, one of the goals is to educate students about core concepts of ecology with respect to their chosen fields. This is what we aim to accomplish with our project. Members of the EV Concept team gain experience in their chosen field of study while applying it to our goal of developing our knowledge and understanding of electric vehicle technology. We encourage students from all disciplines to join our project because we have opportunities for them.

While not directly related to our project, another goal under the iCAP included phasing out internal combustion engine vehicles in favor of electric vehicles. One of the major obstacles facing this change will be ambiguities about the capabilities of electric vehicles. By promoting electric vehicle technology, we hope to familiarize our community with its capabilities and limitations, so they may make more educated decisions.

How will you monitor and evaluate the project's progress and environmental outcomes? What short-term and long-term environmental impacts do you expect?

Some examples include carbon emissions, water conservation, green behavior, and reduced landfill waste.

Our project is less conventional than most other projects presented to the committee as we are building a concept car. There is no significant outcome that can be measured. However, because we are building the car to promote learning and implementing sustainable technology we hope that keeping a count of those involved with the project, the people we present our project to, and our social media followers will show us how many people we have reached with our project.

One of the major long-term goals is to build a car that does well at the Shell Eco-marathon. Our team uses spreadsheet schedules to track and plan the completion of parts and components for the proposed car. The manufacturing of the chassis and body panels are the tasks which require the most work. Molds must be machined and prepared before carbon fiber parts can be created. This is a very time consuming and labor-intensive process.

What are your specific outreach goals? How will this project inspire change at UIUC?

Our major outreach event for this coming semester is to display our car at the Engineering Open House. The open house is ideal for demonstrating our work to the public. Everyone in the community is invited to visit the event and it has a tremendous turnout. We present our project and answer any questions people have. There are also demonstrations every hour in which we drive the car in the Grainger parking lot.

We are searching for other public events to partake in as an electric vehicle. Going forward, we hope to enroll in an auto show once we have a finished car.

Another one of our outreach goals is to continue to upload YouTube videos documenting our progress and events. We want to improve the quality of our video productions to attract more viewers to our YouTube channel. By the end of this project we want to see somewhere around 100 new subscribers. YouTube offers a platform to update people about our progress and gives us a chance to affect people that are not necessarily on our campus.

We also aim to place posters in the busier areas on campus to attract awareness to our project. We have already placed posters in most of the buildings on the engineering quad and have started to post them in

buildings located on the main and south quads. We will also be placing posters in some of the student housing buildings. All posters are only placed with expressed permission.

If applicable, how does this project impact environmental injustice or social injustice?

Letter of support from MechSE Department

Dante Nava <dgnava2@illinois.edu>

Fwd: Car Team Issues

Bob Mauge <bobmauge@gmail.com> Fri, Aug 24, 2018 at 12:30 PM
To: dgnava2@illinois.edu

---------- Forwarded message ---------
From: **Wierschem, John Kenneth** <jwiersch@illinois.edu>
Date: Fri, Aug 24, 2018, 11:53 AM
Subject: Car Team Issues
To: Philpott, Michael L <mphilpot@illinois.edu>, Flachsbart, Bruce R <mems@illinois.edu>, Wood, Eric James <ejwood2@illinois.edu>, Metzler, Matthew P <mpmetzl2@illinois.edu>, Rhyoo, Daniel Hanyoung <drhyoo2@illinois.edu>, Sarvaiya, Mrunal Jatin <sarvaiy2@illinois.edu>, Mauge, Robert E <rmauge2@illinois.edu>, jeimerjr@gmail.com <jeimerjr@gmail.com>, Ir-Jene Shan <shanirjene@gmail.com>, Frese, Keira A <frese2@illinois.edu>, Schmitt, Daniel Adam <daschmi2@illinois.edu>, Rosenthal, Joshua Thomas <jtr3@illinois.edu>
Cc: Mathis, Marcia M <mmmathis@illinois.edu>, Macadam, Laurie A <lmacadam@illinois.edu>

Hi All,

As you know, we are implementing changes in the budgeting and accounting procedures for the car teams this year. Emails were sent out back on June 21st (SAE Teams) and June 28th (Eco Teams) announcing these changes (see example email below).

Among the changes are that each team will have a fixed budget for the year, and that the teams should prepare detailed budgets in accordance with their budget limit and submit them to Professor Philpott and the Business Office for approval no later than September 10, 2018. The emails sent out back in June specified each team's budget limit for the year. In addition, each team will run all of their expenses through only their ICR account. For reference, I've included the ICR accounts for each team below.

Formula SAE: 1-200250-917021-917087

Baja SAE: 1-200250-917021-917293

Formula Electric/Hybrid: 1-200250-917021-917379

EcoIllini/Supermileage: 1-200250-917021-917380

EcoConcept/EV Concept: 1-200250-917021-9173378

To facilitate budget development, I(we) propose that perhaps we all meet with the student team treasurers/contacts to help assist in developing their budgets. That way, we can help ensure the budgets include the correct level of details, that the budgeted expenses fit within the approved amount, that the budgets are reasonably consistent among the teams, and that the budgeted activity is reasonably consistent with each team's spending in prior years. We'd also like to share ideas to facilitate the purchasing activities and help teams save on shipping costs when placing their orders. We propose meeting sometime during the week of September 4th – 7th for this purpose. Please let us know your availability and we'll get something scheduled.

Furthermore, we also suggest that we establish a schedule of regular meetings, perhaps once per month, to distribute and go over the team's financial statements to ensure teams fully understand the statements and how their expenses compare to budget. We can also use the meetings to go over gifts the car teams receive, discuss any gifts-in-kind to the teams, etc. These meetings could also be used to discuss any purchasing or contracting issues (for example, to ensure we get the necessary contracts in place for test tracks or other services the teams need), and resolve other issues. We're thinking these meetings would likely be only be a half hour to an hour or so per month, but we believe they would serve the teams well. I'd suggest the mid to latter part of the month for this purpose (perhaps 3rd or 4th week of the month) to ensure we have the statements available, and ideally during the afternoon on a Wednesday - Friday. Please let us know your thoughts on this idea.

Thanks,

John

All:

As you know, we've had several conversations regarding how we can better manage the car teams and their resources in times of increasing fiscal constraints. To that end, we have decided to set fixed spending budgets, a fixed level of MechSE support, and fundraising objectives for each car team. Along with these new budgeting procedures also comes some new operational procedures with regard to the accounts used by the teams for their activities.

For the 2019 fiscal year (July 1, 2018 – June 30, 2019), the budget for the X car team will be a fixed $XX,000, and the budget will be put in the X car team Baja ICR account (1-200250-917021-917XXX) at the beginning of the new fiscal year. All X car team spending should be recorded in the ICR account only, and not in the X car team gift account (6XXXXX). That way, we can more easily track the budget balance and team spending in the ICR account and results of fundraising efforts in the gift account. We will monitor the spending and fundraising closely throughout the year and report balances and details on a monthly basis.

The X car team should put together a detailed budget totaling no more than $XX,000 which specifically identifies all anticipated expense items (frame materials, engine parts, clutch assemblies, brake pads, tires, etc., tools, miscellaneous materials and supplies, competition entry fees, travel to competitions and test sites, uniforms, etc.) and which includes estimated costs for each item. It's also recommended that the budget include some funds held in reserve for any unforeseen contingencies. The budget should be submitted to Professor Philpott and the MechSE Business Office for approval no later than September 10, 2018. Once the budget is approved, expenditure requests submitted by the team will be checked against the approved budget prior to approval, and items not included in the approved budget may not be approved.

MechSE will provide a fixed $XX,000 of support to the x car team for FY19. The other $XX,000 of the budget is to be raised by the team through its various fundraising/sponsorship activities during FY19. If the team raises more than its targeted $XX,000 during the year, the excess will either be made available to the team during the year, or carried forward to the following year. If the team falls short, the shortfall will be deducted from next year's budget. Gifts in-kind (i.e., of parts and supplies) will not count toward the team's fundraising objective; however, those gifts reduce necessary spending in those budget categories and thus allow budgeted funds to be reallocated to other team needs.

The MechSE Business Office will continue to provide accounting statements which indicate all account balances to the financial contacts for each team. If there are others on the team who should receive the statements, please let us know. We're also always available to explain the statements and answer any questions you may have.

We look forward to assisting your team during the coming year.

Sincerely,

John

****

John Wierschem MBA, CPA, CMA, CFM, CIA

Assistant to the Head

Department of Mechanical Science and Engineering

University of Illinois at Urbana-Champaign

Dante Nava <dgnava2@illinois.edu>

Design Council Support-EV Concept

Sans, Jennifer Lindsay <jsans@illinois.edu> Wed, Nov 7, 2018 at 1:57 PM
To: "Nava, Dante G" <dgnava2@illinois.edu>, "Mauge, Robert E" <rmauge2@illinois.edu>, "Mauge, Richard A" <mauge2@illinois.edu>
Cc: "Philpott, Michael L" <mphilpot@illinois.edu>

EV Concept Team:

Thank you for your request for matching funds from the Engineering Design Council in the period ending in June 2019. After careful consideration of the funds available to the Design Council, the committee allocated the available funds according to our evaluation of need. Consequently, your project is being allotted $6,000.

Distribution of funds will be made upon demonstration of cash or in-kind matching value having been secured. I will need proof of matching funds (copies of receipts, emails, etc) and your account number to transfer the funds into. You can email me this information or bring it to my office, 206 Engineering Hall. These funds are for the 2018-2019 school year and all proof of matching funds must be submitted by June 15, 2019. Funds do not carry over to the next year.

Once you provide me with proof of matching funds, I will need your teams departmental account number for our business office to process the transfer of funds.

The EDC wishes all teams total success in their competitions and educational pursuits. We appreciate your efforts in representing the College of Engineering and the University of Illinois!

Jennifer Sans

Office Administrator

Convocation Coordinator

College of Engineering

206 Engineering Hall

1308 W. Green St

Urbana, IL 61801

(217) 300-0235

ILLINOIS

Gmail

Notification of Donation for Lease and Utilities

Dante Nava <dgnava4@gmail.com>

[illiniecoconceptleaders] EcoMarathon EV Concept Gift Acknowledgment

Verone, Alec Joseph <averone2@illinois.edu> Mon, Oct 1, 2018 at 4:45 PM
Reply-To: illiniecoconceptleaders@lists.illinois.edu
To: "mauge.richard@gmail.com" <mauge.richard@gmail.com>, "ecoconcept@illinois.edu" <ecoconcept@illinois.edu>
Cc: "Philpott, Michael L" <mphilpot@illinois.edu>

EV Concept Student Leaders,

You have recently received a $8,500 online donation to your team (info below). Please formally thank Mr. Eimerman. I suggest a nicely written thank you card at minimum.

Thank you,

Alec Verone

--

Alec J Verone

Assistant Director of Corporate and Alumni Relations

Mechanical Science and Engineering | Engineering at ILLINOIS

160 Mechanical Engineering Building

1206 West Green Street | Urbana, IL 61801

Ph. 217.265.5251 | averone2@illinois.edu

Assistant Professor of Naval Science ('15-'18)

ILLINOIS

HALFWAY THERE! Join more than 750 donors and double your impact though The Grainger Matching Challenge! Through the end of 2019, all new gifts to the Engineering Visionary Scholarship Initiative, up to $25 million, will be matched dollar-for-dollar. Your scholarship support will provide an immediate impact that will last forever.

Donor Name:	JOHN EIMERMAN
Donor Email:	jeimerjr@gmail.com
Address Block:	N58 W14500 SHAWN CIR.
City:	MENOMONEE FALLS
State:	WI
Country:	USA
Zip:	53051
Why I Gave:	This is for EV Concept s new lease of $600/mo. for a total of $7 200 over the first 12 months of its lease plus an additional $1 300 to be used towards their share of monthly utilities bills.

Exhibit A

Address of Workspace location