

CSF - Annual Grant Final Application

Cats Optimizing Recycling Education--CORE

Grant Type

Annual Grant

Application Type

Final Application

Primary Project Manager

The Primary Project Manager is responsible for completing this application, answering questions posed by the Campus Sustainability Fund Committee, and completing all required reporting on project progress and outcomes. If the Primary Project Manager is a student who graduates in May 2023, the Secondary Project Manager must be a staff or faculty member OR a student who graduates after May 2023.

Primary Project Manager Name:

Jill Burchell

Primary Project Manager Status:

Staff

Primary Project Manager Email:

jillb1@arizona.edu

Primary Project Manager Department

Housing and Residential Life

Secondary Project Manager

The Secondary Project Manager is the back-up for the Primary Project Manager if they are unable to complete any of the requirements of the Campus Sustainability Fund, particularly completing required reporting on project outcomes. Alternatively, the Secondary Project Manager could be co-facilitating the project with the Primary Project Manager should the proposal require or desire to have two Project Managers.

Secondary Project Manager Name:

Donald Van Pelt

Secondary Project Manager Email:

dvanpelt@arizona.edu

Secondary Project Manager Status:

Staff

Secondary Project Manager Department

Housing and Residential Life

Project Advisor Name:

Projects where the Primary and Secondary Project Manager are both students require the involvement of a staff or faculty member within project's Fiscal Officer's department. The Project Advisor contact must be a staff or faculty member within your department who is responsible for monitoring the project's budget, communicating with the Fiscal Officer, and reporting if both project managers are unavailable. Please ensure you have received consent from this individual to be the Project Advisor for your proposal and have informed them of your proposal's intent and budgetary needs. If this does not apply to you, type N/A for these responses.

{Empty}

Project Advisor Email:

{Empty}

Project Advisor Department:

{Empty}

Fiscal Officer:

The Fiscal Officer is a staff member within your department who is responsible for financial transactions and who will support reporting by pulling requested expenses against awarded funding and ensuring that funding is spent within awarded categories. Please coordinate with your department to properly identify an individual who is a designated Fiscal Officer. If awarded, this will be the individual who will help you access your project's funding. Please ensure you have received consent from this individual to be the Fiscal Officer for your proposal and have informed them of your proposal's intent and budgetary needs.

Melissa Hall

Fiscal Officer Email:

mshall@arizona.edu

Fiscal Officer Department Name:

Housing and Residential Life

Request Funding Amount:

\$45,500 (FY24), \$47,200 (FY25)

Official Project Name:

Please be specific but concise as this name will appear on reports and our website. Creativity is encouraged!

Cats Optimizing Recycling Education--CORE

Primary Project Category:

Waste

Secondary Project Category:

Campus Life (Health & Wellbeing, Behavior Change)

Background and Context:

Please provide any relevant background about your organization/team including your mission and/or expertise. Please also lay out the rationale for the proposed project, focusing on the issue that your project would address. This section is meant to give us more information about you and the context for the project, while the questions below provide space to go into detail about your proposal's specifics.

Response:

Housing and Residential Life was the first non-academic department at UArizona to hire a full-time sustainability professional. They began in 2007 and work in this area has only expanded in the years since. Housing currently employs the Senior Coordinator of Sustainability Operations and Initiatives, who has been in place since 2009. She works to expand sustainability education and operations in the dorms. The proposed project would be managed by that Coordinator, with the help of a graduate assistant, two student employees, and the cooperation of thousands of dorm residents. UArizona dorms house about 7,500 Wildcats annually. Unfortunately, recycling contamination is a major problem in our dorms. When the 2022-2023 school year began, Facilities Management was only sending about 20% of dorm recycling to be recycled because of contamination. With education, that number has improved but is nowhere near the high percentage sustainability advocates and campus recycling managers would hope for. Typically, about 85% of dorm residents are first-year students, so Housing starts from scratch every year trying to teach the new class how to recycle at UArizona. Housing's research indicates that there is genuine confusion about what can and cannot be recycled, especially regarding soft plastics. Because UArizona students come from across the country, informed by the unique recycling rules of their locale, many well-intentioned students believe they already know how to recycle properly. However, different recycling rules could mean those students are unintentionally contaminating entire bags of recycling. Housing has tried to better understand the contamination problem. Housing runs audits on recycling, trying to discover what people are doing wrong and address those specific issues with signage at the recycling bins. However, Housing has not had the capacity to lead any deep-dive research into how and why dorm residents recycle the way they do, or the most effective ways to influence that behavior. This proposal would create a graduate assistantship to thoroughly explore the recycling problems (and solutions) in the dorms. Housing needs to optimize its messaging to educate residents faster and more thoroughly, keeping fewer bags of recycling from ending up in the trash. If Housing cannot find a way to efficiently teach new students how to recycle properly, the future of the dorm recycling program is in jeopardy. This project is designed to better understand contamination and student recycling behavior in the dorms, then to use that information to make a well-informed, researched, and tested recycling education plan to be replicated annually. This information could also be used by other UArizona groups focused on campus messaging around recycling.

Project Description:

Please provide a thorough description and explanation of your project. Describe the objective(s) and what will be accomplished. Describe how each objective will be achieved (listed as steps or goals, with anticipated timeframes for each). Explain how the project will be implemented (who does what?). Finally, please identify the core goals of your project and how you will measure the degree of its success includes the metrics you will track to measure the success or impact of your project (e.g., number of kWh saved, gallons of water saved, number of student training hours, etc.). Responses are limited to 3,000 characters including spaces.

Response:

CORE seeks to understand campus recycling behavior and maximize educational interventions to ensure proper recycling.

Goals and Objectives

1. Understand dorm recycling contents/causes of contamination
 - a. Monitor recycling contents, logging contamination (weekly throughout the project)
2. Understand how/why students recycle in the dorms
 - a. Compile existing research about recycling behavior from other campuses, AASHE, and industry sources (Fall 23)
 - b. Host focus groups with dorm residents (throughout project)
 - c. Administer electronic and lobby surveys for dorm residents (throughout project)
3. Test effectiveness of various educational interventions for UArizona students
 - a. Provide and test the effectiveness of 1-on-1 recycling education to residents via previously implemented/anecdotally successful interventions like "dorm storms" and lobby tabling (throughout project)
 - b. Hang signage tailored to dorms' specific contamination issues and monitor effectiveness (throughout project)
 - c. Conduct other educational interventions (e.g., competitions, email campaigns, online games) and monitor effectiveness (throughout project)
4. Develop a researched and tested education/communications plan to be replicated annually
 - a. Develop electronic resources like Instagram campaigns and Tik Tok videos** (throughout project) **platforms subject to change based on University policy
 - b. Use what was learned from 1st year of the project to develop a new education/communications plan to teach proper recycling behavior (Spring 24)
 - c. Implement new plan and monitor changes in contamination levels (Fall 24)
 - d. Gather student feedback about new plan (Fall 24)
 - e. Revise education/communications plan and further develop replicable resources (Spring 25)

Roles

1. Graduate Assistant: CORE needs someone who is conceptualizing, creating, and managing the many threads of research that must be synthesized to create an original & revised education/communications plans. With 20 hours of dedicated time a week, the GA's understanding of recycling contamination will be fuller and Housing's interventions more successful.
2. Undergraduate Student Workers: Two students would be dedicated to collecting contamination data, changing signs to address specific issues, maintaining labels on the recycling bins, developing electronic resources, and conducting 1-on-1 recycling interventions. See supplemental materials for detailed job descriptions.

Measuring Success

1. The GA will use contamination data observed and recorded by undergrads as a measure of success/effectiveness (i.e., Does contamination % go down after interventions? How do overall contamination levels change over time?)
2. Contamination numbers (weights as estimated by FM) will also gauge program effectiveness (when recycling is recycled, not sent to landfill)
3. Success means more recycling gets recycled and creates a culture of sustainability at UArizona

Project Summary Snapshot:

Please provide a short summary of your project. This summary will be used on our new website and other Office of Sustainability materials, if approved. Think of this as a hyper-concentrated summary to capture your project's scope and impact..

Response:

Because of large recycling contamination problems in the dorms, Housing needs to optimize recycling messaging and interventions to educate residents faster and more thoroughly every year. Cats Optimizing Recycling Education (CORE) will begin by investigating Wildcat recycling behavior and motivations. Then, CORE will use research and 1-on-1 education to create and revise an education/communications plan with resources to be replicated annually for new residents. The

project goals are to decrease recycling contamination on campus, maximize the effectiveness of educational interventions, and create a culture of sustainability in UArizona.

Project Feasibility and Logistics:

Please provide a description of the work that has been completed so far to make this project feasible. Have all relevant partners been contacted/coordinated with? Have you received consent or authorization from relevant departments or offices to complete your project (Housing and Residence Life, Facilities Management, Parking and Transportation, etc.)? Please identify them in your response. For example, have you received reasonable quotes for supplies? What research has been completed to lay the foundation for this project?

Response:

Housing and Residential Life approved the concept of this proposal and supports adding extra employee positions for the next two years. In completing a student workspace renovation recently, Housing ensured there would be room for the additional student workers if this proposal were approved. Housing HR was contacted about the potential GA position, and they lent some advice in crafting this proposal.

If approved, Housing will distribute the job descriptions (provided in supplemental materials) along with hiring information (to be posted on Handshake) to various graduate programs to help recruit for the position. One potential avenue is social sciences, including education and psychology. Those students would be learning how to do research and assessment in their graduate programs, so research into behavior change would be relevant. Other potential recruiting streams are students in sustainability-related programs who might be interested in the waste diversion aspects of the project.

Housing has been researching dorm contamination for years. Though there has never been a comprehensive overview across time, there are multiple semesters worth of contamination data (by building) that can help jump start the research project. CORE is a vast expansion of Housing's current Waste Audit program. Because of this, Housing is only asking CSF for funding for one of the two undergraduate students. Housing currently pays a student with similar duties and will continue to fund that position. 10 hours a week of their time will be dedicated to CORE. All job duties will mirror the CORE undergraduate position, except they will have an additional 5 hours of work a week for Facilities projects. Housing will also provide \$1,800 in operational expenses related to labels and signage to supplement the grant operating budget. During the facilitation of the CORE grant, when consistency is important for valid data collection, the undergraduate staff will manage consistent and measurable 1-on-1 education with residents.

Once Housing tests the effectiveness of various 1-on-1 interventions, the goal is to transition those educational responsibilities over to the Eco-Reps organization. Through Eco-Reps, students from different buildings can work within existing Housing structures to facilitate educational interventions. Housing is attempting to revitalize this dorm student volunteer advocacy program and work with more students in future years. While accountability and consistency are paramount during the data collection and analysis period, Eco-Reps could implement any 1-on-1 education that proves to be effective in years to come.

Environmental Sustainability Outcomes:

Please provide a description of how you expect your project to advance environmental sustainability on campus. A definition of environmental sustainability is provided on our Resources webpage.

Response:

According to Stanford Recycling, recycling one ton of aluminum saves 14,000 kWh of energy, 40 barrels of oil, and 10 cubic yards of landfill space. Additionally, recycling one ton of office paper saves 4,100 kWh of energy, 9 barrels of oil, 60 pounds of air pollution, and 7,000 gallons of water. Recycling one ton of plastic saves 5,700 kWh of energy, 16 barrels of oil, and 30 cubic yards of landfill space. While UArizona does not collect weights on specific commodities, in Fall 2022, FM collected over 15 tons of recyclable material from UArizona dorms. As a direct result of students' recycling efforts, UArizona saved significant amounts of energy, oil, air pollution, water, and landfill space. While FM recycled 15 tons of material from the dorms, another 10 tons of material students attempted to recycle was thrown away because of contamination. When a recycling bin has too much contamination all the contents are trashed, even recyclable materials. If students could learn the right way to recycle more quickly, there would be tons of additional material being disposed of responsibly every year.

Additionally, while it cannot be specifically quantified, creating a culture of sustainability on campus likely encourages students to engage in other pro-environment behaviors. By setting the expectation that Wildcats recycle in the dorms, and teaching students how, that behavior transfers to other parts of the campus. Contamination rates in the Union or academic buildings could also decrease because of this education. Behaviors like energy conservation and ethical purchasing could also be impacted by encouraging a culture of sustainability on campus. Furthermore, items created for this project, like signage, can be replicated in other parts of campus as well. In fact, the GA would be encouraged to spearhead an effort to standardize the recycling signage across campus. None of the entities involved (FM, the Unions, Housing, Office of Sustainability, etc.) have come together to plan something comprehensive for campus. The GA in this position could take on that responsibility. Additional clarity around campus recycling leads to more environmental savings.

Social Sustainability Outcomes:

Please provide a description of how you expect your project to advance environmental sustainability on campus. A definition of social sustainability is provided on our Resources webpage.

Response:

While there is still debate about the topic, researchers find environmental concern varies based on everything from personality (Hopwood, Schwaba, & Bleidorn, 2021) to race and income (Guerrero, 2018). Unfortunately, access to environmental education remains inequitable. Therefore, it is UArizona's responsibility to provide all students with similar access to information. By initiating a large campaign across all dorms (at all price points) when students arrive, students with varied backgrounds in sustainability will all be given the same base-level understanding of how to recycle. UArizona students are very diverse and come into the University with different levels of engagement with sustainability topics. Many students come from out-of-state, or even out of the country. The different cultures students leave create, in part, the attitudes and awareness students bring to sustainability topics on campus. As a result, it is more important than ever that UArizona provides equitable opportunities for all students to engage with sustainability. This kind of large-scale campaign would allow for such education, no matter what a student's sustainability exposure prior to arrival on campus. Furthermore, UArizona and its' students have a responsibility to ethically manage the waste generated on campus. There are systems in place in Tucson to recycle material. However, if UArizona continues to throw away tons of recyclable material because of nearby contamination, they are not fulfilling their responsibilities as a leader in Arizona. As a land grant institution with a commitment to the state of Arizona, UArizona should be setting the example in Tucson. Because so many future AZ residents attend UArizona, the University can help push the entire state of Arizona closer to achieving sustainability goals. Arizona is a diverse state, including Tribal and Indigenous lands. Influencing and educating residents, as well as individuals who will return to out-of-state locations post-graduation, will have lasting impacts. To encourage diverse student participation with CORE, Housing Sustainability will send focus group recruitment to students in the various Living Learning Communities (LLC). Many of the LLCs are identity based and tied to various cultural centers on campus. By specifically reaching out to students who live in those communities, in addition to the large-scale promotion that will happen for all residents, hopefully the 4 different focus groups will have more diverse voices. Housing plans to recruit about 8-10 students per event. Focus groups should not be too large to ensure everyone's perspective has space to be shared. Diverse views on sustainability and consumption will be considered, such as Indigenous perspectives. Messaging around generating less waste, including how and why that's important from various perspectives and traditions, could supplement specific recycling how-to messaging.

Student Leadership & Involvement:

Please provide a description of how you expect your project to benefit students on campus regarding the creation of leadership opportunities or student engagement. What leadership opportunities exist within your proposal? If you plan to hire/ or involve students, please describe in what capacity. For example, if you plan to hire students, create an internship, or seek student involvement, please describe relevant details thoroughly (wages, responsibilities, duration of job, extent of involvement, how you will solicit/ market these opportunities etc.).

Response:

Each year, 7,500 students live in the dorms. Due to the replicable nature of this project, the hope is CORE's work will combine to impact tens of thousands of students over time. All types of people live on campus, from all types of backgrounds. Optimizing dorm recycling education levels, the playing field between different students and presents equal opportunities for students to learn pro-sustainability habits. Creating the CORE graduate assistantship will change the educational trajectory of one UArizona student. It may make education possible where it would not have been otherwise

accessible. Most graduate students seek assistantships or research fellowships to fund their education and provide hands-on education while they study. Because this project will last for two years, the length of many graduate programs, a student may be able to choose to come to UArizona instead of other schools.

The base graduate stipend is set at \$43,500. The project is a 40-week academic year appointment. There is no need to fund positions over summer when there are no students generating recycling. The GA will ask and answer various research questions related to recycling, contamination, and recycling education. While the Project Manager will have direct supervisory responsibilities, the GA will lead the undergrad students and tell them what needs to be initiated, recorded, taught, developed, and generated. The GA will be responsible for creating their own weekly agenda as well as setting the day-to-day responsibilities for the undergrads. The undergraduate positions will be for 10 hours a week, for 34 weeks in the year. The pay rate is \$15.00/hour. These students will have the opportunity to improve their interpersonal and 1-on-1 communication skills dramatically. Because these employees will be knocking on doors and sorting through recycling with residents, as well as talking with students while they walk through the lobbies, the undergrads will need to learn sharp communication skills quickly. These employees must practice confidence and leadership as part of their weekly duties. Recruiting for the undergraduate positions will happen in the same ways as previously described for the graduate assistantship. In addition to emailing related majors and schools, Housing would ask the Office of Sustainability and Students for Sustainability to share the positions (posted on Handshake) via their electronic channels as well. The RAs, DAs, RHA/hall council students, and Eco-Reps will all be a part of educational interventions through the Residential Curriculum. Whether through a large-scale recycling competition, lobby programming, bulletin boards, or other events, these student leaders will help educate and influence dorm residents at the same time as the CORE staff. Trying to reach students through these existing structures may better help disseminate information, even to people who might be resistant to the message.

Education, Outreach, and Behavior Change:

What opportunities does this project provide for members of the campus/ community to learn about sustainability? How will your project educate the campus community and/or incorporate outreach and behavior change? How are you reaching beyond the "sustainability choir?" Please provide a description of how you expect your project will communicate its impacts to the campus community. What is your plan for publicizing your project on campus? How visible and accessible will your project be to the general campus population?

Response:

Education, outreach, and behavior change are the heart of the CORE project. This program will educate about 15,000 students during the two years of funding, with additional years of impact expected. Initiatives will be posted throughout every dorm, available to all residents (regardless of sustainability interest or experience). Labels and signage will be hung at all of Housing's indoor and outdoor recycling locations. There is at least one collection location at every building. Additionally, 1-on-1 education will be spread across all dorms, focusing on the buildings with the most contamination first. First-year students are often overwhelmed by the transition to college. The hope is that by surrounding residents with regular and comprehensive recycling education throughout the fall semester (e.g., students will compete against other dorms in a new version of Recycle Mania, be sent electronic materials, see posters and bulletin boards, have sustainability-themed events, have social media engagement, 1-on-1 education, and more), students can take in the information in the best way for them. By providing various types of opportunities, from events to conversations, diverse students with various learning styles can be engaged. That includes providing so much information that even the most distracted residents take notice. Part of the budget includes money to incentivize participation in focus groups (with food). This will encourage various types of students to participate, instead of only students who are already interested in sustainability. It will be important to talk with students who are not regular recyclers to fully understand the problem and gauge the effectiveness of solutions. Students will be recruited electronically using Housing's pre-existing channels. Additionally, the GA will be tasked with leading an effort to standardize recycling signage across campus using the information they learned in the first year of the project. The goal would be for all recycling container labels, whether in the dorms, the Unions, or academic buildings, to match and be readily identifiable. While creating standardized campus recycling bins is a long-term project outside the scope of CORE, creating standardized signage may be more possible in the near term. This would expand exposure to CORE's messages, potentially becoming available to all UArizona Wildcats, not just dorm residents.

Timeline:

Please describe the timeline of your project. The timeline may be estimations at the point of this Preliminary Application but providing this is especially important if your project is a time-sensitive event. Funds may not be used as reimbursement for projects already completed, therefore a realistic amount of lead time should be given in order for proposals to be eligible for

review. Please describe when your project will take place, key dates for when certain elements must start or be completed by, or any other known dates. Timeline extensions will be granted on a case-by-case and limited basis.

Response:

If approved, work will begin on this project at the end of Spring 23 semester. The Project Manager will finalize job descriptions and other HR documents to hire the GA and undergraduate students over the summer. Work would begin with the three student employees at the beginning of the Fall 23 semester. The first part of the project will allow the GA to research recycling behavior and attitudes, becoming the on-campus contamination expert. Undergrads will begin 1-on-1 education in addition to collecting data and maintaining recycling locations. Moving into Spring 24, work will transition from trying to understand the problem to trying to develop solutions. Students will test the effectiveness of various educational initiatives. By the end of Spring 24, the GA will have produced an education/communications plan to be implemented in the fall. In Fall 24, the plan will be put into place and monitored for effectiveness. Student feedback will be solicited. Contamination will be monitored. Additional 1-on-1 education will be utilized. By Spring 25, the GA will revise the education/communications plan based on everything they have learned. They will work with the undergraduates and Housing Marketing to create replicable resources, like signage, labels, and electronic campaigns, to be used moving forward. Housing will implement various educational initiatives throughout the fall like a dorm vs. dorm recycling competition, contamination quiz, and more as part of the Residential Curriculum. The CORE grant and the Residential Curriculum will happen simultaneously and hopefully have a cumulative positive effect. The GA will be able to use data from all the various types of interventions, including the Residential Curriculum implemented by staff and volunteers outside the CORE project, to create the education/communications plan at the end of each year. Success will be evident by decreasing rates of contamination in the dorms every year. Housing hopes for a sharp decrease throughout the fall and to maintain a lower level of contamination throughout the spring semester. Housing also hopes to see the weight of contaminated recycling collected (and thrown away) by FM decrease across the semester, year, and project as well.