

Greenhouse Grant Proposal
Pikes Peak Community College-
Rampart Range
English 122.129
Service Learning
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Executive Summary

Pikes Peak Community College Rampart Range lacks significant efforts towards sustainability. There has been evidence of projects to promote positive, environmental action, however, the inclusive student population ranges immensely between each Pikes Peak College Campus. Rampart Range struggles to provide fresh produce to students that rely on the community table for nourishment. This grant proposal will entail evidence on the history and current situation plaguing Rampart Range campus population.

Students are challenging the lack of change and pursuing the motion to bring Pikes Peak Community College deeper into the world of sustainability and health. As you read further, you will notice the request for a greenhouse at Rampart Range is vital to the prosperity of PPCC and the surrounding community.

Key Club is a service program dedicated to supporting and fostering the community. Denizens of Pikes Peak Community College are excited to develop a key club organization through the Rampart campus and eagerly await the opportunity to begin service projects such as the greenhouse proposed in this document.

The philanthropic idea to promote environmental and social health stemmed from the community garden maintained at the Centennial campus. Our inspiration also branches off of local and international charitable happenings, such as those commended by Kiwanis International and the Walmart Foundation.

Pikes Peak Community College Rampart Range Key Club addresses the approximal, total cost of the greenhouse to be upwards of four thousand dollars, so they request \$5,000 to construct and care for the greenhouse. Funds dedicated to the greenhouse will prove to strengthen the community. While the priority is steady on enhancing student food security, the greenhouse project also serves to provide further educational opportunities to the student population. Use of said funds are outlined and detailed in the “budget” portion of this proposal.

If PPCC Rampart Range Key Club is awarded the grant money, production of the greenhouse will begin immediately in the new year of 2020. For years to come, the greenhouse will be the responsibility of the key club and any other volunteer who so choose.

Introduction

Under the inspiration of community service programs, Pikes Peak Community College moves to enact a community outreach club at Rampart Range Campus. Our first project entails the creation of a greenhouse to provide fresh produce to the Rampart Range Community Table, Food Pantry. We are requesting five thousand dollars to make and maintain the greenhouse. With the help of students, staff, and volunteers, we will enact the first of many projects to aid our environment and promote sustainability at Pikes Peak Community College.

Organization Description and History

The organization and history of an institution, organization, or company can reveal plenty of information about them as far as who they are. Walmart and Kiwanis International are both organizations with a long past of philanthropy. Key club will be instated at Pikes Peak Community College under the inspiration of these establishments.

Kiwanis is a nonprofit organization with 550,000 members across 80 countries under its belt. They are an organization formed by many different people, diverse in age, with a mission to help improve the lives of children around the world, in their words: “thousands serving millions.”

Formed in 1915 in Detroit, Michigan with a focus on business networking, Kiwanis International had a motto of “We Build.” They eventually changed their focus to service, mainly emphasized toward children, and their motto changed officially in 2005 to “Serving the children of the world.” They have an evident impact on the world through 18 million hours of service every year from their combined branches. Through Kiwanis, good projects are fulfilled by funding from good people and companies and through institutions like Pikes Peak Community College.

Pikes Peak Community College got its start in 1968 when it was established under the name of El Paso Community College. Back then, it only offered three associate degrees. Around 800 students operated from rented buildings in Old Colorado City. 17 associate degrees and 70 certificates were awarded in April 1970 when the first graduation was held in Bancroft Park.

It was evident that permanent facilities were desperately needed as student enrollment skyrocketed. 212 acres of land north of Fort Carson was declared as surplus by the federal government in 1973 and on February 15th 1974, the deed of the site was transferred to the State Board for Community Colleges and Occupational Education and was designated for the use of El Paso Community College. 1978 saw the College Council implement the name to the current Pikes Peak Community College and the first permanent facility, Centennial Campus, was built.

The 1970’s continued to see a tremendous increase in the student population. The decade also saw the establishment of the college’s radio station, the arrival and departure of college-associated sports teams, and the establishment of El Paso International Community College over in Germany.

A further increase in the enrollment of students caused several new facilities to be built: the Downtown Studio Campus in 1986, the Rampart Range Campus in 1998, and the Falcon

Campus in 2008. Education centers were also built on the Air Force Academy, Fort Carson, and Peterson Air Force Bases.

The student population of Pikes Peak Community College approximates to 18,604 students. 57 percent of the students are female, 43 percent male. 68 percent of students are part-time while the remaining 32 percent are full-time. 25 percent are military students and 35 percent are ethnic minorities. 52 percent of graduating classes are awarded certificates and 48 percent are awarded degrees. The average age of students is 26 years old.

To serve such a diverse population of students, Pikes Peak Community College offers more than 150 degree and certificate programs- a far cry from the three it offered more than half a century ago- and contributes more than \$390 million annually to the local economy.

Pikes Peak Community College seeks to fulfill its vision of seeing students succeed through its mission of providing quality educational opportunities with an emphasis on community needs and student success to include the following: occupational programs including certificates and associate degrees, two year programs that transfer to public, four-year universities, and a broad range of technical, career, and personal education for adults. Staying true to its roots, the college values a community based on diversity, mutual respect, and learning.

Pikes Peak Community College has an Office of Sustainability headed by director: Konrad Schlarbaum. The office, funded by the Green Campus Fee charged to all students, is located on Centennial Campus and encourages a lifestyle that saves money, benefits the environment, and improves an individual's wellbeing. The sustainability department provides community service opportunities, programs, and activities for the diverse student population. The office also established over the years the community garden, water bottle filling stations, hydroponics demonstration, solar picnic tables, and a recycling system- which is evident throughout Pikes Peak Community College campuses.

The water bottle filling stations have collectively saved over 1.3 million disposable water bottles from going into local landfills. This has translated to an estimated savings of \$2.3 million. The recycling program, funded by the Colorado Department of Public Health and Environment and the PPCC Pilot Program, continues to expand the college's capacity for reusable materials and reduce the human impact on the environment. The solar picnic tables located on Rampart Range and Centennial Campuses, use solar energy to provide clean electricity for charging electronic devices.

The garden holds two purposes: to provide fresh produce for students and staff, as well as shading outside areas in the hot, summer months. The student bus pass, allows PPCC students to ride city buses for free. Previously, students used to have to pay over \$60 for a 31-day pass or over \$700 a year. The hydroponics program uses nutrient-rich water to feed plants, as opposed to traditional soil, and also allows plants to absorb nutrients more efficiently. An example of a project using this concept includes the following story published by the student newspaper in February of 2018.

“A garden that is above ground and 100 percent soil free was set up in the Culinary Arts Department kitchen to provide fresh herbs and greens to be used in the cooking classes. The plants are fed with nutrient-rich water to their roots via a hose system that activates every 15 minutes. ‘It has been a very successful pilot project and we are ready to start building our Living

Wall in the common area on campus in March,' reported Chef Richard Carpenter, one of the co-chairs of the department. 'We got a lot of help and advice from the people at Roots and Rocks Hydroponic and Organic Gardening Center'. The plants are monitored daily for algae and pests by students in addition to monitoring and adjusting the pH levels as needed. The garden is enough to provide produce not only for culinary arts students, but also for the school food pantry as well."

Another example of sustainability can be found in a news story published in July of 2019. Over the 2018-2019 school year, Pikes Peak Community College saved its students over \$400,000 on textbooks with Open Education Resources. PPCC received \$40,000 out of an estimated \$550,000 grant from the Colorado Department of Education awarded to state colleges and universities to help fund these OER's. The Open Education Resources not only benefit students by saving them money, but faculty as well, enabling them to tailor their lesson plans to better fit their own respective subjects and teaching styles. "We've tripled the amount of OER courses offered this academic year and will be saving students \$2 million in textbook costs," reported Marc Nash, PPCC's OER Specialist and Coordinator. The resources, which are digitally formatted, publicly accessible, and openly licensed, can easily be shared, adapted, and freely used and can even be accessed in print form.

The office isn't just involved with the school, but the greater community as a whole. For instance, the office participates in Creek Week Cleanup: the largest watershed trash cleanup in the state. Every year, students from Pikes Peak Community College along with several dozen other volunteers go to Monument Creek and pick up all trash in sight, building friendships and bettering the area in the process.

Pikes Peak Community College hosts the Pikes Peak Children's Water Festival every year: an event where over 800 4th graders from District 11 gather to learn about pollution, wildlife, and water in a fun educational setting. The sustainability coordinator also attends a monthly event hosted by the Peak Alliance for a Sustainable Future and serves as the board chair for the Green Cities Coalition.

The events and programs hosted by the Office of Sustainability have made tremendous impacts on the lives of students. "There is something about being a part of the global environmental movement that just feels right. When you become aware of how the planet is being affected and begin to observe how society contributes to these effects, you begin to wonder, 'Is this the right path for us?' We are the only species capable of protecting the planet for generations to come. Someone has to fight for it!" said Brendon Kaminski.

Student Ryan Jones said, "Out of my 29 years of life, I have seen many good ideas fall to the way side despite the fact that would have had a great impact on our everyday lives. However, sustainable living stands apart. It is certainly one of those ideas that I am grateful to have learned about and have adopted into my own life style. I have not only witnessed the saving of hundreds of thousands of dollars a year by reusing the resources around us, but it also feels cleaner to live in a space with less clutter and trash. Learning from the Office of Sustainability here at PPCC has helped me pay for college, support my family, and plan for the future as I look to steward my assets and mentalities to preserve a holistic approach to every area of life!"

Another student by the name of Robert Wiggins stated, "I believe three things matter in life philosophy, politics, and the environment. All three correlate and that is understood by the

sustainability department. I have been influenced to think more about environmental impact as I see those recycle bins that line our school's halls. The events that sustainability puts on for the students, community, and partners are always seeking to improve our understanding of our daily impact on our environment. Thank you, sustainability, for practicing philosophy, politics, and preserving our environment into one!"

Despite this praise from students, despite the efforts from Pikes Peak Community College's Office of Sustainability, it is not enough. Arguably one of the most crucial programs, the community garden, is only confined to one campus. If we received a grant from Walmart, results similar to those seen at Centennial Campus could be replicated right here at the Rampart Range Campus.

Current Situation

When looking for a company who is reliably aggressive in the fight for sustainability, it's good to have solid numbers and history to look at to back up their claims. Walmart does so in their grant offers to other companies with shared goals. In 2018, they committed to \$1.5 million to organizations that help with reduction in food waste, sustainability, and to help strengthen food banks in Canada.

These companies should be looking to do three things, the first of which is prevention, specifically the prevention of food waste. In this scenario, using products that have a longer shelf life or have more recyclable parts is beneficial. Relying on materials that can't be recycled creates a surge in products ending up in landfills, rivers and oceans. If products can rely on items that can reduce this effect, they are working towards prevention and an overall betterment of our planet.

Second is the redistribution of food. A good example of this is companies like food banks. Restaurants or grocery stores that have food items which are not to sell anymore or aren't considered fresh by the store often gives these items to soup kitchens for free. This allows for accessible source of food to those who are less fortunate while at the same time reduces the amount of food thrown away and not used, a huge boost in efficiency.

Third is recycling or repurposing. Taking that which can be used again and doing so. An example would be cardboard items. Most of these items can be reduced and reused almost exactly as they were originally. Any situation which this is available is preferable. Once again it allows for less trash in landfills, rivers and oceans and a higher rate in efficiency. Overall, what Walmart is looking for are people who are willing to make a difference in their communities and the planet on which they live. Pushing for not only the sustainability of the planet, but the sustainability of our communities and those around us.

Out of the grants that were listed by Walmart, recycling best benefits our proposal. Preventing poverty in the student body is what we long for, but it is near impossible. In which case diminishing hunger and teaching students at the same time would be our most obtainable subject.

While we teach students how to care for a greenhouse and grow vegetables, we would also be able to feed students at the same time.

Home to 20,000 students across the three campuses (PPCC About), Pikes Peak Community College is the second biggest college in El Paso County of Colorado Springs (Hidalgo). With a student body as big as PPCC's, the ecological impact would be detrimental to the surrounding Pikes Peak region if nothing was done to reduce the impact. Constantly striving to be self-sustainable and as green as possible, PPCC has implemented various programs to reduce the ecological footprint of the student body.

Some of those programs include refillable water bottle stations to reduce plastic waste, solar energy picnic tables to charge students devices, and a recycling initiative to reduce the outgoing waste of the three campuses. PPCC also deems it important to make sure no student goes without eating by providing food pantries on every campus. The Centennial campus at PPCC has The Community Table which provides fresh, refrigerated, and canned food. The Downtown Studio and Rampart Range campuses have satellite pantries that only provide non-perishable goods. Through the help of volunteers, the PPCC Cares initiative has served 13,357 people in need by providing 139,786 pounds of donated food (PPCC Cares). Since the Centennial campus's food pantry is the only one providing fresh produce, a greenhouse at the Rampart Range campus would provide locally-grown fresh produce for the food pantry to help students eat healthier and ultimately feel better.

The Centennial campus community garden is maintained by the sustainability club and coordinator, Konrad Schlarbaum. In an interview with Schlarbaum, he states the community garden was started and maintained by the Culinary Arts Program. He mentioned when he started his position as sustainability coordinator in 2013, the garden was his main inspiration to teach students where their food comes from. He also mentioned he hoped to inspire students to start their own gardens to teach self-sustainability amongst the student population. In doing so, teaching sustainability methods would directly benefit both the Zookeeping and Culinary Arts Department.

PPCC offers many courses that could utilize the hands-on experience a greenhouse would provide. Natural science classes such as AGY 240 at PPCC could use the greenhouse to learn "chemical properties and management of soils emphasizing conditions that affect plant growth" (PPCC 2019-2020 Catalog). With students being able to learn firsthand about soil management, they would be more competent in pursuing a career in that field.

Another area of study that could utilize a greenhouse on campus is sustainability and dietary cuisine. A key principle of this degree is "understanding farm to fork principles and techniques" (PPCC Degree & Certificate Options). Students that learn how to pick and prepare various vegetables to create culinary dishes will have a greater understanding of the process and will, in turn, be more competent going into their future career.

With many classes able to utilize a greenhouse, there would be virtually no rigorous upkeep since multiple classes would be tending to the sustainability of the greenhouse at all times. The educational benefits of a greenhouse on campus does not end there, the possibilities for future classes and hands-on learning are endless.

In an interview with Mr. Schlarbaum, he states “I have a modest budget that I use to maintain the garden. Since I don’t pay for water, it doesn’t cost me anything in a month. However, I do have to pay for plants, mulch, and compost at the beginning of the growing season in May. I would say it is about \$500 per year for the small Sustainability Garden at the Centennial Campus.” For that small amount of money, we can contribute to ending hunger in the student body.

It is a running joke that college students survive off ramen and peanut butter and jelly sandwiches, but national studies show that more students are going without eating because they simply cannot afford it. A survey by researchers at *Temple University* and the *Wisconsin HOPE Lab* was released showing “more than a third of students are struggling with basic needs such as food and housing” (Hess). With the annual rising cost of tuition, students are having to put more money towards school which leaves them with less money to live a healthy life. Although PPCC is affordable compared to other schools in the Pikes Peak region, with an average cost of “\$9,382 after aid,” some students still struggle to make ends meet (US Department of Education).

A greenhouse at the Rampart Range Campus of PPCC would be a beneficial sustainability project that would contribute to learning and help eliminate the hunger of students on campus. Even after the greenhouse is finished it will keep providing for future college students who attend PPCC. With future generations able to utilize a greenhouse, the need for one is important now more than ever. As time progresses, the greenhouse will only get better and it will be positively impacting all parties involved with it.

PHASE 1



*Rampart Range Campus has two potential locations for the greenhouse. In the image above, the land available between the T Building(left) and the Western wing of the main structure(right) is visible. The South Eastern area behind the main building(right) also offers a useful plot of accessible land.

Project Plan

Abstract

At Rampart Range Campus, we are looking to have a fully sustainable greenhouse. With a poverty rate of 12.8% in the city of Colorado Springs, we are looking to find ways to aid that group in our community. Through funding, which we're asking from Walmart, our goal is to have a small but decent sized green-house that we can use to grow produce. This will be given out at food drives held by the school outreach program. To have a program to run this through the school, we are looking to start a key club, a branch of Kiwanis International, as a guide. The project is looking to be started as of January 2020 and finishing in February 2020. The risks and obstacles

Statement of Need

The Population of Colorado Springs, CO. is 464,470 with a poverty level at 12.8% within the community. The average age of people living with the highest poverty rates would be between the ages of 18 - 34 years old. This is where we aim to make change, we want to have a community greenhouse here at Pikes Peak Community College to aid that 12.8% of the population. We are looking to gain funding from Walmart, who has been funding smaller and larger groups/companies. Our proposal is seeking for \$5,000 which is enough to get a 10x12ft. Greenhouse, this is too accommodate for supplies needed to grow produce and for any precautions that may come around in the process.

Description

Pikes Peak Community College has three different campuses, one of which (Centennial) has a community garden that grows produce that is given out to those in the community that is in need. Here at Rampart Range campus, we are seeking to gain funding to begin the process of having a greenhouse built, to maintain sustainability along with providing better and fresh produce to the community. Here at PPCC, we have community outreach programs that aid those in our surrounding community affected by poverty and are in need. Through that program is where food, water, and other needs are given out free of charge; If we are to add a greenhouse to this campus, we can provide families with fresh and healthy food. When the greenhouse is done we plan on maintaining a sustainable growth system, we will measure our success starting with the acceptance of our grant, following with the approval and startup on the greenhouse, finally to reach our final goal of having a full sustainable greenhouse that will help provide to the 12.8% of Colorado Springs that are living in poverty. To start the process, we have set to have the group now founded as a Key club through Kiwanis International, will gather and begin ordering the parts and getting the plans ready to begin operation. The following week will consist of beginning the building of the greenhouse, that is if the required parts are delivered and we have what is needed. We have the desired outcome to have all the supplies needed to begin construction and have it done within the second week.

Risks & Obstacles

Risks and obstacles will be encountered along the road that will harm or damage the greenhouse. Some examples could be weather damages from storms to cold weather, they could damage the wellbeing of all the plants inside. The equipment inside needs to be checked to insure they aren't faulty. The structure of the greenhouse is fundamental and a collapse is the biggest obstacle that we can face, it ruins the entire program and funding will need to be ensured to have it rebuilt. The seasonal cycle is something that is needed to be looked at so we don't plant the wrong crops in the wrong season. It will be a waste and the plants will not survive. To ensure that the plants are healthy and grow properly we need to maintain warmth and ventilation, to do so we can place heating units, compost, or horticultural fleece; there are some common and affordable ways to keep the greenhouse warm in the cold season. Another big issue to the plants themselves is that we keep pests away from the produce and prevent disease to the plants, this could affect future growth and soil.

Solutions

- IF there are leftover funds, or we receive more than we are asking, the remaining amount will be allocated to damage repair or emergent situations.
- Compost for heat
- Paint Greenhouse black (not recommended)
- Bubble Wrap
- Small heating units (electrical would need to be connected)
- Horticultural Fleece
- Ventilation units to prevent disease and keep produce healthy

Goals

Our overall goal is to reach a sustainable green-house that can produce for our community. We want to help those who are not able to afford groceries and food for themselves or family.

Some of our smaller goals are through the duration of the project:

- Founding a club to run the greenhouse
- Making sure the area we choose is suitable for growing
- Receiving funding

After funding is provided, we look to order all material needed

After all material is ordered and construction of the green-house is finished all goals that follow include having a club that is looking to keep the green-house running. Making sure we don't have diseased plants or spoiled produce and making sure we can sustain heat and warmth throughout the cold seasons. Along with the necessary steps it takes to make sure we can have a garden (greenhouse) that can run for many years to come, and can be expanded through the school to bring better and more to the people of Colorado Springs.

Budget

Budget Timeline

- 23 January 2020
 - o This is the day of the first meeting for Key Club at PPCC. All pieces for the greenhouse will be ordered on this day.
- 6 February 2020
 - o Construction of the greenhouse begins. This day marks the second Key Club meeting at PPCC. It is expected that materials for the greenhouse will arrive before this date. However, construction starting on the 6th and following the rest of this timeline will be dependent on materials arriving before the second Key Club meeting. Construction will be completed by members of the Key Club and any other volunteers that wish to join.

- 13 February 2020
 - o Construction of the greenhouse is to be complete by this day. It is expected that construction will be done before this day, and the 13th is acting as a deadline for construction to be completed.
- 13-19 February 2020
 - o It is during this week in which the greenhouse will be outfitted with lights, containers for the plants, the irrigation system, and any other materials that need to be added before the greenhouse is filled with plants and is deemed ready for operation.
- 20 February 2020
 - o The greenhouse will be stocked with plants and seeds on this day. As of the 20th, the greenhouse will be fully operational.
- 21 February 2020 – Unknown Date
 - o The greenhouse will be maintained daily by members of the Key Club for an unspecified amount of time as we plan on the greenhouse being functional for multiple years to come. This will be done to ensure a consistent yield of fruitful and thriving vegetation for the community for as long as possible.

Budget Table

Expenditure Category:	Total:
Enclosed Garden – 10ft x 12ft Green House Vents	\$629.99
Cold Frame	\$30-100
Outdoor Greenhouse Basic Metal and Plastic Structure	\$500-2,500
Greenhouse Kits	\$300-500
Heaters	\$113-228
Cooling Fan	\$10-50
Shade Cloth or Roller Shades	\$25-100
Plants	\$25-150
Lights	\$524.00
Gardening Equipment	\$10-25
Irrigation System	\$44.37
Total:	\$2,211.36-4,911.36

Timeline

Project Timeline

Activity:	Months 1-12, 2020
Getting the funding _____	1
Receiving the money _____	1
Availability of water & electricity _____	1-12
Confirm club with school _____	1
Get program director for greenhouse _____	1-2
Train program director for greenhouse _____	1-2
Get students to help _____	2-3
Start construction/ building _____	3-4
Start planting _____	4-6