



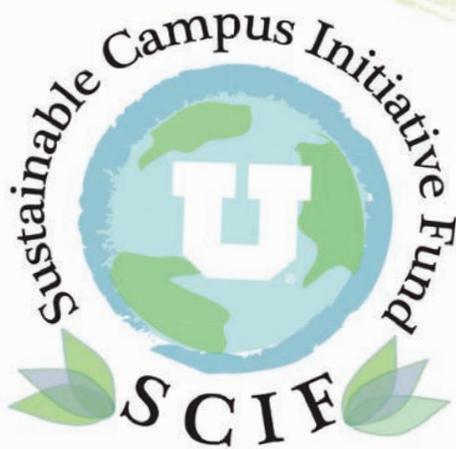
OFFICE OF SUSTAINABILITY
THE UNIVERSITY OF UTAH

Working for a

GREENER U

Fall 2009 - Spring 2010

Sustainable Campus
Initiative Fund Approved
Projects Report



Making a difference through sustainability



Sustainable Campus Initiative Fund

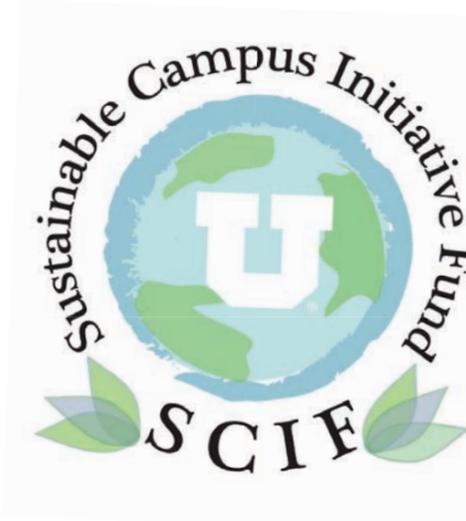
"The SCIF rain gardens around the Meldrum Civil Engineering Building are truly examples of engineering education to practice. The development of these self sustaining landscapes was a challenge for the students, but the construction of the gardens was an even better learning experience. The rain gardens with their real-time monitoring system become long term experiments for generations of students and excellent examples of service learning at the University of Utah. The initiative of the students and the resources of the Sustainable Campus Initiative Fund made this project possible."

Dr. Paul Tikalsky
Professor and Chair,
Department of Civil and Environmental Engineering

The Sustainable Campus Initiative Fund, also known as SCIF, oversees competitive grants for student projects focused on sustainability education and energy efficiency at the University of Utah. SCIF's mission is to provide funding for real-world projects that improve the University of Utah's environmental quality and make the campus more sustainable.

SCIF is rooted in student's engagement with environmental issues. University of Utah students voted overwhelmingly in favor of the student driven campaign to pay \$2.50 of their tuition each semester into SCIF. This popular program gives every student the opportunity to apply for a grant to plan and implement a sustainability project on campus.

Since the program's inception in January 2010, SCIF has funded 15 innovative projects detailed in this report.



Campus Gardens Project Profile

"The campus gardens promote the possibilities of Urban Agriculture as a viable way of creating a sustainable future for an increasingly urbanized world."
-Alexandra Parvaz



Project Executives

Alexandra Parvaz, Graduate Student In Environmental Science, Project Executive

Maia Taylor, Senior In Environmental Studies, Project Executive

Fred Montague, Biology Professor, Project Advisor

Jen Colby, University Sustainability Coordinator, Project Advisor

Community Partners



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Local and fresh produce grown by students for the University community.

Project Overview

The campus gardens offer a wide variety of opportunities for students across campus to be involved in sustainable practices. The two gardens provide organic food and are working towards year-round harvesting.

Location: Sill Center and Pioneer Garden

Impact

The campus gardens produce organic food that can be used in campus dining facilities, as well as sold at the University Farmers Market. The campus gardens provide educational opportunities and foster a sense of community.

Budget

\$3,000

The money funded garden supplies such as compost bins, shovels and seeds.



About SCIF

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Approved Fall 2009



Greening The Chemistry Lab Project Profile

Conserving water to run more efficient chemistry labs.

Project Overview

The goal of this project was to minimize the amount of water needlessly wasted in organic chemistry teaching laboratories. The lab replaced wasteful rotary evaporators that cooled vapor with coiled water condensers to dry ice condensers. They also replaced the water aspirators with a vacuum pump.

Location: Henry Eyring Building, 85

Impact

By replacing the current rotary evaporators with the new rotary evaporators equipped with dry ice condensers the lab will be saving nearly 90,000 gallons of water every year. Over 500 students per semester will use this equipment.

Budget

\$9,000

The money funded rotary evaporators and vacuum pumps that were more cost and energy efficient.



Old water aspirator, wasting nearly 90,000 gallons of water per year



Old system



New pump

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"The benefits of this water saving project will be shared with the classes and will help to educate many future scientists about the options we have available to us to minimize our environmental impact."

-Holly Sebahar



New system

Project Executives

Elizabeth Wittenborn, Junior In Chemistry, Project Executive

Holly Sebahar, Assistant Professor In Chemistry, Project Advisor

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DEPARTMENT OF CHEMISTRY
THE UNIVERSITY OF UTAH



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"This project is a simple way to raise funds and awareness in an environmentally - friendly way."
-Nathan Nelson



Project Executives

Nathan Nelson, Freshman In Atmospheric Sciences, Project Executive

Shirlyne Qualye, Director Of The Sorenson Center, Project Advisor

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**THE PIERRE LASSONDE
ENTREPRENEUR CENTER**
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Sell T-Shirts to spread environmental awareness on campus.

Project Overview

This project will sell 100% organic and recycled t-shirts with friendly reminders, symbols and messages on them to raise awareness. The t-shirts will be made by a local company and sold to the University community and Salt Lake City area. The project will also increase student involvement through a student t-shirt graphics competition.

Location: Campus-Wide

Impact

The Green Tees will help educate individuals to become more aware of how they might be able to make a difference in the environment. The product will be produced in a completely eco-friendly manner and will be self-sustained economically. The project goal is to create a profit to benefit other sustainability projects and research on campus.

Budget

\$1,500
The money funded the organic t-shirts and labor involved in producing the green tees.



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Experimental irrigation systems used on campus to help conserve water and research irrigation methods.

Project Overview

This project will install three experimental irrigation systems to measure water and labor requirements. The project will demonstrate the water and cost-saving potential for installing rain gardens. Three irrigation systems, traditional Native American Ollas, a modern drip system, and an innovative capilene drip system will be installed. Each system will have similar native vegetation planted.

Location: Entrance to newly remodeled Meldrum Building, 61

Impact

If implemented campus-wide, Ollas could provide a means to reduce materials and cost as well as labor costs and installation time associated with installing rain gardens and xeri-scaping. Water-use and maintenace efforts will also be reduced during the establishment phase of the gardens by elimination the traditional irrigation system.

Budget

\$10,000
The money funded irrigation systems, rocks, vegetation, clean up, and landscaping.



Student working on the installation of the garden.



Dasch Houdeshel installing a Hobo soil monitor.

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"Rain gardens are a sustainable way to reduce run-off and provide a source of irrigation water to replace the use of culinary sources for irrigation."
-Dasch Houdeshel



Project Executives

Thomas Walsh, Environmental Engineering Graduate Student, Project Executive

Dasch Houdeshel, Engineering PhD Candidate, Project Executive

Dr. Steve Burian, Professor Of Civil And Environmental Engineering, Project Advisor

Dr. Christine Pomeroy, Professor Of Civil And Environmental Engineering, Project Advisor

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COLLEGE OF ENGINEERING
THE UNIVERSITY OF UTAH



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"At its heart, this is a community engagement project."
-Carol Werner



Project Executives

Carol Werner, Professor In Psychology, Project Executive And Advisor

Community Partners

College of **SOCIAL AND BEHAVIORAL SCIENCE**
THE UNIVERSITY OF UTAH



Saving energy through teaching behavior change.

Project Overview

The purpose of this project is to actively engage university students in turning off classroom lights in empty rooms. Research Assistants monitored classrooms of students that had and had not been given a presentation about turning off lights to save energy. The research will determine the best way to deliver the lights out message.

Location: Orson Spensor Hall, Social Behavior Science Building and Social Work Building

Impact

If all classrooms turn off lights for an additional 3 hours a day, the University will save over \$120,000 per year in energy consumption. This project also aims to impact all students to keep lights off in empty rooms.

Budget

\$3,300

Funds paid for undergraduate research assistants to observe classrooms twice daily and enter the data for analyses, as well as, basic supplies for presentations and signs.



About SCIF

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A traveling exhibition of how to retrofit a building to be carbon neutral.

Project Overview

The College of Architecture and Planning is retrofitting a 40-year old structure to be net zero. The project will realize cost benefit, generate new knowledge and awareness about renewable energy, and provide a living demonstration project for aging institutional facilities. The project will also provide a living laboratory for students and faculty to experiment with and learn about sustainable technologies first hand. The research will be gathered and presented as a traveling exhibition.

Location: College of Architecture and Planning

Impact

The research from this project will be integrated into three major initiatives that will have significant impact on the College's current use of energy and its proposed net zero retrofit including: a commissioned energy model of the building, a formal faculty study of the building, and the construction of a PV solar array adjacent to the building.

Budget

\$6,000

The money funded materials, publishing and printing for the Net Zero exhibition.



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"The goal is to have participating students prepare and assemble an informative, traveling net zero exhibition that will be exhibited at sites on the University of Utah campus as well as other universities in Utah and beyond."

-Joerg Ruegamer



Project Executives

Joerg Ruegamer, Assistant Professor, Project Executive

Brenda Scheer, Dean Of The College Of Architecture and Planning, Project Advisor

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COLLEGE OF ENGINEERING
THE UNIVERSITY OF UTAH



Campus Rain Garden Project Profile

"It's designed to store rainwater, as opposed to letting it go to the storm water conveyance system. It's allowing it to infiltrate, be stored, and then used by the plants and recharges the ground water."
-Thomas Walsh



Project Executives

Thomas Walsh, Environmental Engineering Graduate Student, Project Executive

Dasch Houdeshel, Engineering PhD Candidate, Project Executive

Dr. Steve Burian, Professor Of Civil And Environmental Engineering, Project Advisor

Dr. Christine Pomeroy, Professor Of Civil And Environmental Engineering, Project Advisor

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Innovative irrigation system to be a catalyst for future ground management projects.

Project Overview

Students designed and constructed a bio-retention garden featuring drought-resistant, native plant species, which will pool rain water, store it underground and re-channel it for better use to help alleviate the burden of the University's current irrigation system.

Location: North of the Ray Olpin Student Union

Impact

It will help the University get one step closer to its water neutrality goal. This projects success will demonstrate a way to utilize the natural slope of the campus combined with rainwater to lessen the need for water-intensive vegetation in the future. The rain garden also provides an aesthetically pleasing look to campus and is a visible example of green projects brought to fruition on campus.

Budget

\$13,500

This money funded the labor and personnel who assisted in building the garden. Funds were also used to purchase the vegetation for the garden, as well as, maintenance and outreach.



About SCIF

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Rio Mesa Orchard Project Profile

Historic orchard will be revitalized by student volunteers.

Project Overview

Over the next year the project team will evaluate and replant the old orchard at the Rio Mesa Center. In addition to preparing the site for replanting, the Rio Mesa Project aims to preserve local biodiversity, conduct ecosystem and carbon research, as well as, educational outreach and humanities research. For more information about Rio Mesa Center visit their website at <http://www.riomesa.utah.edu/>

Location: Northeast of Moab, University of Utah Rio Mesa Center

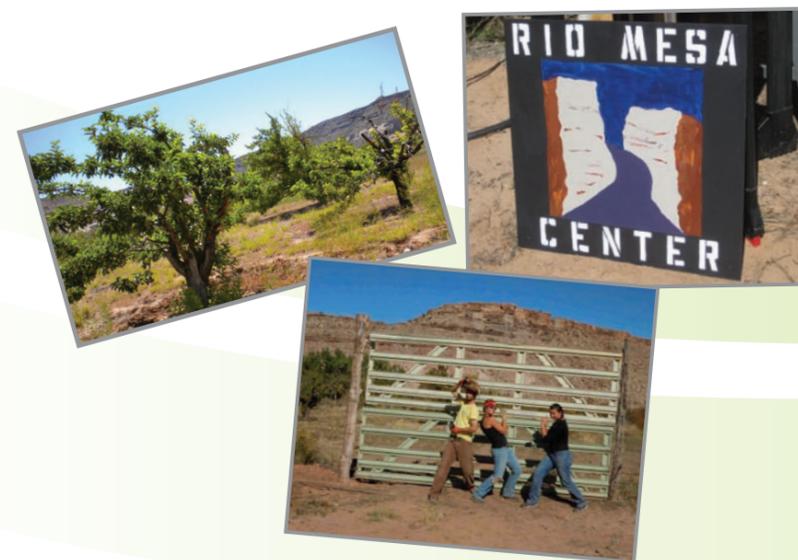
Impact

Regenerating the old orchard will help establish a living laboratory where future students can study sustainable food productions, orchard ecology, and the intrinsic values of trees in general.

Budget

\$2,800

The majority of the funding went to fund roughly twenty trees. Other costs included website costs and transportation to plant trees.



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"This project will also serve an important education function and work to further the ties between the urban Salt Lake City campus and it's rural field station."
-Ross Chambliss

-Ross Chambliss



Project Executives

Ross Chambliss, Graduate Student In Environmental Humanities

Dr. Sylvia Torti, Rio Mesa Center Station Director, Project Advisor

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RIO MESA CENTER
THE UNIVERSITY OF UTAH



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Sill Center Power Down Project Profile

"It is commonly known that there are much more efficient and cooler bulbs that can achieve the same wattage."
-Drew Thompson



Project Executives

Drew Thompson, Undergraduate, Project Executive

Mark St. Andre, Assistant Dean Of Undergraduate Studies, Project Advisor

Saving energy by installing ambient and occupancy lighting sensors.

Project Overview

This project will reduce the Sill Center's electrical power needs, while making the users of the building more aware of their energy consumption. The Sill Center Power Down will provide greater awareness of how electricity can be reduced, made more efficient or eliminated entirely. The lighting in the building's conference room will install a light sensor to adjust the lighting based on the natural light that is available.

Location: Sterling Sill Center

Impact

The conference room that hosts approximately 200 meetings a year will turn from artificially generated light to natural light.

Budget

\$10,000

The money funded motion and ambient lighting sensors as well as switches to turn off lights when not in use.



These hallway lights have been on for 14 years straight. This project will turn them off.

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Social Justice Garden Project Profile

A partnership between Social Justice and Sustainability

Project Overview

The Social Justice Garden is a Lowell Bennion Center student directed program focused upon environmental justice and education. The garden aims to educate and focus on food insecurity and environmentally sustainable food networks. Fifteen families, classrooms and after school program are supported by the food produced at the garden. Over 100 University of Utah students have volunteered at the Social Justice Garden.

Location: Mountain View Elementary School

Impact

Water conservation is a main focus of the garden, the school and the community. The garden uses 50% less water than the sod that previously existed. Waste from school lunch is reduced through composting food material for the garden. Fresh produce from the garden is also being used in school lunch, which reduces the energy used in transporting food.

Budget

\$1,000

The money funded materials, such as seeds and shovels for the gardens



About SCIF

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"Working with Mountain View Elementary in a collaborative effort of elementary classes, faculty, families and university students are given the opportunity to help teach earth and gardening science, build and maintain a community garden with a diverse population of refugee and immigrant families and gain leadership opportunities through sustainability projects and workshops for families and elementary students."

-Ashley Edgette



Project Executives

Ashley Edgette, Undergraduate Project Executive

Matt Bradley, PhD, Honors College Professor, Project Advisor

Community Partners



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Social Work Energy Save Project Profile

"This project will reduce the lighting and energy load of the building and has an ROI of 7 years."

-Angel Moreno,
University Energy Manager



Project Executives

Natalie Leci, Graduate Assistant In
College of Social Work, Project
Executive

Matt Harting, Operations Manager
College Of Social Work, Project
Advisor

Community Partners



Saving energy with lighting control upgrades.

Project Overview

This project will reduce the lighting load in the College of Social Work. The project aims to improve lighting efficiency, address the tendency for classroom lights to left on when not needed, and to take advantage of natural daylight when possible. This will be accomplished by replacing inefficient light bulbs, installing occupancy and daylight sensors.

Location: Social Work Building

Impact

The annual energy use will be reduced by 17,315kWh.

Budget

\$6,000

The money will fund retrofitting lighting fixtures, as well as cost and installation of control sensors.



About SCIF

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Sustainability Pledge Project Profile

Students commit to engage in sustainable behavior changes.

Project Overview

This project will design a Sustainability Pledge to encourage students to develop environmentally conscious habits through committing them to action while giving an incentive gift for those actions. The pledge will include five commitments, each pertaining to either electricity usage, commuting, water usage, water reduction, and food consumption. The pledge will be distributed through numerous avenues, such as tabling, an opening event, partnering with student groups and departments on campus, as well as Facebook.

Location: Ray Olpin Student Union Building

Impact

The sustainability pledge will influence students' action on and off campus, though it will be challenging to measure specific impact.

Budget

\$2,500

The funding will be used to create an online pledge and for marketing and outreach materials.



About SCIF

The Sustainable Campus Initiative Fund brings students' sustainable ideas into fruition on the University of Utah campus.

"I pledge to make the University of Utah and the world better for myself and future generations by living more sustainably. In my daily actions I will strive to support environmental integrity, social justice, and sustainable economic prosperity."

-Beginning of Pledge



Project Executives

Ross Chambless, Communications
Intern, Office Of Sustainability,
Project Executive

Ashley Patterson, Outreach
Coordinator, Office Of Sustainability,
Project Advisor

Sustainable Research Center Project Profile

"Kennecott is similar to many buildings on campus having been built before energy saving technologies were available."
-Kevin Smith



Project Executives

Kevin Smith, Graduate Student In Mechanical Engineering, Project Advisor.

Chris Workman, Graduate Student In Mechanical Engineering, Project Executive

Denis Balic, Graduate Student In Mechanical Engineering, Project Executive

Phil Jankovich, Graduate Student In Mechanical Engineering, Project Executive

Dr. Kent Udell, Professor And Director Of Sustainability Research Center, Project Advisor

Students will test various technologies to determine efficient retrofitting techniques for future campus renovation projects.

Project Overview

This project will install an energy monitoring system in the new Sustainability Research Center space in the Kennecott building. This project will allow for the facility to have a working lab that will help examine ways to reduce its energy use and to develop strategies to reduce energy in University of Utah buildings being considered for remodel.

Location: Kennecott Building

Impact

By making energy saving changes to the Kennecott building the facility will potentially save 80% of its current energy usage.

Budget

\$6,000

The money funded various meters and a computer to measure and display energy usage.

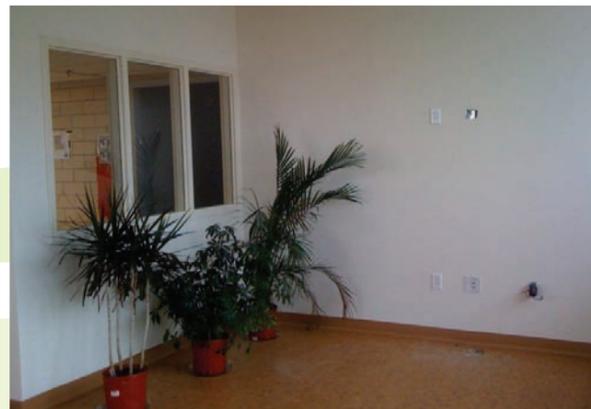


Photo showing where the air duct metering will be installed.

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Union Plaza Lighting Pilot Study Project Profile

Installing cutting-edge lighting technology in the Union Plaza.

Project Overview

The project will replace numerous lamp posts in the Union Plaza with more efficient induction lamps that will help save energy and money. The proposed light will use an estimated 70% less energy and last 4 to 7 times longer, which will reduce maintenance and restocking costs.

Location: Union Plaza

Impact

Implementation of this project will reduce carbon emissions by 7,423 pounds per year and save 7,847 kWh per year. The estimated maintenance cost savings will be \$1,120 per year.

Budget

\$2,400

The money funded a pilot program of the proposed energy efficient, dark sky compliant fixtures to be monitored before implementing the fixtures campus-wide.

"This project will allow a contained area to be illuminated by the induction lamps as a very good lighting test area."

-Julie Henry



Project Executives

Julie Henry, Freshman Student In Architecture, Project Executive

Angel Moreno, Energy Manager, Plant Operations, Project Advisor



These are the fixtures that will be replaced.

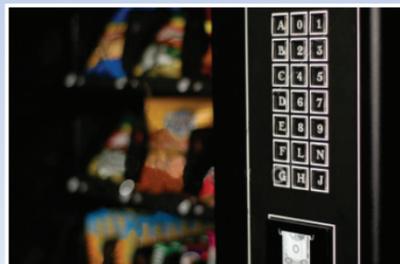
About SCIF

The Sustainable Campus Initiative Fund brings students' sustainable ideas into fruition on the University of Utah campus.



Vending Machine Efficiency Project Profile

"Good for the environment, good for you!
Savings for your business."
-Coca-Cola



Project Executives

Travis Horlacher, Senior In Environmental Studies And Political Science, Project Executive

Dave Burt, Senior In Environmental Studies, Project Executive

Joshua James, Facilities Management, Recycling Coordinator, Project Advisor

Community Partners



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Device implemented to reduce energy consumption of vending machines on campus.

Project Overview

The project attaches Energy Management System (EMS-55) to vending machines on upper and lower campus to reduce the amount of energy used. The device lowers the temperature and lights in the vending machine during hours when buildings are closed. The project will test the impact of the energy savings on thirty vending machines before implementing them throughout campus.

Location: Campus-wide

Impact

On average, each vending machine operating with the EMS-55 attached will reduce the energy consumption of the vending machine by 35%.

Budget

\$2,250

The money funded thirty EMS-55 to be installed on upper and lower campus.



About SCIF

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Thank you to all of our Allocation Committee Members

Cheryl Henson, Office Supervisor, Support Services

Cory Higgins, Director, Plant Operations

Heidi Camp, Assistant Dean, College of Humanities

Julie Harper, Undergraduate Student, Environmental Studies

Justin Reuter, Graduate Student, Educational Leadership and Policy

Lindsay Williams, Undergraduate Student, International Studies

Mark St. Andre, Assistant Dean, Undergraduate Studies

Maziar Nourian, Undergraduate Student, Pre-Medicine

Norah Olley, Undergraduate Student, Environmental Studies

Robert Young, Professor, College of Architecture

Tami Beck, Undergraduate Student, Architecture, ASUU Senate Chair

Tim Harrison, Graduate Student, Masters of Public Administration

Staff

Myron Willson, Director, Office of Sustainability

Whitney Williams, SCIF Coordinator, Office of Sustainability

Office of Sustainability
1901 E. South Campus Dr.
Annex Wing D, Room 1024
Salt Lake City, UT 84112

www.sustainability.utah.edu/SCIF

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