

Schob Scholars LAUP Mini-Grant Program

PRINCIPAL INVESTIGATOR:

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PROJECT TITLE:

Sustainable Design and Implementation Plan for Creating a Hydrologically Sensitive Demonstration Garden in the Schob Nature Preserve

PROJECT ABSTRACT

Providing students with high-quality learning activities emphasizing hands-on learning opportunities are vital for higher education in the landscape architecture discipline. Since students in landscape architecture need to learn the decision-making process required to solve complicated and multi-dimensional problems, the highest quality learning experiences come when knowledge is combined with direct experience. The main purpose of this proposal is to develop and implement a sustainable design project for creating a hydrologically sensitive demonstration garden in the Schob Nature Preserve. Design and planning practices emphasizing Low Impact Development (LID) have been increasingly utilized in sustainable design and development. LID is an innovative approach treating rainfall as the source, using uniformly distributed facilities such as technologies for collecting, conveying, and cleaning stormwater runoff. Twenty-two BLA students enrolling in LAND321 will be involved in a hands-on learning opportunity by producing design solutions of a LID demonstration garden and implementing their ideas in the project site.

OBJECTIVES OF THE PROJECT

The best way to learn landscape architecture is through hands-on learning with diverse project experiences. The main purpose of this proposal is to provide a rigorous and high-impact learning opportunity, and creative scholarly programs to motivated undergraduate students in the Department of Landscape Architecture and Urban Planning by developing and implementing a demonstration garden using LID applications in the Schob Nature Preserve. To achieve this pedagogical goal, this project proposes several objectives which are sought to bring high-quality learning experience to BLA students.

1. Foster a learning community to improve skills in critical thinking, problem-solving, communication and collaboration through participation in the project proposed.
2. Provide students a learning opportunity to develop creative and evidence-based design solutions to design a LID demonstration garden.
3. Introduce students to the interdisciplinary nature of design and construction by implementing their conceptual design ideas into the project site.
4. Increase awareness of the interconnection amongst design and construction of LID applications.
5. Offer a potential opportunity of integrating design solutions and performance measurement in the long-term monitoring of the proposed demonstration garden.

WORK PLAN

Over the Spring semester of 2015, twenty-two BLA students in three design teams enrolling in LAND 321 Design Studio IV will create design solutions for the development of a new demonstration garden regarding LID applications at the project site to enhance student experiences and facilitate student research and education.

This project will progress in three phases which will benefit the experiential learning elements by allowing for maximum student hands-on time: *Research & Site Analysis*, *Context & Design Development*, and *Design Detail & Implementation*. Several tasks in three phases will be performed during the 2015 spring semester as following:

Phase I: Research & Site Analysis

- Task 1 – Site Visit & Inventory (visiting the Schob Nature Preserve and gathering data from site inventory)
- Task 2 – Site Analysis (conducting site analysis based on site observation and inventory)
- Task 3 – Research & Case Study (conducting case study and research focusing on small-scale LID applications)

Phase II: Context & Design Development

- Task 4 – Developing Conceptual Design Proposals (developing initial design proposals with each design team)
- Task 5 – Participatory Mid-point Presentation (sharing students’ initial concepts with faculty and guest reviewers including the Senior Schob Scholars)

Phase III: Design Detail & Implementation

- Task 6 – Developing Final Design Package (producing the final design packages including site inventory & analysis, concept plan, master plan, perspectives/sections, construction details, wayfinding system, etc.)
- Task 7 – Final Presentation (delivering final design solutions to faculty and guest reviewers including the Senior Schob Scholars)
- Task 8 – Design Implementation (purchasing materials and constructing selected design ideas to the project site)

SCHEDULE OF ACTIVITIES

Phases	Tasks	2015 Spring												
		4/10	4/13	4/15	4/17	4/20	4/22	4/24	4/27	4/29	5/1	5/4	5/11	
Research & Site Analysis	Task 1	█												
	Task 2	█	█	█	█									
	Task 3	█	█	█	█									
Context & Design Development	Task 4			█	█	█								
	Task 5					█								
Design Detail & Implementation	Task 6						█	█	█	█	█	█		
	Task 7											█		
	Task 8												█	█

STUDENT LEARNING OUTCOMES

This project will provide students unique learning experiences to nurture their creative thinking and problem-solving skills beyond the traditional classroom experience. By participating in this project, the BLA students in LAND 321 will be given the opportunity for hands-on learning experience to implement their design solutions into the real world setting of the Schob Nature Preserve. With this experience, they will learn how to design, construct, install, and maintain facilities which they will propose through rigorous design process in the design studios and construction courses. Further, students will learn more compelling lessons that can improve student outcomes, allow for better understanding about design process by hands-on learning experience, have more constructive design critiques by interactions with faculty and students outside of their design studio which will improve the ability to demonstrate problem-solving and critical thinking skills. This project aligns to the Texas A&M University’s mission by meeting a number of the Aggie Commit Themes:

1. While participating in this project, students will have an opportunity to enhance *intellectual and practical skills* by learning how to identify problems, how to come up with some solutions for those problems, and how to execute the plan.
2. All students in this project will have a *high-impact learning opportunity* by being engaged in a real design and construction project.
3. All students participating in this project will learn how to improve their *communication skills and team work*, since this project will offer students a unique opportunity to get exposed to challenges dealing with real world problems and encourage them to develop alternative design proposals to enhance communication and teamwork with their peers.
4. Developing a small-scale LID demonstration garden itself is *process of solving problems with critical thinking*.

ANTICIPATED DELIVERABLES

These learning outcomes will be assessed through the final design/construction projects presented by the student teams through oral and video presentations in addition to a proposal documenting the design and construction plan including cost, method, schedule and risk management. The final deliverables of this project will include:

1. A hardcopy and PDF file of the final design booklet including all design details
2. A hardcopy and PDF file of the final poster
3. Digital files of students’ final presentations
4. A small-scale LID demonstration garden built in the project site
5. Video clips and photos documenting students’ activities to implement their design solutions to the project site

HOW WILL THE MONEY BE USED

The funds will be used to purchase materials and construct students’ design solutions at the project site.

Items	Costs
Building a Small-scale Demonstration Garden:	\$2,400 (\$800 per design team x 3 design teams)
Printing Costs & Publications:	\$300
Contingencies:	\$300
Total Requested: \$3,000	