Shasta College

2018 Innovation Mini-Grant Application

Shasta College is committed to supporting innovation ideas that enhance student learning and success. As a result of the 2015 Governor's Innovation Award, there is now a designated fund (up to $100,000 per year for the next three to five years) to support faculty and staff projects that ultimately result in increased goal attainment for students. In accordance with the criteria for the Innovation Award, practices that enhance transfer and four-year degree completion while reducing time to degree are the highest priorities.

Please complete this application and submit it to the Office of Grant Development by February 28, 2018 For questions, please contact Amy Schutter, Director of Grant Development, at aschutter@shastacollege.edu or 242-7713.

Submitted by:	Leimone Waite
Division/Dept. Name:	BAITS/HORT
Project Name:	Online Horticulture Certificate with Distributed Labs – A Scalable Regional Collaboration

Project Overview	Please provide a brief overview of the project.

Click here to enter text.

Horticulture programs at community colleges are often small, run by a single faculty member. Key courses may not be taught because the faculty member lacks expertise in a particular area, or because enrollments fall below minimum thresholds. This limits program offerings and commonly results in students being unable to complete the specialized courses needed to prepare them to pass industry certifications.

Shasta College instructor Leimone Waite is leading a statewide collaborative effort to develop an online Model Certificate in Sustainable Landscaping and Urban Tree Care that aligns with multiple industry certifications. This stackable certificate program combines online classes with either online or locally-offered labs in a condensed format. After presenting the plan for this curriculum at a state-level conference, Leimone and a colleague were invited by leaders of the California Landscape Contractors Association to present at the national conference. The curriculum is in the final stage of being listed with the Chancellor's office as Model Curriculum that will be available to any community college in the state to adopt.

This program combining online courses with regional labs is patterned after Oregon State University's (OSU) online General Horticulture degree. OSU's online programs are nationally recognized for their outstanding content and student engagement. The courses in the proposed program align with Shasta College Horticulture and Landscaping degree, as well as with the Bachelor's degree in Horticulture at OSU—where Shasta College students may pursue a four-year degree.

To make the online labs more dynamic and give students the "hands on" feel of a face to face lab, this project would use a 3D scanner to scan plant, tree and irrigation parts into a data base that could be used online for student to view the pipe fittings, flowers, cones, leaves, etc. from all sides.

The next best thing to actually holding the irrigation part or twig in their hand. This could be used by instructors in many disciplines to make online learning more dynamic.

Student Impact	The main focus of the Innovation Award funds is to positively impact student learning and success. Please describe how your project will: • Improve one or more Student Learning Outcomes (SLOs) • Increase student engagement and/or success • Reduce the amount of time for a student to complete a Certificate, Associates Degree or Bachelor's Degree • Document measurable results (consult with the Research Office)

This project will address specific student learning outcomes in several areas such as plant and tree identification, irrigation system installation and operation, and botany principles as they relate to tree species.

With more interactive features included in the online courses, we hope to increase student engagement in online classes—especially students needing more hands-on learning--which we predict will result in higher completion rates for courses. Equally important, by using a condensed hybrid approach to offering courses, the program will shorten time to completion, especially for students who juggle the demands of work, children, and college classes.

We will evaluate effectiveness of this program by measuring enrollments and completion rates compared to traditional online offerings and design a survey for both faculty and students about how effective they felt the regional labs to be. In addition, we will also produce a database of 3D images that can be used in any horticulture course or by any participating botany instructor. With the use of 3D images we hope to increase student interaction in the online environment and improve completion and success rates for our online students.

Collaboration	Mini-grant projects often involve collaboration between multiple divisions/departments and/or outside entities (K-12, CSU/UC, or community partnerships). Please: • List any internal and/or external collaborative partners • Confirm that the partners are aware of the project and what their role in implementation will be

This effort is a direct result of working with the landscape industry trade, and getting feedback from employers, students, and faculty at other colleges. The courses to be built under this proposal are part of the Model Curriculum project developed by six Horticulture Instructors from six different CCCs across the state. Our discussions have already led to our focusing on developing this as an online program, and the idea for using condensed formats and regional labs also arose directly from our existing collaboration. The first courses we have selected to develop into a fully online format are Landscape Irrigation, Plant Materials and Usage, Environmental Horticulture, and Urban Tree Care. We already have a shell in Canvas (sandbox) for two of these courses and have identified three instructors (Leimone Waite from Shasta College, Lindsay Ono from Bakersfield College, and Clare Ehrlinger from Mira Costa College) to be the lead content developers. We are also working on partnering with area High Schools to see if these courses could be an option for high school students who might have an interest in pursuing a certificate or degree in Horticulture. Anderson,

Red Bluff, and Los Molinos High Schools have already expressed interest. The Environmental Horticulture class qualifies for CSU life science credit, and the online format will make it easier for high school students to fit this course into their schedule. We are also working with Oregon State University for help with patterning our hybrid lab courses after their online lab courses and to articulate these courses so students can continue seamlessly to a 4-year degree—creating a guided pathway in horticulture from high school to four-year degree for our region.

Future Possibilities	The Shasta College mini-grants initiative provides the testing ground for innovative ideas to determine successful outcomes that may be used on a broader scale. Please discuss if the project is: • Replicable (easily shared with other campus programs) • Scalable • Cost-Effective (e.g., through number of students served; through District efficiencies increasing service to students; or if scaling up will prove cost-effective)

As Model Curriculum, this program is already designed to be replicable. Using the collaboratively-developed regional and online lab protocols will make it scalable as well. Our modular approach to content also makes it possible for instructors in other programs to adopt the model to fit their courses. Currently, the plan is to have lectures and some labs online and then schedule 2 to 3 all-day regional labs during the semester that would cover instruction that could not be done online. Part of this project includes the development of the lab kits for these regional labs. For example, if we had students registered in a course from Redding, Sacramento and Chico areas, they could take an in-person lab at a central location such as Chico or Orland. We intend to offer these online courses as part of the OEI course exchange so that students from multiple colleges can easily register for the classes offered by Shasta College.

We also intend to scale our project to horticulture instructors at the high school level, with other community colleges, and once fully developed in the online format, the program can be scaled nationally as well.

Logistics	The mini-grant cycle—to include planning, implementation, and evaluation—is a maximum of 18 months (Fall-Spring-Fall), and all funding sources should be considered. Please confirm that: • The project phases can be completed within an 18-month cycle • No other funding sources are available for the project • A Budget Proposal form has been completed and is attached.

This is a complex, multi-phase project, already in development, so this proposal can be easily completed in the 18-month period. Specifically, the needs assessment, partner identification, and initial planning have already taken place. For the next phase, we propose the following: 1) development of open access database of 3D images that can be used for plant identification, irrigation parts identification and placement and tree biology; 2) development by faculty of course content and preparation of kits for implementation of regional labs; 3) development of evaluation of course effectiveness. We plan to hire a student worker to work on scanning in images and putting the data base together. Other costs include a stipend for faculty time for course and materials development (the kits), and supplies for online development (purchase of photos). No other funding is available for this part of the multi-phase project. However, we do have funding related to dissemination of the project to faculty and industry statewide and nationally, which falls outside of this proposal. We also have some industry "in-kind" support for consumable materials that will be used during regional lab offerings.

Research Office Signature   **Date**

S. Wyll	2.28.18

Dean or Supervisor's Signature   **Date**

2018 Innovation Mini-Grant
Budget Proposal

Submitted by: Leimone Waite

Project Name: Online and regional labs

BUDGET ITEM	DESCRIPTION	QUANTITY	COST	ESTIMATED TOTAL
SUPPLIES				
Bookstore Vouchers				$0
Textbooks				0
Printing				0
Supplies & Materials	Supplies for 10 kits for regional labs	10	700	7,000
Event Refreshments				0
Capital Outlay				0
Equipment	3D scanner with turntable and camera	1	7,000	7,000
TRAVEL				
Transportation (Student Field Trips)				0
Field Trip Expenses				0
STAFFING				
Faculty - Professional Expert ($50 Hr)	hours for faculty to layout online content	185	50	9,250
Faculty Professional Expert - Associated Benefits			18.1%	1,674
Temporary Employee Costs				0
Temporary Employee Costs - Associated Benefits			10.0%	0
Student Worker Costs	worker to scan plant parts into data base	1	4100	4,100
Student Worker Costs - Associated Benefits			2.1%	86
Contracted Work	detail drawings(illustration or purchase rights)	10	350	3,500
OTHER				
				0
				0
				0
		PROPOSED BUDGET		$32,610