

Title: *Expand Utilization of the Campus as a Living Laboratory*

Lead Investigator: *Morgan King, Sustainability Coordinator*

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Purpose: Increase student engagement and participation in sustainability by expanding the utilization of the HSU campus (buildings, operations, planning) as an integrating context for learning across all disciplines (with focus on sustainability) through student, faculty and Facilities partnerships

Description: Campus facilities and operations can provide an array of dynamic sustainability learning opportunities for students across all disciplines and programs. Facilities Management has forged a limited number of relationships over the years, primarily with faculty in engineering and the environmental sciences, to provide hands-on learning opportunities for their students, including:

- Jennifer Tarlton, Instructor in the Environmental Interpretation & Education Option of EMP - signage and interpretive design for campus waste reduction operations
- Kevin Fingerma, Asst Prof in EMP - ENVS 410/411 capstone course utilizes campus energy, water, waste, landscape operations for student projects
- Arne Jacobsen, Pof in ERE - Eng 533 graduate seminar conducts greenhouse gas inventories of HSU's emissions

Also in 2015 Kevin Fingerma received a *Campus As A Living Laboratory (CALL)* grant¹, which is being used to redesign an existing course to utilize campus building energy use as its context. The “living laboratory” concept couples academic rigor with applied, experiential learning on sustainability-related infrastructural and operational projects. And for HSU, these living laboratories can provide additional, no-cost capacity to help reach its sustainability goals².

The CALL concept has been successfully applied to a variety of disciplines at other institutions, from Business and Accounting to Psychology to Geography to Art³. Expanding the CALL concept across all disciplines at HSU will offer a greater and more diverse number of students the opportunity to engage with real-world sustainability concepts. And work done by these students will directly benefit HSU.

Recommendation: Offer support to disciplines across campus to adopt the CALL concept into one or more course offerings. Meet with the College Deans to discuss proposal. Identify faculty within each College interested in utilizing CALL. Provide training (i.e., retreat), professional development and ongoing support for instructors to integrate CALL into their courses. Office of the Provost, in collaboration with the Office of Sustainability, will act as liaison between Facilities Management and CALL instructors. Develop a webpage for HSU CALL programs.

- **Scale and Scope:** Campus-wide, targets faculty
- **Timing:** Conduct outreach and recruitment fall of 2017, conduct teacher training in January of 2018.
- **Key Participants:** Office of Provost, College administrators, faculty, Office of Sustainability, Facilities Management

Summary of Estimated Costs, Benefits and other Impacts:

Impact	Estimated Resource Costs	Estimated Benefits
Economic	<i>\$500 - \$10,000 (if bringing in professional trainer) for training; \$0 - 12,000 per instructor to redesign course</i>	<i>Reduced utility costs associated with behavior change and operational changes identified by classes</i>
Environmental	<i>N/A</i>	<i>Reduced resource and utility use campus-wide resulting from increased engagement</i>
Social	<i>concern of additional time needed from Facilities Mgmt staff to work with classes</i>	<i>Student attendance, productivity and performance increases</i>

GHG Reduction/dollar spent: *N/A*

Assumptions:

- Cost for training: Assume up to \$10,000 per training if by professional trainer
- If financial assistance is provided to instructor to redesign course(s), \$12,000 figure based on the CALL grant award Kevin Fingerma received to redesign one of his courses.

References:

1. Campus as a Living Lab Grant Program, <http://www.calstate.edu/cpdc/sustainability/liv-lab-grant/>
2. *The Campus as a Living Laboratory: Using the Built Environment to Revitalize College Education.* The Sustainability Education & Economic Development Center. <http://theseedcenter.org/Resources/SEED-Resources/SEED-Toolkits/Campus-as-a-Living-Lab>
3. Examples of CALL programs:
 - a. <http://sustainability.yale.edu/research-education/campus-living-lab>
 - b. <http://sustainability.duke.edu/academics/livinglab.html>
 - c. <https://sustainability.mit.edu/living-lab>
 - d. <http://www.sustainablecampus.cornell.edu/pages/modal-living-lab>