

University–National Laboratory Service-Learning Partnership: Intern Team Saves Energy and Money

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To view poster: <http://www.engagementscholarship.org/upload/PosterAwards/2013/Hebertuniversitynational2013.pdf>

This service-learning internship project was planned and proposed by university faculty and students located in the south central United States and was accepted by a U.S. national laboratory in the midwestern U.S. The team's participation was funded by the National Science Foundation (NSF), U.S. Department of Energy (DOE), and a U.S. national laboratory through a competitive national program. Interior design/facility management students earned the 4 hours credit required by their college's summer internship course, and both students and faculty were paid summer salaries and travel expenses.

The faculty and student internship team lived for 10 weeks on or near the national laboratory campus. The team worked in the lab's Facility Services Department, where they collaborated with facility managers, engineers, laboratory scientists, and support staff to survey existing lighting systems and make recommendations. The internship team benefited the laboratory community and served their country. The students applied skills learned in previous courses to real-world laboratory lighting problems. Faculty applied approach-avoidance theory, compared field-measured light levels to Illuminating Engineering Society industry standards, and calculated anticipated energy and dollar savings for delamping fixtures and installing occupancy sensors.

Students reflected on their experiences in their internship course-required diaries and communicated their reflections and findings via a verbal and visual presentation at the national lab and a research poster required by NSF. Students, faculty, and lab community attended an end-of-internship celebration dinner and enjoyed their success. Students and faculty evaluated their service-learning experiences by responding to college and laboratory questionnaires. Students' supervisors also evaluated their contributions and provided feedback. Findings from the project were published in a peer-reviewed facility management journal.

References

- Rea, M. S. (2000). *The IESNA lighting handbook reference & application*. New York, NY: Illuminating Engineering Society of North America.
- The White House, Office of the Press Secretary. (2010). *President Obama sets greenhouse gas emissions reduction target for federal operations: Target to drive energy cost reductions in federal operations, creating clean energy jobs* [Press release]. Retrieved June 10, 2010, from <http://www.whitehouse.gov/the-press-office/president-obama-sets-greenhouse-gas-emissions-reduction-target-federal-operations>

About the Author

Paulette R. Hebert is a professor at Oklahoma State University. Her research interests include lighting design, facility management and design, and sustainability. She earned her bachelor of interior design, M.S., and Ph.D. from Louisiana State University.