UCLA LEED Lab Fall Quarter 2020

Monday and Wednesday 1:00 @ Perloff Hall / Online at ZOOM Link

Instructor: Todd Lynch
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Office Hours by appointment
Grading: letter grade
Completion of Fall Quarter is REQUIRED for participation in subsequent quarters

Course Description:
LEED Lab is an immersive multidisciplinary course that educates and prepares students to become green building leaders and sustainability-focused citizens through measurement, research and optimization projects on campus buildings. During this three-quarter course, students will facilitate the LEED for Existing Buildings: Operations & Maintenance (LEED EB: O&M) process to pursue certification of a campus building. LEED Lab will equip students with the skills, knowledge and expertise needed to be effective communicators, project managers, critical thinkers, problem solvers, engaged leaders, and team players in the field of sustainability.

Covered Topics Include:
Green Building, Operations & Maintenance, Project Management, Team Generation, Energy & Water Efficiency, Site Management, Resource Conservation, Indoor Air Quality, Campus Sustainability, Communication & Marketing, Report Writing, Leadership in Meetings, Cost-Benefit Analysis and other processes related to LEED Online and the US Green Building Council.

General Course Overview
Classes will be highly interactive and require significant individual and team level participation. Using the LEED for Existing Buildings Operations & Maintenance Reference Guide as a primary resource, students will be expected to apply new information, concepts and interpersonal skills to a final team-based project dependent on which quarter the course is operating in and how far along the LEED project has progressed during the concurrent quarter. Student teams will form to complete a LEED certification project of an actual building on campus at UCLA. Feasibility assessments, team generation, project management, implementation, audits and documentation will all be reviewed to provide a holistic view of an actual LEED project and building sustainability as a whole. Students will be given opportunities to learn green building skills through active practical application while also improving the performance and quality of a campus building and furthering campus and UC-wide sustainability goals.

Course Objectives:
1. Students will gain knowledge about green building and the LEED certification system.

2. Students will acquire real-world skills in project management, green building technologies, sustainability metrics, communication, and documentation.

3. Provide a mechanism to engage students and drive campus sustainability efforts that focus on the existing built environment.

4. Provide students with sufficient experience and access to resources to prepare them for the LEED Green Associate and/or LEED Accredited Professional exams.

Recommended Reading
LEED v4 Existing Buildings Operations & Maintenance Reference Guide

Year Overview
Fall Quarter will focus on LEED certification feasibility and preparation for the Performance Period of the project building. Milestones during the quarter will include the LEED charrette, site visit, and stakeholder feasibility presentation. The main project will be a Feasibility Report and PowerPoint presentation to building stakeholders.

Winter Quarter will focus on the Performance Period (minimum 90 consecutive days) of the building, during which all data will be collected and metrics tracked, audits and surveys performed, and any recommendations presented during the stakeholder feasibility presentation that were chosen to pursue will be incorporated. Milestones during the quarter will include the mid-performance charrette with stakeholders. The main project will be documentation of audits and associated credits.

Spring Quarter will focus on collecting final data for documentation as the Performance Period comes to a close. All documentation will be completed and submitted for review. When LEED reviewers return with review comments, revisions will be made in response. Milestones will include the closing charrette, documentation submittal, review comment responses, project certification, and project communication to the public. The main project will be review comment responses, as well as an individual case study or public announcement.

Grading (Fall)
- 40% Weekly attendance and participation
- 30% Individual CCLE assignments
- 30% Team project

Team assignments will receive one grade. Each student will also be reviewed by his or her team members. Peer Reviews will be considered in the calculation of each student's participation.

Late work will have 20% deducted from the assignment's final grade.

Assignments, Attendance & Team Project
Students are expected to arrive for class prepared and on time, ready to discuss the assignments and its application to the LEED certification process based on progress made. In-class assignments and exercises will be completed individually and in teams during class with minimal work to be completed outside of the lecture. Assignments on CCLE will assess students' understanding of the LEED Reference Guide and related topics.

Fall Team Project: Feasibility Report
Prepare a Feasibility Report and present it to a panel of stakeholders and building operators. The Feasibility Study is a team project intended to analyze the building's current performance and identify opportunities for improved sustainability. A large portion of this work will prepare the stakeholder team for performance period and operational changes.
- Visit Building Site
- Analyze Opportunities and Costs
- Perform Cost/Benefit Analysis
- Compile Feasibility Report
- Communicate Findings to Stakeholders

Final Exam
The Final Exam will be a practice exam for the LEED Green Associate accreditation. It will be non-graded, acting as an indicator of student knowledge and as practice for the real accreditation exam.