

Energy Modeling for LEED Using eQUEST

Description

eQUEST (Quick Energy Simulation Tool) is a sophisticated, yet easy-to-use building energy analysis tool. eQUEST was designed to allow the user to perform detailed analysis of today's state-of-the-art building design technologies using sophisticated building energy use simulation techniques but without requiring extensive experience in the "art" of building performance modeling. In day one we will learn how to use eQUEST's wizards and graphics to build a model and revise it as the design develops. In day two we will learn how to make the model comply with ASHRAE 90.1-2007 Appendix G to meet LEED 2009 requirements for Energy and Atmosphere Prerequisite Credit 2 (EAp2) and Credit 1 (EA1). Using modeling exercises, both proposed and baseline building models will be developed and compared. Completion of the LEED 2009 New Construction and Major Renovations Version 3.0 submittal forms from eQUEST output reports shall also be covered.

Course assumes eQUEST version 3.64 [from <http://doe2.com/equest/index.html>] has been downloaded and installed on student's computer prior to the training session.

Audience Level

Architects and engineers interested in learning how to obtain credit under LEED in the Energy and Atmosphere category using whole building energy simulation. A basic level of familiarity with building envelope, mechanical systems, power and lighting is required.

NOTE: This course has an emphasis on the early phases of new building design. Advanced building envelope and HVAC, and existing building retrofits will typically not be addressed in-depth.

Day One Agenda

9:00 a.m. Introduction to eQUEST: Quick Energy Simulation Tool

9:45 a.m. Wizards: schematic design, design development

11:15 a.m. eQUEST/DOE-2 (SIM) Reporting

12:00 p.m. Lunch break

1:00 p.m. Using DWG files with eQUEST

1:30 p.m. Schematic design exercise

3:00 p.m. Design development exercise

5:00 p.m. Instruction Concludes

Energy Modeling for LEED Using eQUEST (contd.)

Day Two Agenda

9:00 a.m. Introduction to LEED Energy Performance Requirements

9:30 a.m. Compliance with ASHRAE 90.1-2007 Appendix G

10:00 a.m. LEED EAc1 building exercise

12:00 p.m. Lunch Break

1:00 p.m. LEED EAc1 building exercise (contd.)

4:00 p.m. Completing the LEED 2009 Tables & Forms

5:00 p.m. Instruction Concludes