



SMUD

SACRAMENTO MUNICIPAL UTILITY DISTRICT

ENERGY & TECHNOLOGY CENTER FALL 2009

Photovoltaics for Electrical and General Contractors

August 11 & 12, 2009 (2-day workshop)

8:00 a.m. – 4:00 p.m. (No charge)

As grid-tied solar systems become more accepted and in demand, many contractors are finding themselves in unique positions to expand their service offerings to include photovoltaics. During this class for electrical and general contractors, Bill Brooks will provide key information about photovoltaic technology, successful installation strategies, and its effective deployment in our region.

LEED Core Concepts & Strategies

August 13, 2009

8:30 a.m. – 4:30 p.m. (Fees apply, see www.usgbc.org)

This workshop provides essential knowledge of the Leadership in Energy & Environmental Design (LEED) Rating Systems and sustainable building concepts for those seeking a better understanding of LEED or pursuing Green Building Certification Institute's LEED Green Associate (Tier I) credential. By presenting LEED concepts at the credit category level – across building types and rating systems – and basics on the building certification process, this workshop provides the foundation required for any 300-level LEED education offering. Real project examples help demonstrate and reinforce learning. **For more information or to register, go to www.usgbc.org or call 1-800-795-1747.**

Maneuvering Lighting Design within Title 24, IECC and ASHRAE/IESNA 90.1

August 18, 2009: 8:30 a.m. – 4:00 p.m. (No charge)

This lighting seminar for architects, lighting professionals, engineers, and designers combines the fine details of design within the realm of compliance, as it pertains to energy codes and regulatory impacts. The lecture and workshop combination provided by James Benya, P.E., of Benya Lighting Design, will cover indoor and outdoor lighting for most applications and address the various codes and standards, rebates, and regulatory impacts to lighting design and installation.

Lighting for the Aging Eye

August 22, 2009

9:00 a.m. – 11:30 a.m. (No charge)

Eunice Noell-Waggoner, President of the Center of Design for an Aging Society, will discuss lighting issues and what role our eyes play in these issues. She will expound on the fact that more light may be needed to see accurately, understanding and ensuring light quality, and how to reduce glare in our environment.

**Advanced Photovoltaics/NABCEP Prep
September 8-10, 2009 (3-day workshop)**

8:00 a.m. – 4:00 p.m. (No charge)

Presented by Brooks Engineering, this workshop provides an in-depth look at proper PV system design and installation techniques. During this course, electricians, electrical contractors, solar contractors, building contractors, inspectors, and engineers will become familiar with the basic design and installation procedures required to meet the National Electrical Code (NEC). NABCEP-certified installers will receive 21 continuing education contact hours for participating in the workshop. Those seeking to obtain NABCEP certification will find that the course will help them prepare for the certification exam.

LED Updates Including Fixtures and Rebates

September 16, 2009

8:30 a.m. – 11:30 a.m. (No charge)

Come join us as SMUD's Emerging Technology Program Manager and Lighting Specialist discuss what is happening in the LED industry with lamp replacement, interior and exterior luminaire development along with lessons from the field. Rebates for LEDs are on the horizon, and find out here what will be on the menu.

2008 Title 24 Energy Code: Nonresidential Interior Lighting with Controls & Daylighting

September 22, 2009

9:00 a.m. – 4:00 p.m. (No charge)

Discover in this one-day workshop changes and revisions to the 2008 California Building Energy Efficiency code that will govern interior nonresidential lighting. Bernie Bauer, LC, of Integrated Lighting Concepts, will review changes and additions to "Controls Compliance" and "Daylighting" criteria and requirements for interior lighting applications. Hands-on exercises will allow participants to work with the Nonresidential T24-2008 manual using it as a tool to properly address compliance requirements and experience utilizing the new compliance forms.

2008 Title 24 Energy Code: Nonresidential Exterior & Sign Lighting

September 23, 2009

8:30 a.m. – Noon (No charge)

During this half-day workshop, Integrated Lighting Concepts' Bernie Bauer, LC, will cover changes and additions to exterior lighting and sign lighting along with detailed applications. Hands-on exercises related to exterior lighting will allow participants to work with the Nonresidential T24-2008 manual using it as a tool to properly address compliance requirements. A "how to" session on exterior lighting T24 code compliance forms will help focus on the changes and give participants practice with the new forms.

2008 Title 24 Energy Code: Residential Lighting

September 23, 2009

1:30 p.m. – 4:30 p.m. (No charge)

Come join us for this half-day workshop focusing on the changes and additions to residential lighting. Workshop participants will experience first-hand how the new code will effect their residential lighting applications and practice working with compliance requirements under the new code.

2008 Title 24 Residential Building Envelope Changes

September 30, 2009

8:00 a.m. – Noon (No charge)

The building envelope has always been an important part of the energy efficiency of homes, and its efficiency includes much more than just the R-value of the wall, ceiling, and floor insulation. Technologies like radiant barriers, cool roofs, and “quality insulation installation” are improving the energy efficiency of homes. This class, taught by Gary Wollin of Doug Beaman Associates, will review the Title 24 Building Envelope Standards with particular emphasis on energy efficiency and the building envelope changes of the 2008 Energy Efficiency Standards.

Energy, Carbon & Craft: The Architecture of Siegel & Strain

October 6, 2009

9:00 a.m. – Noon (No charge)

A small design practice in Northern California, Siegel & Strain Architects is nationally known for their design of green civic and educational projects. Four projects have been selected as AIA Committee on the Environment Top Ten Green Projects, most recently in 2009. Larry Strain, FAIA, and Henry Siegel, FAIA, will present some of the firm’s recent projects, focusing on different approaches to energy conservation and material selection as determined by climate, client, and program. They will also present some of their industry leading research into the carbon footprint of building materials.

Nonresidential HVAC Changes of the 2008 Title 24 Energy Code

October 7, 2009

8:00 a.m. – Noon (No charge)

In this half-day course, Russ King of Connerly & Associates will detail the changes prescribed in the 2008 California Building Energy Efficiency Standards as they relate to nonresidential HVAC systems. Topics covered will include automatic fault detection diagnostic systems, new requirements for single-zone variable air volume equipment, refrigerated warehouse requirements, and changes to control system standards.

Designing with Light

(Two sessions offered)

October 7, 2009: 6:00 p.m. – 8:30 p.m. (No charge)

October 8, 2009: 9:00 a.m. – 11:30 a.m. (No charge)

Come and learn about the many ways to light your home while improving its look, feel, and energy efficiency! These two, repeat sessions will cover general types of lighting in addition to specific lighting tools and tricks for different rooms in a home.

Existing Building Commissioning

October 13, 2009

8:00 a.m. – Noon (No charge)

Building commissioning is an effective strategy to gain significant energy savings and related financial benefits as well as increase the likelihood of improved occupant comfort and satisfaction. Building experts from the Guttman & Blaevoet Commissioning Team will present an overview of commissioning for existing buildings, its value, costs, paybacks, and justification. Commissioning guidelines for ASHRAE and LEED-EBOM will also be included.

Lean Visual Control and 5S

October 14, 2009

8:00 a.m. – Noon (No charge)

Visual controls and the Five-S program are the foundation of any Lean Enterprise, and both are part of a standard process to reduce or eliminate waste. At this workshop, attendees will learn the benefits of operating with a sustainable Visual Control process that uses the Lean tool known as Five-S: sort, set in order, shine, standardize, and sustain. Using an interactive simulation, TEiM's David Jones will explain how to identify non-value-added activities and how to use Visual Controls to improve performance in a sustainable manner.

Residential HVAC Changes of the 2008 Title 24 Energy Code

October 15, 2009

8:00 a.m. – Noon (No charge)

During this workshop, Gary Wollin of Douglas Beaman Associates will cover changes to the Title 24 Residential Energy Efficiency Code for mechanical systems. These changes include new requirements for refrigerant charge, mandatory mechanical ventilation, and new CF-6R forms. This class will focus on the new rules and regulations for the 2008 Energy Standards and how they impact duct installation, sealing and testing, ventilation, quality installation standards, time dependant evaluation impacts, and HERS rater participation.

Green Remodeling or Retrofitting for All Homes

October 20 & 21, 2009 (2-day workshop)

8:00 a.m. – 5:00 p.m. (Fees apply, see www.builditgreen.org)

In today's economy, 95% of the construction market is existing homes. Statistics show that people want green buildings and that they sell for more and sell faster. This two-day, how-to course is designed to provide construction professionals with a comprehensive, step-by-step process to upgrade and remodel existing homes in all aspects of a green home. This course expands on the basic Certified Green Building Professional (CGBP) training course. CGBP or equivalent green building certification or working knowledge is a prerequisite for this course. The class provides 16 Continuing Education Credits (CEUs) towards CGBP Recertification.

For a complete course description and to register please visit www.builditgreen.org or call (510) 845-0472 ext. 603.

Build It Green GreenPoint Rater – Existing Homes

October 22 & 23, 2009 (2-day workshop)

8:00 a.m. – 5:00 p.m. (Fees apply, see www.builditgreen.org)

Expand your rating business and knowledge to include existing and remodeled homes. The GreenPoint Rater-Existing Home (GPR-EH) training is open to Certified GreenPoint New Home Raters and Advisors who are interested in adding green consulting, design-build, rehabs, or ratings of existing homes to their portfolio of service offerings. There are two certifications available in GreenPoint Rater-Existing Home: GreenPoint Rater and GreenPoint Advisor. This course builds on the GreenPoint Rater-New Home training and is a similar how-to course to verify each one of the measures and the step-by-step processes to be an effective GreenPoint Rater or Advisor of existing homes. **For more information or to register, go to www.builditgreen.org or call (510) 845-0472 ext. 603.**

2008 Title 24 Energy Code, Nonresidential HVAC Overview

October 27, 2009

8:00 a.m. – 4:00 p.m. (No charge)

Taught by Russ King of Connerly & Associates, this full-day course will thoroughly cover the HVAC provisions of the 2008 California Building Energy Efficiency Standards. The program will include an introduction to the HVAC standards, including definitions and terminology, history of the standards, mandatory measures, compliance methods and options, case studies of typical HVAC applications, and informational resources. The course will also cover 2008 changes to the standards, including automatic fault detection diagnostic systems, new requirements for single-zone variable air volume equipment, refrigerated warehouse requirements, and changes to control system standards.

Lessons from the Capitol – HOK’s Work in Sacramento and the Coming Transformation of Sustainable Building Design

October 28, 2009

9:00 a.m. – Noon (No charge)

As a firm with a global footprint, HOK is a recognized leader in ecologically responsible design and has completed some of the most notable buildings in Sacramento. Join Zorana Bosnic, Sustainable Design Director, and Alan Bright, Senior Vice President/ Design Principal from their San Francisco office, as they cover today’s important sustainable design issues, insight into tomorrow’s transformative green building issues, the innovative approach known as ‘biomimicry,’ and the real world applications of this unique way of designing and planning the built environment.

Pump System Assessment

October 29, 2009

8:00 a.m. – 4:00 p.m. (No charge)

Learn more about pump system performance characteristics. This course discusses performance problems encountered in everyday applications. Greg Case of MechTronix Engineering covers practical issues involved in field measurements of fluid and electrical data, and presents the Pump System Assessment Tool (PSAT), used to assess the performance of pump systems. Learn how the software functions, what data is required, how to use the software when measured data is not available, and what the assessment results mean.

2008 Title 24 Nonresidential Building Envelope Changes

November 10, 2009

8:00 a.m. – Noon (No charge)

During this half-day class, taught by Russ King of Connerly & Associates, attendees will learn about changes to the 2008 California Building Energy Efficiency Standards relating to nonresidential envelopes. Subject matter includes new requirements of the following: Alternative Compliance Manual and appendices, site-built fenestration, fenestration acceptance verification, insulation, field verification and protocols for spray foams, modified overall building envelope method, modifications to additions and alterations, refrigerated warehouses, and roofing provisions.

Energy Efficiently Heating Your Home

November 14, 2009

9:00 a.m. – Noon (No charge)

SMUD Energy Specialists will explain and demonstrate how to optimize a home’s comfort and energy efficiency during the colder months of the year. This class will include information on caulking, weather stripping, window coverings, and insulation. Attendees will also learn about HVAC (heating, ventilation, and air-conditioning) replacement options, related energy code requirements, and techniques to improve furnace efficiency.

High Performance Schools: A CHPS Update

November 17, 2009

9:00 a.m. – Noon (No charge)

Discover the benefits of safe, healthy, energy-efficient facilities that provide the amenities for a quality education. The Collaborative for High Performance Schools (CHPS) will release the 2009 Edition of the California CHPS Criteria to coincide with the Title 24 Energy Efficiency Standards update. Come learn about the new credits and how the 2009 Edition will work with the CHPS Verified program and Proposition 1D funding.

Collaborative for High Performance Schools: Operations Report Card

November 17, 2009

1:00 p.m. – 4:00 p.m. (No charge)

Learn about the new CHPS Operations Report Card, the first CHPS program for existing schools. Going beyond traditional rating systems, the Operations Report Card benchmarks a school's current performance and provides suggestions for improvement in five areas: energy efficiency, thermal comfort, acoustics, lighting, and indoor air quality. As a fully online tool, the program is available to public and private schools alike. Learn how the program works and how it can benefit your schools.

Commercial Building Benchmarking

November 18, 2009

8:00 a.m. – Noon (No charge)

Benchmarking allows a building owner to continually track and compare his/her building's energy use against that of similar buildings. These comparisons are critical to successful energy management, as they can be enlightening and a strong motivator to improve building performance. Additionally, being able to document a building's energy efficiency provides a basis to communicate an environmentally-friendly image to prospective clients, buyers, or lessees. This class, presented by Devan Johnson, P.E., of kW Engineering, will describe the whats, whys, and hows of commercial building benchmarking. A variety of benchmarking tools and resources will be covered, including Energy Star Portfolio Manager, EnergyIQ, and the ASHRAE Building Energy Quotient program.

Lean Office

November 19, 2009

8:00 a.m. – Noon (No charge)

Many non-manufacturing enterprises are now adopting the concepts of Lean to enhance their performance and satisfy customers. Businesses such as hospitals, banks, insurance companies, government offices, and business offices of Lean manufacturers are adopting Lean concepts that focus on using techniques to produce more with existing resources and eliminate non-value added activities. David Jones of TEiM will present to attendees Lean office concepts using a thought-provoking, interactive presentation and simulations centering on office organization, communication, process improvements, and more effectively using the resources that are already available.

2008 Title 24 Energy Code, Residential HVAC Overview

December 1, 2009

8:00 a.m. – 4:00 p.m. (No charge)

Gary Wollin of Douglas Beaman Associates will review the mechanical system energy requirements as they pertain to the California Residential Building Efficiency Standards, commonly known as Title 24. The 2008 Standards include HVAC measures such as cooling coil airflow, maximum cooling capacity, refrigerate charge measurement, evaporatively cooled condensers, mechanical ventilation, and more. The emphasis on the cooling system is greater than ever in the new Standards. There are new CF-6R forms for contractors to fill out and new rules on how they how to be submitted. This class will review the HVAC rules for both new construction and HVAC change-outs.

Energy Efficiency Assessment

December 2 & 3, 2009 (2-day workshop)

8:00 a.m. – 4:00 p.m. (No charge)

During this 2-day course, David Wylie, P.E., of ASW Engineering, will present a comprehensive overview of many topics related to the energy efficiency of most commercial facilities. Topics include energy efficiency and important terms relating to lighting, motors, air-conditioning systems, boilers, refrigeration, the energy audit, and work plan. Upon course completion, attendees will have a foundation of information to implement energy assessments of their facilities and identify potential energy efficiency measures.

Maneuvering Lighting Design within Title 24, IECC and ASHRAE/IESNA 90.1

December 8, 2009: 8:30 a.m. – 4:00 p.m. (No charge)

This lighting seminar for architects, lighting professionals, engineers, and designers combines the fine details of design within the realm of compliance, as it pertains to energy codes and regulatory impacts. The lecture and workshop combination provided by James Benya, P.E., of Benya Lighting Design, will cover indoor and outdoor lighting for most applications and address the various codes and standards, rebates, and regulatory impacts to lighting design and installation.

Lean Culture

December 10, 2009

8:00 a.m. – 3:00 p.m. (No charge)

Lean is a set of tools or processes that assist businesses in the identification and steady elimination of waste while improving the quality of its service or product. Many companies use the tools of Lean but are not really Lean Enterprises. Others have the right kind of culture but do not think Lean tools can apply. This workshop will demonstrate how to adopt the Lean culture in business and use Lean tools to enhance operations and improve quality and delivery performance. Specific topics will include employee resistance to change, issues and potential pitfalls in developing into a Lean Enterprise, and an interactive simulation designed to take participants through many of the measures encountered as they move through their Lean journey. This extended duration workshop will be co-presented by David Jones of TEiM and Janice Whiting of the Performance Enhancement Group.