Spring 2020
Free Workshops
For Business Customers
Visit smud.org/Workshops
Renewable/Sustainable

Commercial Battery Energy Storage
Is buying a commercial battery storage system cost-effective? Will it provide back-up power and demand charge reduction? This workshop, taught by SMUD's battery storage experts, will cover the many facets of battery storage such as energy consumption, upfront costs, bill savings and payback.

HVAC

Designing Commercial Spaces with Modern Ceiling Fans
This workshop focuses on designing ceiling fans for commercial buildings with a target audience of architects, engineers and builders. Topics include context and benefits of air movement, design sizing and selection criteria including a hands-on exercise, automated and manual control options, install costs, case studies, research findings installation studies at sites throughout California.

Understanding Heat Pumps and Domestic Water Heating
In this class, you’ll learn how heat pumps work to heat and cool homes and domestic water heating, proper design and installation as well as the common mistakes that lead to poor performance, call backs and high bills.

2019 Title 24: Mechanical
California’s 2019 Title 24 Energy Standards took effect on January 1, 2020. Martyn Dodd will cover the numerous changes to the residential and nonresidential mechanical sections including HVAC efficiencies, ventilation, exhaust, domestic hot water and forms.

Building Design/Performance

Transforming How We Build - Free Architecture Series for 2020
SMUD's Energy Education & Technology Center and the AIA Central Valley are proud to present a year-long series dedicated to high-performance, regenerative design. It will cover carbon-neutral and net-zero architecture, social equity and other innovations that transform ideas and processes to address climate change.

Transforming How We Build: Keynote speaker
For over 30 years, Lake|Flato has created high performance architecture that responds to its environmental context and connects people to the natural environment. This presentation will explore the ethos that provides a foundation for the firm’s broad range of projects in diverse markets, contexts and climates.

Evolution and Revolution: The Bullitt Center and Regenerative Design
The design of the Bullitt Center was a transformative experience moving beyond a strong sustainable design focus to Net Positive design and long-term performance. This session will discuss the design and lessons learned from the Bullitt Center and introduce several other Net Zero and Living Building projects currently in design, construction and operation.
The ZERO Code is a model reach code for adoption by California cities and counties. It requires that nonresidential buildings either install or procure enough renewable energy to achieve zero energy and zero carbon emissions. The ZERO Code for California has two major innovations: recognition of various off-site renewable energy procurement methods and metrics for evaluating building performance that encourages load shifting, storage and grid harmonization.

Toward Zero Emissions Housing Design: From Affordable Housing to Boutique Hospitality
David Baker, FAIA, will share lessons learned from the all-electric Edwina Benner Plaza; Coliseum Place—a Living Building Challenge pilot project; and the upcoming Hotel Sebastopol, soon to be the state's first zero-net-energy boutique hotel.

Achieving Carbon Neutrality at a Campus Scale and Incorporating Operational and Educational Initiatives
The Facilities Energy & Engineering team at UC Davis is doing its part to tackle the goal of carbon neutrality by 2025 with strategies that include: building an in-house energy engineering team, creating an energy efficiency program that pays for itself, deep energy efficiency in existing buildings, incorporating students and educating through operational energy savings initiatives and new building design strategies to align with carbon neutrality.

Additional topics to look forward to include:

Demystifying Net-Zero Energy & Carbon Neutrality
Thursday, July 9, 2020

Embodied Carbon of Building Materials
Thursday, September 17, 2020

Meeting Climate Change Goals with FastOx®
Gasification and Yolo County's Path to Zero Waste
Thursday, August 20, 2020

Architectural as a Catalyst for Change
Thursday, October 8, 2020

2019 Title 24 Highlights
California's 2019 Title 24 Energy Standards took effect on January 1, 2020. Martyn Dodd will cover the numerous changes to the building envelope, use of LED lighting, updated power allowances, ventilation, HVAC and acceptance test requirements to help you prepare your designs for the future.

2019 Title 24: Envelope
California's 2019 Title 24 Energy Standards took effect on January 1, 2020. Martyn Dodd will cover the numerous changes to the building envelope residential and nonresidential sections including updated retrofits, acceptance test requirements and forms.

Introduction to Life Cycle Cost Analysis (LCCA)
Hob Issa, Vice President of Lincus, will guide participants through real-life case studies to calculate the total cost of an energy efficiency project based on investment costs as well as future operational costs. Practice with the software used for LCC Analysis, and work through practical examples to apply to your own projects.

LCCA Interactive Webinars
This webinar will allow participants to utilize Lincus's free LCCA tool to actively learn new information, new techniques and practice what has been learned. Lincus will run through real world LCCA examples in an engaging way.

EnergyPro 8 Residential - Introduction
Covers the basics of EnergyPro software when used to document compliance with the 2019 Title 24 Standards for residential buildings. The class will introduce participants to the basic input and modeling requirements to document low-rise residential building envelope, lighting and mechanical systems. Attendees wishing to bring a laptop should install a version of EnergyPro in advance at energysoft.com; computers will not be provided.
EnergyPro 8 Nonresidential - Introduction
Introduction to the basic input and modeling requirements to document commercial building envelope, lighting and mechanical systems with the 2019 Title 24 Standards. Attendees wishing to bring a laptop should install a version of EnergyPro in advance at energysoft.com; computers will not be provided.

EnergyPro 8 Nonresidential - Advanced
Explore advanced building envelope, lighting and mechanical design options and learn about the 2019 Title 24 requirements designed for those experienced with EnergySoft. Learn how to model and document compliance for commercial building designs. Attendees wishing to bring a laptop should install a version of EnergyPro in advance; computers will not be provided.

Lighting

Life-Changing Lighting: A Case Study on Lighting for Children with Autism
This case study demonstrates how using circadian lighting design and strategies at home helped children with autism and their families. These designs included using proper color temperatures and setting up routines to encourage desired behaviors and reduce unwanted behaviors. These new lighting techniques helped changed the lives of several families.

Innovators in LED Lighting
This quick lunchtime workshop will give designers fluency in LED lighting technology through demonstration of many products. This education allows designers to guide clients towards informed decisions about LED lighting and increases the understanding of quality of light required to make design projects 100% successful.

Designing with Title 24 in Mind: Nonresidential Applications
The 2019 Standards have tight lighting power allowances but with LED technology designers can still achieve a good-looking project at reasonable cost. Jim Benya will include controls, daylighting and both indoor and outdoor lighting. Outdoor lighting will also include a quick review of CALGreen and the additional challenges it presents.

Designing with Title 24 in Mind: Residential Applications
The 2019 Standards don’t change very much from 2016 but there are many important tweaks and tricks that designers will need when working with this new version. Jim Benya will address how the changes affect multi-family and senior living facilities. There will be a special focus on the challenges that Title 20 and JA8 bring to projects as well.

Daylighting – The Forgotten Design Element
Daylighting design begins with giving daylight and views to all building occupants, in order for them to connect with the outdoors and provide visual relief. Nancy Clanton will teach us the basic principles in daylighting design that will maximize availability and views, minimize glare and reduce interior lighting energy use.

Lighting Lessons Learned: Getting Buildings to Really Work
Too many times, excellent designs are just not performing as predicted. Nancy Clanton will discuss issues discovered during post occupancy evaluations that led to “lessons learned” including luminaire selection and locations, lighting control systems, daylighting design and shading and most important – training for the operation and maintenance staff.
SMUD’s Energy Education & Technology Center
Class Calendar for Business Customers
Spring 2020

Free classes to improve your bottom line.
All workshops will be held at 6301 S Street, Sacramento unless otherwise noted.
Register at smud.org/Workshops

SMUD offers one-to-one customer service for businesses through our dedicated Strategic Account Advisors. Find your advisor at smud.org/MyAdvisor.
Folsom Blvd.
65th LIGHT RAILSTATION
Highway 50 "S" Street
SMUD’s Energy Education & Technology Center
SMUD Headquarters
SMUD Customer Service Center
SMUD’s Energy Education & Technology Center

Hours
8 a.m. to 4 p.m. Monday through Thursday
8 a.m. to 3 p.m. Friday

Contacts
etcmail@smud.org | 916-732-6738

Register for classes
smud.org/Workshops | 916-732-6738

ENERGY EDUCATION

Video Library
We have a growing library of online and on-demand classes to help your business thrive.

Learn more at smud.org/BusinessVideos

Take the 65th Street exit from Highway 50 (see map)
▸ If coming from the west, turn left on 65th Street, go underneath the freeway and turn left at the signal onto S Street.
▸ If coming from the east, proceed to the bottom of the exit ramp and go straight across 65th Street onto S Street.

Sacramento Regional Transit/Light Rail station is within one block. Use University/65th Street station.

SMUD
Energy Education & Technology Center

Title 24 2019: Non-Residential Indoor Lighting
29:35

Title 24 2019: Residential Lighting
3:50

Title 24 2019: Non-Residential Mechanical
19:32

Title 24 2019: Outdoor Lighting
8:20

Commercial Battery Storage: Overview
1:06
Learn the basics of commercial battery storage

Commercial Battery Storage: Applications
1:05
Explore the best uses for commercial battery storage

Commercial Battery Storage: Costs
5:14
Find out if a commercial battery storage system is right for your business

Lighting for Restaurants
3:16
Discover ways to make your food pop for customers

Refrigeration for Restaurants
3:16
Learn how to manage your refrigeration costs, and find out how much you can expect to save using simple strategies from SMUD