

Free Educational Seminar

For PGE Commercial and Industrial Customers

Fundamentals of Efficient Lighting & Controls

This free half-day seminar will present the fundamentals of light and lighting with an emphasis on energy efficiency and controls. This class is designed to be understood by those with little prior lighting knowledge, but will be beneficial to those at any level. It will also give you a strong foundation of lighting terms and design concepts needed to prepare you for our advanced lighting seminars.

This seminar will feature lighting displays and demonstrations, including LEDs and other lamps and ballasts. Diverse topics of lighting quality and efficiency will be covered. Learn how to implement an efficient lighting project and apply for Energy Trust incentives.

This seminar will equip participants to better:

- *Understand the fundamentals of light and lighting principles and terminology*
- *Learn the language of lighting, lighting applications, and design concepts*
- *Identify energy efficiency opportunities for lighting upgrades and controls*
- *Differentiate between lamp types such as incandescent, fluorescent, H.I.D., and LED*
- *Understand fundamental economic principles and simple lighting calculations*
- *Prepare to attend and understand advanced lighting seminars*

Who should attend?

This seminar is perfect for anyone wanting a “hands-on” visual introduction to light and efficient lighting systems.

- *Facility managers & operators*
- *Small business owners & managers*
- *Building owners & leasing agents*
- *Sustainability team members*

Instructor

Mark Whitney, LC, LEED AP, Portland General Electric

Mark has worked as a lighting specialist at PGE for the past 15 years and currently provides technical lighting support for our commercial and industrial customers. This support may include an on-site consultation and helping our customers get involved with Energy Trust efficiency programs. Mark dedicates a portion of his time to lighting education and is active with the Portland Oregon Section of the Illuminating Engineering Society. He is Lighting Certified and a LEED Accredited Professional.

March 14, 2012 • Portland

Time and Location

Wednesday, March 14, 2012

7:30 a.m. - 11:00 a.m.

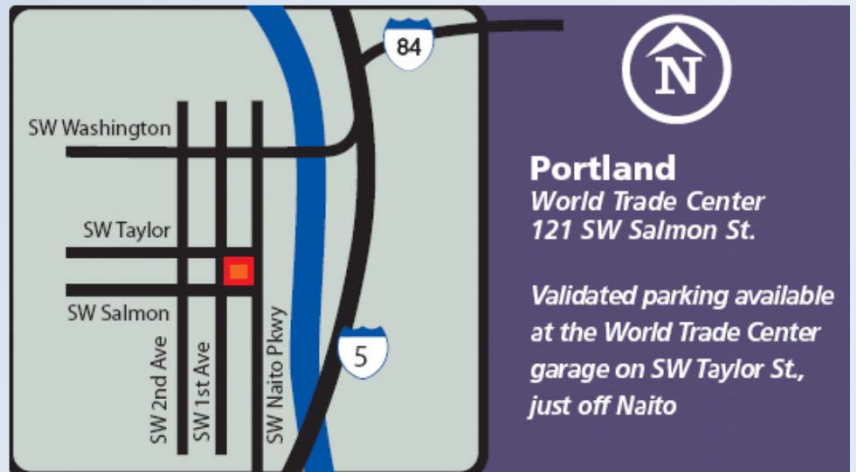
Continental Breakfast: 7:30 a.m.

Seminar: 7:50 a.m.

2 World Trade Center

121 SW Salmon St.

Portland, OR 97204



Cost

Free to PGE commercial and industrial customers. Others may attend based on space; fee will apply.

Accreditation

- Clackamas Community College: 0.3 CEUs (continuing education units)
- IFMA: Qualifies for three CFM maintenance points
- Oregon Real Estate Agency: qualifies for three continuing education credit hours (course topics: commercial real estate and property management)

Registration

RSVP is requested as soon as possible. However, we can accommodate a few walk-in registrations. To register, e-mail PGE.Seminars@pgn.com or call **503-464-8020** and press "1" for classes.

More Educational Opportunities

Visit our website at PortlandGeneral.com/Classes for a complete list of offerings. Classes may be added throughout the year. Send an e-mail to PGE.Seminars@pgn.com to receive e-mail notices of new class and webinar offerings.



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