

# Free Educational Lighting Seminar

*For PGE Commercial and Industrial Customers*

## Fundamentals of Efficient Lighting and Controls

**This free half-day seminar** will present the fundamentals of light and lighting with an emphasis on energy efficiency and controls. No prior lighting knowledge is needed, but those who already know the basics will still benefit by attending. You may also want to attend this seminar before going to the more advanced lighting seminars presented by Stan Walerczyk.

This seminar will feature unique lighting displays and demonstrations at the Earth Advantage Lighting Lab, including color booths, LED displays, and controls. Diverse topics of lighting quality and efficiency will be covered. Learn how to implement an efficient lighting project and apply for Energy Trust incentives and State of Oregon Tax Credits.

### **This seminar will equip participants to better:**

- *Understand the fundamentals of light and lighting*
  - *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 calculations*
  - *Prepare to attend and understand advanced lighting seminars*
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## 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*
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## Instructor

***Mark Whitney, LC, LEED AP***

*Mark has worked as a lighting specialist at PGE for the past 14 years and currently provides technical lighting support for our residential, 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.*

**April 27, 2010 • Earth Advantage Center, Tigard**

## Times and Locations

### Fundamentals of Efficient Lighting and Controls

Tuesday, April 27, 2010

7:30 a.m. – 12:00 p.m.

Continental breakfast: 7:30 a.m.

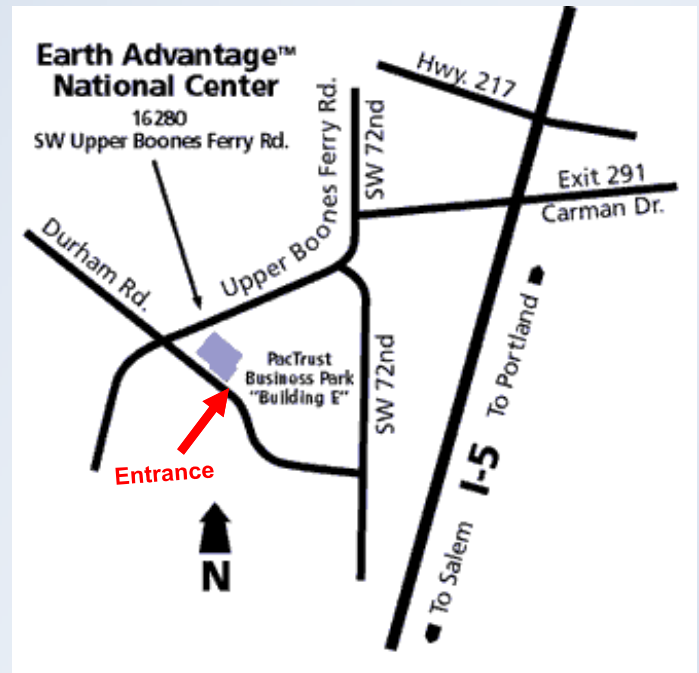
Seminar: 7:50 a.m.

16280 SW Upper Boones Ferry Rd.

Portland, OR 97224

### Cost

Free to PGE customers. Others are welcome based on availability of space and a small fee may apply. Free on-site parking.



### Accreditation

- Chemeketa or Clackamas Community Colleges: 0.4 CEUs (continuing education units)
- IFMA: Qualifies for four CFM maintenance points
- BOMA: Certificate of Completion that can be used toward certification

### Registration

Please register as soon as possible. However, we can accommodate a few walk-in registrations. To register, send an e-mail to [PGE.Seminars@pgn.com](mailto:PGE.Seminars@pgn.com) or call 503-464-8020.

### More Educational Opportunities

For more information on additional classes for PGE business customers, visit our website at [PortlandGeneral.com/Classes](http://PortlandGeneral.com/Classes). Classes may be added throughout the year. If you'd like to receive e-mail notices of new class offerings, e-mail [PGE.Seminars@pgn.com](mailto:PGE.Seminars@pgn.com).

#### Additional lighting classes to look forward to in 2010:

- *Lighting Retrofits – How Low Can You Go?*
- *High Bay Lighting*
- *New Trends in Lighting – LED vs. Incumbents*
- *Advanced Technologies in Outdoor Lighting*



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Learn about more free seminars at [PortlandGeneral.com/Classes](http://PortlandGeneral.com/Classes)