



## **ENERGY CONNECTIONS EDUCATIONAL PROGRAMS FALL 2010**

### **Credit Hours offered for all courses:**

- **Sustainable Lighting Design I & II**
- **Basic Wire Design I**
- **Wiring Design II**
- **Advanced Wire Design I & II**
- **Substation Class will return in Spring 2011**

### **Basic Wiring Design I**

- Electrical Fundamentals & NEC
- Voltage Systems
- Conductor properties
- Raceways
- Overcurrent Protection
- Branch circuit and feeder design

Schedule: September 13, 20, 27, Oct. 4 / Monday evening 5:30-8:30

Instructor: Jerry J. Telin, P.E. [jtelin@duqlight.com](mailto:jtelin@duqlight.com)

**12 credit hours given**

### **Wiring Design II**

- Overhead and Underground Service
- Clearances & Requirements
- Equipment Grounding
- Branch Circuits
- Residential Service Sizing Calculations

Schedule: October 11, 18, 25 & Nov. 1 / Monday evening 5:30-8:30

Instructor: Jerry J. Telin, P.E.

**12 credit hours given**

### **Advanced Wiring Design I**

Lectures, example problems and quizzes will cover the following subjects:

- Application and Selection of Fuses and Circuit Breakers
- Electric Utility Metering and Billing
- Motor Branch Circuit and Feeder Design
- Motor Control Circuits
- Reduced Voltage Starters

Schedule: September 14, 21, 28, Oct. 5 / Tuesday evening 5:30-8:30

Instructor: Timothy J. Bray, P.E. [timbray47@gmail.com](mailto:timbray47@gmail.com)

**12 credit hours given**

### Advanced Wiring Design II

- Transformer Protection / Autotransformers
- Power Factor Improvement and Capacitor Sizing
- Power Quality/Harmonics
- System Protection and Coordination
- Article 630 - Electric Welders

Schedule: October 12, 19, 26 & Nov. 2 / Tuesday evening 5:30-8:30

Instructor: Timothy J. Bray, P.E. [timbray47@gmail.com](mailto:timbray47@gmail.com)

**12 credit hours given**

### Sustainable Lighting Design I

Lectures, case studies, example problems and quizzes will cover the following subjects:

- Standard lighting calculations needed for lighting applications.
- Energy code overview and how it applies in lighting.
- Commercial, residential and institutional lighting design applications and examples.
- Review state of the art light sources and light fixtures and where to apply them.
- Review case-studies and interaction with industry lighting design experts

Schedule: September 15, 22, 29, Oct. 6 / Wednesday evening 5:30-8:30

Instructors: Mike Zeuger [mzeuger@fmrwengineering.com](mailto:mzeuger@fmrwengineering.com) & Kevin McGahey

**12 credit hours given**

### Sustainable Lighting Design II

- Lighting calculations needed for advanced and specialty lighting applications.
- Applications of lighting design focused on the new energy codes.
- USGBC LEED overview focused on lighting design and lighting controls for new construction.
- Advanced commercial, residential and institutional lighting design applications and examples.
- Review state of the art light sources and light fixtures and where to apply them on advanced applications.
- Review case-studies and interaction with industry lighting design experts on advanced applications.

Schedule: October 13, 20, 27 & Nov. 3 / Wednesday evening 5:30-8:30

Instructors: Mike Zeuger [mzeuger@fmrwengineering.com](mailto:mzeuger@fmrwengineering.com) & Kevin McGahey

**12 credit hours given**

**All Classes will be held at Duquesne Light Company**

**Woods Run, Training Building #6, 1st floor, classroom 108 & 109.**

(Address for navigation: 2841 New Beaver Ave, Pittsburgh, PA 15233-1003)

### **Tuition:**

-\$160 EL members for 4 week course / \$175 non-members

***(3 or more from the same company receive 20% discount per person)***

-\$95 EL members for 2 week course / \$110 non-members

***(3 or more from the same company receive 20% discount per person)***

-\$60 EL members for seminar course / \$75 for non-members

***(3 or more from the same company receive 20% discount per person)***

## REGISTRATION

Contact Name: \_\_\_\_\_ Company: \_\_\_\_\_

Address: \_\_\_\_\_

Telephone: \_\_\_\_\_ Email: \_\_\_\_\_

Course(s):

- Basic Wiring Design \_\_\_\_\_
- Wiring Design II \_\_\_\_\_
- Advanced Wiring Design \_\_\_\_\_
- Advanced Wiring Design II \_\_\_\_\_
- Sustainable Lighting Design \_\_\_\_\_
- Sustainable Lighting Design II \_\_\_\_\_

Type of payment:

Check \_\_\_\_\_ Mastercard \_\_\_\_\_ VISA \_\_\_\_\_

Credit card # \_\_\_\_\_

Exp. Date \_\_\_\_\_ Name as it appears on the card \_\_\_\_\_

**For additional information, please call 412-363-8011 or email [info@electricleague.com](mailto:info@electricleague.com)**

Send registration form and payment to:  
Electric League (Make checks payable to Electric League)  
919 Maryland Ave.  
Pittsburgh, PA 15232

***New courses being added including Energy Code classes  
in 2011. Please check our website for the  
most updated information:  
[www.electricleague.com](http://www.electricleague.com)***