

# CLEAN ENERGY TECHNOLOGY

## CERTIFICATIONS & DEGREES TO BOOST YOUR BUSINESS

Certifications provide a standard that sets you apart so employers and customers know that you can demonstrate a specific set of knowledge and skills. Many pathways exist for training and certification, and it pays to plan your direction. Whether you are at an entry level or are an experienced contractor with your own company, training and certification can increase the quality and value of your work. Significant on the job learning is usually required to become proficient in the skills taught during a course. For those working as or for contractors in the renewable energy field, the North American Board of Energy Practitioners provides a well-established set of nationally recognized certificates at an entry level training opportunity as well as certifications for skilled professionals.

## CLEAN ENERGY TRAINING

### **MATHEMATICS FOR MANUFACTURING & TECHNICAL CAREERS**

Course is geared towards those that need a math refresher before beginning the PV training or other technical training. Mathematical operations including fractions, exponents, basic algebra and trigonometry will be reviewed. Prerequisite: Basic Mathematics. **Instructor: R. Eckmann**  
**DCB 2064-04 T 1/30-3/6 6:30-8:30pm KSU \$199**

### **ELECTRICAL THEORY I BASICS**

Learn electrical theory basics for a variety of professional fields including the manufacturing field. Course will cover basic electrical distribution, identifying and selecting electrical equipment, sizing wires and overcurrent protection, and introduction to the National Electrical Code, installing wires and conduit, theory of series and parallel circuits and measuring voltage and current. This course includes a lab component.  
**DCB 1947-32 W 3/21-4/18 4:30-7:30pm KSU \$199**

### **ELECTRICAL THEORY II**

This course continues on where Electrical I leaves off and is geared towards those in an advanced manufacturing career pathway. This course includes a lab component. Prerequisite: Electrical Theory I Basics or equivalent.  
**DCB 2135-02 W 4/25-5/16 4:30-7:30pm KSU \$199**

### **PHOTOVOLTAICS (PV) SYSTEMS RECOGNIZED BY NABCEP**

The class covers the basic sizing and design of systems to serve a given electrical load and safety procedures for installers and for those learning the basics of solar installation. Students study the electrical code for PV systems in detail and the various mounting systems for PV arrays and how they affect roofs. Course includes a hands-on installation of a PV system. Students completing this course may sit for the NABCEP Associate Exam. This course is approved by New York State Bureau of Veterans Education for payment of VA Education Benefits. Prerequisite: Electrical Theory. Required text: *Photovoltaic Systems*, ISBN: 9780826913081  
**Instructor: J. Novak**  
**DCB 1795-29 T/R 5/1-17 5:30-9pm SRC \$995**  
**S 5/12 & 19 9am-4pm SRC**



### **ELECTRICAL THEORY FOR RENEWABLE ENERGY (SOLAR PV)**

This is a required class that will provide the student with an understanding of basic principles of electricity to include alternating and direct current and Ohm's Law, with an emphasis on DC theory. This course is required for anyone who plans to take Solar PV Concepts and Systems and does not have the prerequisite knowledge of electrical theory.  
**Instructor: G. Goodstal**  
**PV103-0307CT M/W 3/7-26 5:30-9:30pm CT \$399**

### **SOLAR PV CONCEPTS & SYSTEMS**

This course will give a student the theoretical basis for understanding the various types of solar electric systems. Training will cover the history of solar electricity, current markets and industry status, and other considerations necessary to understand how solar electric systems function. Detailed study of system components as well as the proper and safe electrical interconnection of these components will include hands-on training exercises and experiments. This class will also meet on Saturday 10/21 and 11/4 for offsite tours of public and private solar (PV) systems.  
**Instructor: J. Novak**  
**PV202-0402CT M/W 4/2-25 5:30-9:30pm CT \$539**  
**S 4/7 & 14 9am-1pm**

### **SOLAR PV SYSTEMS INSTALLATION**

Students will develop the comprehensive knowledge and practical skills needed to install utility connected and offgrid Solar PV systems. Systems electric load analysis, system component design and sizing, system siting, shading, electrical and mechanical system configuration, safety, and electrical and building code compliance will be supplemented with hands-on system installation. Prerequisites: Solar Concepts and Systems. This class will also meet on Saturday November 18, and December 2 for off site tours of public and private solar (PV) sites and hands-on installation practical experience when scheduled. **Instructor: E. Yavne**  
**PV203-0430CT M/W 4/30-5/23 5:30-9pm CT \$539**  
**S 5/5 & 12 9am-1pm**

### **SOLAR PV PROJECT MANAGEMENT**

As the solar industry grows, so does the role of the professional PV installer, requiring technical knowledge in many areas as well as the ability to manage multiple aspects of both residential and commercial PV projects. Solar PV Project Management follows the requirements of the NABCEP PV Installation Professional Job Task Analysis (JTA) and covers the critical areas of permitting and utility interconnection, on site safety and site preparation, material and personnel management, customer relationships, and system commissioning, testing, monitoring, troubleshooting and maintenance.  
**Instructor: L. Hoffstatter**  
**PV204-0530CT M/W 5/30-6/18 5:30-8:30pm CT \$299**



# BUILDING SCIENCE & TRADES



## NEW! RESIDENTIAL ENERGY AUDITOR I & II

The BPI Building Analyst course is based upon a broad building science curriculum. It presents a solid scientific foundation upon which inspectors and auditors can build an accurate understanding of modern buildings. Each topic includes an overview of the technology, examples of typical installations and their defects, procedures for performing audits, and guidelines for analyzing potential retrofits. A balanced approach to building performance is presented here that addresses energy efficiency, building durability, and human health.

Residential Energy Auditor I will cover the terms and concepts that students will need to know to become a Residential Energy Auditor. Residential Energy Auditor II will be a working lab with a professional from the field. Students will review the online content briefly with the professional and then perform hands-on exercises with the equipment that is needed for this profession.

Students who complete Residential Energy Auditor I and II will possess the skills needed to sit for the BPI Building Analyst exam. Course price includes Residential Energy, Energy Auditor Field Guide, Energy Auditor course workbook, laminated reference sheets. Students will need to register for the BPI Building Analyst Written Exam (DCB 1025) and Field Exam (DCB 1143) separately. Exam prices are not included.

### RESIDENTIAL ENERGY AUDITOR I

DCB 2154-02 ONLINE \$299

Note: Online course must be completed before Residential Energy Auditor II

### RESIDENTIAL ENERGY AUDITOR II

DCB 2198-01 by appointment 9am-4pm SRC \$399

Prerequisite: Residential Energy Auditor I

### BPI BUILDING ANALYST PROFESSIONAL - INTRODUCTION TO HOME ENERGY AUDITING

Prepares students to perform "whole-house" energy assessments, identifying a building's problems at the root cause and prescribing and prioritizing solutions based on building science principals. Upon successful completion of the written and field exams, students receive Building Analyst Certification. Approved by New York State Bureau of Veterans Education for payment of VA Education Benefits. *Approved for 8.5 BPI CEUs.* Prerequisite: Basic building science background strongly recommended Reference textbook: *Residential Energy* (ISBN-13: 978-1880120231) **Instructor: N. Jen**  
DCB 1842-54 M-F 3/5-9 8am-5pm SRC, Kelder \$995  
Class on Friday is from 9-11am and is held at KSU in Kingston.

### BPI WRITTEN EXAMS

All written exams are by appointment and subject to a \$200 non-refundable fee. Exams are held at the Kingston Center.

To register call 845-339-2025.

|          |  |       |
|----------|--|-------|
| DCB 1025 | BPI Building Analyst Written Exam            | \$200 |
| DCB 1026 | BPI Building Envelope Field Exam             | \$200 |
| DCB 1635 | BPI Building Heating Professional Field Exam | \$200 |
| DCB 1262 | BPI Building A/C Heat Pump Field Exam        | \$200 |

### BPI FIELD EXAMS

All field exams are by appointment and subject to a \$200 non-refundable fee. Exams are held in Kelder located on the SRC.

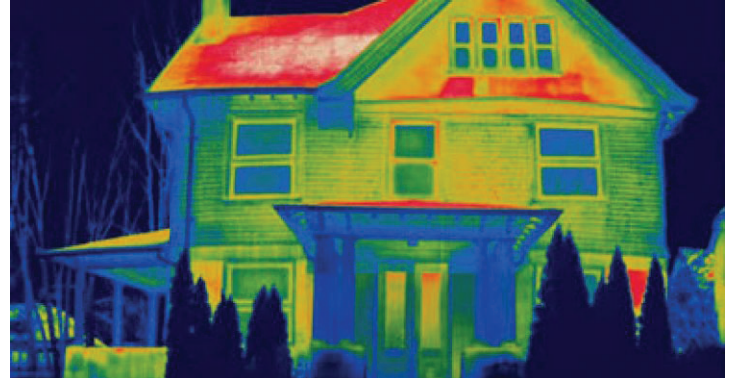
To register call 845-339-2025.

|          |  |       |
|----------|--|-------|
| DCB 1143 | BPI Building Analyst Field Exam              | \$400 |
| DCB 1149 | BPI Building Envelope Field Exam             | \$400 |
| DCB 1150 | BPI Building Heating Professional Field Exam | \$400 |
| DCB 1270 | BPI Building A/C Heat Pump Field Exam        | \$400 |

### BPI ENVELOPE PROFESSIONAL

Learn to quantify "whole-house" performance and prescribe improvements to help tighten the building envelope (shell), stop uncontrolled air leakage, install needed insulation, and optimize comfort, durability and HVAC performance. Approved by New York State Bureau of Veterans Education for payment of VA Education Benefits. Prerequisite: BPI Building Analyst training. *Approved for 8.5 BPI CEUs.*

DCB 1843 by appointment SRC, Kelder



### BPI HEATING PROFESSIONAL

Learn how to optimize the performance of heating equipment to help save energy and ensure occupant comfort, health, and safety. *Approved for 8.5 BPI CEUs.* Approved by New York State Bureau of Veterans Education for payment of VA Education Benefits. Prerequisite: BPI Building Analyst training.

DCB 1036 by appointment SRC, Kelder

### BPI A/C HEAT PUMP PROFESSIONAL

Learn how A/C Heat Pump systems work within the whole house and how to diagnose and correct problems properly to achieve peak performance. Approved by New York State Bureau of Veterans Education for payment of VA Education Benefits. *Approved for 8.5 BPI CEUs*

DCB 1256 by appointment SRC, Kelder

### BPI INFILTRATION & DUCT LEAKAGE (IDL)

Deliver the tests that builders need to meet IECC codes for air infiltration and duct leakage.

DCB 7840 by appointment SRC, Kelder \$400

### BPI INFILTRATION & DUCT LEAKAGE (IDL) CERTIFICATION FIELD EXAM

Subject to a \$200 non-refundable fee.

DCB 7840 by appointment SRC, Kelder \$300