



ENERGY
SOLUTIONS

RESEARCH &
TRAINING

CHP Energy Solutions Research and Training
550 Industrial Drive
Christiansburg, VA 24073
phone: 540-260-9081 fax: 540-260-9084
www.CHPTrainingCenter.org

v37

Courses and Services

IREC Accredited Training Provider™

Home Energy Professional Courses:

Quality Control Inspector
Energy Auditor
Crew Leader
Retrofit Installer Technician



Courses Leading to Credential

Preparatory Course for BPI Air Conditioning and Heat Pump

Preparatory Course for BPI Building Analyst

Preparatory Course for BPI Heating

Preparatory Course for BPI Infiltration and Duct Leakage (IDL)

Preparatory Course for BPI Manufactured Housing

Preparatory Course for BPI Multi-Family

Credential for Green Property Management (Online)

EPA Renovator - Initial Course (English)

EPA Renovator - Refresher Course (English)

Lead-Safe Weatherization (Online)

Weatherization Segura de Plomo (Online)

OSHA Asbestos Operations and Maintenance

OSHA Asbestos Worker

OSHA 10 - Construction

OSHA 30 - Construction

Additional Courses and Training

Gap Multifamily Quality Control Inspector

Advanced HVAC Troubleshooting

ASHRAE 62.2 2013

HVAC Fundamentals

HVAC Sizing

Manufactured Housing Fundamentals

NEAT/MHEA Energy Audit





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Courses and Services

Online Courses

Credential for Green Property Management

Quality Control Inspector*

Energy Auditor*

Auditor energético

Crew Leader*

Retrofit Installer Technician*

Lead-Safe Weatherization

Weatherization Segura de Plomo

Client Education

Infiltration Duct Leakage (IDL) Certification

HVAC Fundamentals

Manufactured Housing Fundamentals

Weatherization Management

Confined Spaces Overview

* Does not replace corresponding accredited in-person course.

Building Testing and Verification Services

NEAT/MHEA Reviews

Manual J and D Reviews

Duct Air Balancing and Comfort Assessments

EarthCraft

Air Leakage Testing

Code Compliance Testing

Moisture Assessments

Customized Courses to Meet Your Needs (Online and In-Person)

Field Mentoring (All Topics)

Webinars/ Virtual classes

Classroom/Lab and Meeting Space

BPI Test Center





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ASHRAE 62.2

Course Description

ASHRAE 62.2 is designed to introduce students to ventilation using a house as a system approach. Students taking this course will gain a basic understanding of building science in addition to ventilation. Students will be instructed in both classroom and lab settings to ensure maximum understanding of different ventilation strategies and how they relate to the house as a system. The class curriculum is suitable for weatherization auditors, crews and those seeking a better understanding of ventilation and basic building science.

The majority of the class is spent in our state-of-the-art training labs, practicing a myriad of different ventilation techniques. Students will have hands on time with fans, controls, ducting, and flow measurement all related to real world applications, not just classroom theory. Participants will take a written test of house as a system and ventilation techniques that were practiced. Upon successful completion of the test, each participant will receive a certificate of completion.



Course Objectives

- ▶ Learn the “House as a System” approach
- ▶ Understand the basic fundamentals of building science
- ▶ Perform the ASHRAE 62.2 calculations for needed whole building ventilation and local exhaust ventilation
- ▶ Measure flow of installed ventilation systems to ensure proper amount of air movement
- ▶ Be familiar with the proper post weatherization safety test out procedures
- ▶ Use lab experience to give students a practical understanding of the lessons being taught

Skills You’ll Take Home

- ▶ Performing ASHRAE 62.2 calculations
- ▶ Identifying ventilation systems to meet ASHRAE 62.2
- ▶ Setting ventilation controls for desired airflow
- ▶ Methods of ventilation system installation
- ▶ Verifying ventilation system performance
- ▶ Basic wiring
- ▶ Understanding of ventilation effects on Combustion Appliance Zone



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ASHRAE 62.2



Organization

This is a lecture-lab course. Topics will be presented in a classroom setting and then followed up with student involvement in the lab. The class will be geared towards little or no previous training in this field. Student participation is very important and is a part of the final grade.

Grading Criteria and Passing Score

Students are evaluated through a written exam. The passing score for the course is 80% or higher. If a student does not pass the exam, he or she will be allowed to retake it at a later date, according to CHP Energy Solutions Research and Training's retesting policy.

Grading Plan

Written Exam

40 points (32 points to pass)

Cost

\$1500

Note: Contact the Training Center for Group Pricing Information.



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Infiltration Duct Leakage (IDL) Certification

Course Description

Infiltration Duct Leakage (IDL) Certification is a one day course specifically designed for building contractors and HVAC technicians. The course will allow participants to understand the use of both the blower door and duct tester. Students will learn equipment set-up, basic building science, heat transfer modes, and common leakage sources found in typical homes. Manometer configurations along with mathematical calculations will be taught to check for code compliance. Students, by course completion, will be able to set-up, run diagnostic testing and interpret the data that the equipment gives them.

State-of-the-art technology will be utilized in the classroom as well as the labs to provide students with the highest quality of learning. Several types of equipment will be available to allow participants hands-on training with leading brands currently used in the industry. Upon successful completion of two lab practical exams, each participant will receive a certificate of completion.



Course Objectives

- ▶ Understand basic building science
- ▶ Understand terms and definitions associated with blower door and duct testing
- ▶ Perform blower door and manometer set-up
- ▶ Recognize common air infiltration sites
- ▶ Calculate blower door mathematics
- ▶ Perform duct testing and manometer set-up. (Total duct leakage)
- ▶ Understand common duct leakage sites
- ▶ Measure duct leakage to the outside. (Incorporating the blower door)

Skills You'll Take Home

- ▶ Basic building science
- ▶ Blower door testing
- ▶ Duct testing
- ▶ Code compliance calculations



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Infiltration Duct Leakage (IDL) Certification



Organization

This is a lecture-lab course. Topics will be presented in a classroom setting and then followed up with student involvement in the lab. The class will be geared towards little or no previous training in the use of diagnostic testing equipment. Student participation is very important and will play an important role in the final grade.

Grading Criteria and Passing Score

The final test-out consists of two sections: one blower door hands-on and one duct tester hands-on. The student must pass each section with an 80% score or higher. If the student does not pass a section, he or she will be allowed to retake that particular section in accordance with CHP Energy Solutions Research and Training's retesting policy.

Grading Plan

Hands-on Section Blower Door	21 points (17 points to pass)
Hands-on Section Duct Testing	15 points (12 points to pass)

Cost

\$549

Note: Contact the Training Center for Group Pricing Information



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Retrofit Installer Technician

Course Description

The Retrofit Installer Technician course is based on a National Renewable Energy Laboratory/U.S. Department of Energy Job Task Analysis* (JTA) of the same name. Students taking this course will gain a basic understanding of building science and the house as a system. They will receive a sample work-scope and follow it from material selection/truck maintenance and loading to implementation of various materials and processes to properly air sealing and insulating a house (whole-house weatherization). The class curriculum is suitable for weatherization crews, retrofit workers, and those seeking a better understanding of weatherization and basic building science. This course is designed to prepare students to take the BPI Home Energy Professional Retrofit Installer Technician certification exam.



The majority of the class is spent in our state-of-the-art training labs, practicing whole-house weatherization techniques. Air sealing and insulation installation are only a small portion of the skills that students will learn. Students will get feedback about learning progress by taking online quizzes via our Learning Management System (LMS) throughout the course. Students will take one written test, also delivered through our LMS, and one hands-on test of weatherization skills that were practiced. Upon successful completion of the tests, each participant will receive a certificate of completion.

Course Objectives

- ▶ Select and use the proper safety equipment
- ▶ Acquire the skills needed to be a retrofit installer technician
- ▶ Understand the basic building science that drives the retrofit upgrade
- ▶ Be able to identify and use the proper materials and tools
- ▶ Use lab experience to gain a practical understanding of the lessons being taught

Skills You'll Take Home

- ▶ Safety protocols
- ▶ Work-scope verification
- ▶ Material selection/usage
- ▶ Understanding of basic building science
- ▶ Hands-on air sealing
- ▶ Whole-house weatherization techniques
- ▶ Dense-pack insulation
- ▶ Machine and tool maintenance
- ▶ And much, much more!





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Retrofit Installer Technician

Organization

This is a lecture-lab course. Topics will be presented in a classroom setting followed by student involvement in the lab. The class will be geared toward those who have little or no previous training in this field. Student participation is very important. Testing for this course will involve both a written and field practical. Note: The BPI Home Energy Professional Retrofit Installer Technician certification is a separate test with an additional fee.

Grading Criteria and Passing Score

The exam consists of two sections: one written and one hands-on. The student must pass each section with an 80% score or higher. If a student does not pass a section, he or she will be allowed to retake that particular section in accordance with CHP Energy Solutions Research and Training's retesting policy.

Grading Plan

Written Section (delivered via our LMS)	70 points (56 points to pass)
Hands-on Section	10 points (8 points to pass)

Topics

% of Weight of JTA in Course

Maintaining safety	19%
Preparing for the job	6%
Preparing and maintaining tools and materials on-site	4%
Preparing and maintaining job site	11%
Building science	0%
Implementing work scope	56%
Wrap up	4%

Cost

One-week Course **\$1995**

Note: The BPI Home Energy Professional Retrofit Installer Technician certification is a separate test with an additional fee.

To enroll in this course, students must be 18 or older and pass an Retrofit Installer Technician prerequisite pre-test which assesses their literacy levels, understanding of basic math, and understanding of basic building science. This Job Task Analysis may be viewed online at http://www.energy.gov/sites/prod/files/2014/01/f7/retrofit_installer_jta_04112012.pdf or at [CHPTrainingCenter.org](http://www.CHPTrainingCenter.org).

Virginia - Radon Zones

Legend

- Zone 1 *Highest Potential (greater than 4 pCi/L)*
- Zone 2 *Moderate Potential (from 2 to 4 pCi/L)*
- Zone 3 *Low Potential (less than 2 pCi/L)*

