

Home Performance and Energy Retrofit Boot Camp

Bootcamp Training Schedule – 2-week, 80-hour class

May 12 and 13: Residential Installer Technician (RIT), shell focus (16 hours)

The RIT shell portion of the course provides an overview of energy retrofit and weatherization measures and standards related to the thermal envelope, as well as residential building performance practices including building science basics and the house as a system. This portion also covers basic health and safety issues, pressure diagnostics, air-sealing, insulation installations, moisture management, window and door installation, roof vent installation and more. Hands-on labs will be conducted in air sealing, Insulation of hidden cavities, window and door installation, and blower door testing.

May 14 and 16: Residential Installer Technician (RIT), mechanical focus (16 hours)

The RIT mechanical systems portion of the course covers residential weatherization practices for installers, with emphasis on assessment, troubleshooting, and improvement of mechanical systems such as furnaces, boilers, domestic hot water systems, and ventilation systems. Skills taught include combustion analysis, assessment of ventilation systems, and pressure diagnostics at the shell and ductwork. Hands on labs in duct repairs, duct blaster, fan flow measurements, and roof vent installation.

May 15: EPA Residential Repair and Painting RRP Certification class (8 hours) (UPON SUCCESSFULY PASSING AN EXAM, STUDENTS WILL RECIEVE an EPA CERTIFICATION FOR THIS PORTION OF THE COURSE)

The Lead Renovation, Repair, and Painting Rule (RRP) course is an Environmental Protection Agency (EPA) certification course designed for all workers that disturb painted surfaces in housing facilities built prior to 1978, including renovation contractors, maintenance workers in multi-family housing, painters, and other specialty trades. Students learn how to keep themselves and occupants of homes safe from lead dust created during renovation, repair and painting activities.

May 19: Energy Auditor and Building Assessments (7 hours) (Students will receive a BPI Building Science Principles Certificate at the end of this section)

The building assessment portion of the course builds on the knowledge and skills learned throughout the course to conduct a building assessment and introduces students to the residential Energy Auditing process. Special attention will be made to the diagnostic tests and inspection process leading to a professional assessment of a building. Students will take the BPI Building Science Principles test for a certification at the end of this section.

May 20 and 21: Certified Residential Thermography, Monroe Infrared (16 hours) (UPON SUCCESSFULY PASSING AN EXAM, STUDENTS WILL RECIEVE A CERTIFICATION FOR THIS PORTION OF THE COURSE)

Thermal imaging is an important skill for every level of the home performance and building industry from energy auditors, to builders, electricians, HVAC, and plumbers. This two-day course will teach students Infrared theory, an understanding of heat flow, how to get accurate temperature measurements, camera controls and care of cameras. Students will then take this knowledge and learn how to conduct thermal



inspections related to moisture, building shells, electrical, windows, pests, appliances, and chimneys. They will also learn how to manage the images they collect and create reports.

May 22: Healthy Housing Principles and Asbestos Awareness (8 hours) (Students will receive a BPI Healthy Homes Certificate at the end of this section)

This portion of the course is centered around the Building Performance Institute (BPI) Healthy Housing Principles certificate. Students will learn how to evaluate residential structures for hazards to human health and advise occupants on ways to potentially improve health outcomes in their home environment. Remodel work and home performance upgrades done with energy efficiency in mind could improve overall occupant health when done in a mindful way. This portion of the course will take your home remodel and home performance work to the next level by learning how to integrate health into your work. Students will take the BPI exam to earn a healthy housing principles certificate at the end of this section.

Often, work is done in old homes that were built when asbestos was used in building products. If these products are in poor condition and are shedding asbestos fibers (friable), the health of these workers could be compromised. When these products are in good condition and not shedding asbestos fibers (non-friable), it must not be disturbed during remodel work. This Asbestos Awareness section teaches students to recognize building products that could contain asbestos and to make judgements about the condition of these products so they can take appropriate action **(one hour video homework assignment)**.

May 23: Review and final hands-on exam and written exam.

Review concepts and skills learned throughout the course and practice hands on skills of blower door testing, duct blaster testing and end of day CAZ testing.

Final written examination

Final hands-on examination (UPON SUCCESSFULY PASSING THIS HANDS-ON TEST, STUDENTS WILL RECIEVE a BPI Infiltration and Duct Leakage (IDL) certification)

- $\circ \quad \text{Set up and properly perform blower door test} \\$
- Set up and properly perform duct blaster test
- Correctly calculate Air Changes per Hour (ACH) when given the dimensions of a house and a cfm@50 number

SUMMARY OF CERTIFICATION RECIEVED DURING THE COURSE:

- EPA Residential Repair and Painting Lead Safe Certification (RRP)
- Building Performance Institute Building Science Principles Certificate
- Building Performance Institute Healthy Housing Principles Certificate
- Certified Residential Thermographer from Monroe Infrared
- BPI Infiltration & Duct Leakage Certification (BPI IDL)

Additional Benefits of taking this training:

Ready to take it to the next level? Any student who completes this course will be eligible to take the Building Performance Institute (BPI) Building Analyst- Technician (BA-T) field test and BPI Building Analyst- Professional (BA-P) written exams free of charge. These exams would require independent study by the students and scheduling of exams with the Weatherization Training Center. Full guidance



and details of this process with be provided during the training. These credentials would certify candidates to perform energy audits on residential housing. In Montana, this certification qualifies a person to conduct energy audits for homeowners seeking BIL (Bipartisan Infrastructure Law) funding.