

IOWA DIAGNOSTIC ENERGY TESTER COURSE OUTLINE

Pre-class Assignments:

- Watch [Blower Door Testing](#) video
- Watch [Duct Leakage Testing](#) video

Course Agenda - DAY 1:

8:00 – Registration and Breakfast

8:30 – Introductions and 2012 Iowa Energy Conservation Code & Law Unit

- Connecting Code to DET and Iowa Performance Testing Programs
- Iowa Code Diagnostics Program

9:00 – DET and Basic Construction Math Unit

- Defining the building envelope (thermal and pressure boundaries, conditioned space)
- Square footage and volume calculations (review)
- Calculations required on a DET Verification Report

10:00 – DET Basic Building Science Unit

- It's all about "Air Leakage"
- Calculating volume and ACH₅₀

11:00 – How to Test with a Blower Door

- Understanding blower door testing, equipment and components
- Blower door test preparation and setup
- Measuring pressure with a digital gauge
- Understanding why we aren't reaching 50"

NOON - CATERED LUNCH

1:00 – DET Blower Door Testing

- Presentation for house set-up
- Manometer Quick Tool – "Pocket Overlay"
- Hands-on demonstration with blower door equipment

2:00 – Practice Time – Blower Door "Hands-On" (All)

4:00 – Day 1 – "Wrap-up"

4:30 – Instructors will remain for additional practice/consultation time with candidates.

Course Agenda - DAY 2:

8:00 – Sign-in and Breakfast

8:30 – How to Test for Duct Tightness

- Code Requirements – Why duct tightness?
- Duct pressurization testing, equipment and components
- Positive and Negative Pressurization Techniques
- Presentation for house prep
- Calculating allowable duct system leakage and CFM₂₅
- Hands-on demonstration with duct testing equipment
- What is a blower door pressure pan?
- Demonstrate pressure pan testing

10:30 – Break

10:45 – Practice Time – Blower Door “Hands-On” (All)

NOON - CATERED LUNCH (Instructors assist with additional practice/consultation time.)

1:00 – Written Exam (approx. 30 questions; 90 min.)

2:00 – Begin Field Practicum Exams

- Determine take-offs for fictional house
- Set up blower door equipment and prepare for test
- Obtain envelope leakage measurement with test rig
- Determine ACH₅₀
- Set up duct testing equipment and prepare for test
- Obtain “total duct leakage” measurements with test rig
- Complete energy code report with appropriate information

4:30 – Present Certificates and Wrap Up

Method of Evaluation: Evaluation will consist of a 60-minute, 25-30 question written examination and a field examination. The field exam will cover use of a blower door and duct blaster and completion of a house certificate worksheet. To achieve designations as an Iowa DET, students must achieve a passing score on both exams.

Method of Presentation: This workshop is instructor-led and designed to develop qualified, Iowa Diagnostic Energy Testers (DET) demonstrating they are able to complete blower door testing and/or duct leakage testing in compliance with the 2012 IECC. These are hands-on classes, using blended learning components, including lecture, classroom demonstration, PowerPoint slides, videos, and compulsory discussions. All participants must make a sincere attempt to participate in classroom discussions.