

IR Thermography Level 1 Certification

COURSE DESCRIPTION

This exciting hands-on course is designed for professionals seeking to learn how to use thermal imaging across a range of applications, and to earn a recognized certification in the process. During the course, you'll learn firsthand how thermal imaging can be used for building inspections, electrical and mechanical inspections, energy loss evaluations, predictive maintenance and much more. Through combined classroom and hands-on segments, you'll learn how to capture a quality thermal image and diagnose your findings. Infrared thermography training provides the necessary foundation for the success of any infrared thermographer and their program. Students are trained to identify and document thermal patterns caused by improper design, workmanship or material failure. Specific applications include: electrical distribution systems, mechanical systems, steam systems, refractory systems, underground piping, active thermography, building envelopes and flat roofs.

Course tuition includes all course presentations, Student Reference Manual and certification examination fees. Certification card and diploma issued

with passing grade of 80%. Course is approved by the International Association of Certified Home Inspectors and Building Performance Institute for continuing education credits and meets the training requirements for their Infrared Certified Professional designation.

Prerequisites:

3 years of Home Diagnostic Experience or 1 year Direct Thermography Experience or BPI Building Analyst Certification

Schedule:

The Introduction to IR Thermography Course consists of 32 hours of classroom instruction.

NYSERDA's Workforce Development Program offers energy efficiency and building science courses through training partners across New York State. This training is recognized by the Building Performance Institute (BPI).

To register for IR thermograph level I, please contact Debbie Russell at training@ibts.org, or call 518-283-1834.



IR Thermography Level 1 Certification

COURSE DESCRIPTION *(continued)*

Training Topics:

Basic Infrared Theory

- Heat Transfer
- Electromagnetic Spectrum
- Emittance, Reflectance, and Transmittance
- Atmospheric Transmission
- IR Wavebands and Lens Materials

Infrared Equipment

- Selection Criteria
- Range and Level Settings
- Class Demonstrations
- Manufacturer Equipment Presentations (optional)
- Hands-on Use in Class
- Self-directed Learning Activities for Hands-on Use

Infrared Electrical System Inspections

- Theory and Thermal Signatures of Problems
- Seven Types of Detectable Defects
- Conducting an Inspection
- Safety Practices
- Confirming Exceptions
- Data Recording
- Standards for Inspection

Infrared Mechanical System Inspections

- Theory and Thermal Signatures of Problems
- Rotating Equipment
- Power Transmission Components
- High-temperature Insulation
- Steam Systems, Process Equipment, Heat Exchangers, Storage Vessels
- Active Thermographic Inspection Techniques
- Safety Practices
- Confirming Exceptions
- Data Recording
- Standards for Inspection

Infrared Roof Inspections

- Theory and Component Construction
- Insulation and Material Characteristics
- Inspection Techniques for Ground Based / Aerial
- Weather Variables and Influences
- Required Site Conditions
- Safety Practices
- Thermal Signatures of Latent Moisture
- Verification of Data
- Data Recording
- Alternate Methods of Moisture Detection
- Standards for Inspections

Infrared Building Inspections

- Theory and Component Construction
- Insulation and Material characteristics
- Inspection Techniques for Interior / Exterior
- Weather Variables and Influences
- Required Site Conditions
- Creating Sufficient Delta-T
- Thermal Signatures
- Missing and Damaged Insulation
- Verification of Data
- Data Recording
- Standards for Inspections

Implementing an IR Predictive Maintenance Program

- 9 Steps to Setting Up a Program
- Integrating with Other Predictive Technologies
- Cross-verifying with Other Predictive Technologies