



Certified Residential Thermographer (CRT) Course Outline

DAY 1 Understanding Thermal Imaging

MORNING SESSION

Registration & Introduction (30)

Course Overview (15)

Infrared Theory (45)

- Types of Detectors
- Resolution and Sensitivity
- Electromagnetic Wavelengths

Understanding Heat Flow (45)

- How Energy Travels
- Conduction/Convection/Radiation
- Steady State Considerations

Understanding Emissivity (45)

- How it effects your Image
- How it effects your temperature
- Apparent vs. Actual Temperatures

Accurate Temperature Measurements (45)

- Camera variables
- Spot size ratios
- Understanding E+T+R
- Limitations

AFTERNOON SESSION

Infrared Camera Breakout

Getting to know your imager (30)

- Power Supplies/Chargers
- FOV Considerations
- Manual vs. Automatic

Camera controls (30)

- Focus/Range/Distance
- Saving Quality Images

Camera Care (15)

- Cleaning
- Lens Care

Hands on Camera Labs (120)

- Emissivity Demonstration
- High Temperature concerns
- Moisture Inspections
- Spot Size Measurements

Other Test Equipment (30)

- Moisture Meters
- Video Borescopes
- Amp Meters



DAY 2

Thermal Imaging Applications

MORNING SESSION

Review & Questions from Day 1 (15)

Moisture Inspections (45)

- Roof Leaks
- Walls and Windows
- Basement
- Radiant Floors

Winter Applications (45)

- Cold climate Inspections
- Walls/Ceiling Energy

Summer Applications (45)

- Warm Climate Inspections
- Walls/Ceilings Energy

Inspection Conditions Required (30)

- Delta T required
- Environmental Data

Electrical Inspections (30)

- Safety Concerns
- Overloaded Circuits vs. loose

Window Deficiencies (30)

- Air Infiltration identification
- Argon Seal leaks

AFTERNOON SESSION

Pest Infestations (20)

- Termites
- Bees
- Critters

Appliance's (20)

- Water Heaters
- Range/Cooktops
- Refrigerators

AC Unit Inspections (20)

- Condensers
- Duct Temperatures

Chimney Inspections (15)

Hands on Equipment Use (60)

- Quality Images
- Other important information

Loading Images to PC (15)

Creating Reports / Hard Copy Data (45)

Course Exam (25 Questions) (45)

Course Critique

(Times in parentheses)