

## Thermography

This three-day course covers the concepts of how to properly use infrared cameras to collect quality data. Students learn how to calculate accurate, repeatable temperature measurements. This course also covers your camera's critical parameters and setup. Students learn infrared thermographic interpretation through class exercises and in-plant examples. A wide variety of thermography applications are covered in this course. We also focus on improving the students' equipment operational skills, image acquisition, interpretation, and report generation abilities. Using site equipment, we develop exercises to ensure proper equipment use and interpretation.

### I. Thermography

- Basic Concepts
- The Camera
- Photo Interpretation
- Usage Principles

### II. Typical Applications (Hands-On)

- Electrical Inspections in Buildings, Plants, Facilities
- Power Generation Generator Inspections
- Power Plant Boiler Flue Gas Leak Detection
- Substation Electrical Inspections, Transformers, and Capacitor Evaluation
- Electrical Motor Inspections, Mechanical Bearing Inspections
- HVAC Equipment Evaluation
- Cold Storage Cooling Losses
- Heat Exchanger Quality and Efficiency Evaluation
- Furnace Refractory (Insulation) Inspections
- Furnace Internal Flame Evaluation and Tube Inspections

- Printed Circuit Board Evaluation and Troubleshooting
- Pipeline Inspection, Leak Detection, Stress Corrosion Cracking Area

### III. Advantages of Using Thermography

- Quick Problem Detection Without Interrupting Service
- Prevention of Premature Failure
- Extension of Equipment Life
- Identification of Potentially Dangerous or Hazardous Equipment