



# Thermographic Applications for Predictive Maintenance

## Level I Course Outline

### Monday

6:00-9:00 P.M.

Introduction, course overview, and dinner  
Keynote presentation: *"Thinking Thermally®"*  
Introduction to qualitative thermography

### Tuesday

8:00-5:00

Using imaging equipment: How imagers work, Imaging vs. non-imaging, Basics of the equipment, Optimizing the image  
Hands-on equipment use: Basic camera adjustment skills  
Heat transfer, Thermal capacitance, State changes, Radiation theory  
Basics of accurate temperature measurements

### Wednesday

8:00-5:00

Building diagnostics: *Conduction, Air leakage problems, Conditions for inspections*  
Roof inspections: *Conditions for optimum inspection, How to conduct an inspection, Thermal patterns you will see, Personnel safety, Inspections from the air*  
Certification and qualification  
Imaging system care: *Basic care, accessories*  
Documentation and reports: *Elements of good reports, Hard copy options, Computer databases*  
Hands on equipment use: *refining image adjustment skills*

### Thursday

8:00-5:00

Inspecting electrical systems: *Thermal patterns, Conditions for optimum inspection*  
How to conduct an electrical inspection: *Personnel safety, Inspections from vehicles or the air, How to prioritize your findings.*  
High temperature inspections: *Steam traps and lines, Refractory, Furnace interiors*  
Mechanical inspections: *Motors, Pumps/fluid flow applications*  
Hands-on equipment use: *Basic documentation skills*

### Friday

8:00-12:00

Refining your program plan and setting goals  
Course comprehension examination

Note: optional hands-on equipment use sessions are held before and after class Tuesday-Thursday