

Thermographic Applications for Predictive Maintenance

Level I Course Outline

Monday

6:00 p.m. - 9:00 p.m.

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

Tuesday

8:00 a.m. - 5:00 p.m.

- 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, Radiation theory
- Basics of temperature measurements

Wednesday

8:00 a.m. - 5:00 p.m.

- Review
- Radiation theory, State change
- 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*
- Hands on equipment use: *refining image adjustment skills*

Thursday

8:00 a.m. - 5:00 p.m.

- Review
- 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 a.m. - 12:00 p.m.

- Review
- 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