

<p style="text-align: center;"><b>DISTANCE LEARNING</b> <b>INFRARED THERMOGRAPHY FOR OPTICAL GAS IMAGING</b></p>
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**1. Basic Infrared Theory**

- Heat transfer
- Electromagnetic spectrum
- Emittance, reflectance, and transmittance
- Atmospheric transmission
- IR wavebands, imaging systems, and lens materials

**2. Infrared Equipment**

- Selection criteria
- Range and level settings
- Image and data recording
- Self-directed learning activities for hands-on use

**3. Optical Gas Imaging**

- Theory and application of OGI
- Detectable gases
- Determining correct imaging wavelength
- Safety considerations
- Inspection procedures for different gases
- Thermal signatures of gas leaks and venting
- Frequency of inspections
- Confirmation of infrared data
- Recording imagery
- Standards for inspection
  - end user and thermographer responsibilities
  - safety practices
  - data gathering and report preparation

**4. Implementing an IR Predictive Maintenance Program**

- 9 steps to setting up a program
- Integrating with other predictive technologies
- Cross-verifying with other predictive technologies
- Why programs fail, how they succeed
- Generating standards-compliant reports