# SGDO TRAINING
# COURSE OUTLINE

| Session | Module 1 | Module 2 | Module 3 | Lunch |
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| Time | 8:00 – 8:30 am | 8:30 – 9:30 am | 9:30 - 11:30 am | 11:30 - 12:30 pm |
| Day 1 | **Course Basics**<br>Welcome<br>Introductions<br>Get Acquainted<br>Course Objectives<br>Detailed Course Agenda | **Product Information**<br>Product Definition<br>Application<br>Gauge History<br>Theory of Operation<br>Types of Ionizing Radiation<br>SGDO Hardware:<br>Source:<br>Cesium 137<br>Radioactive Decay/Half-Life<br>Detector:<br>Ion Chamber<br>Operating Temperature<br>Model 1400 Transmitter:<br>Operating Temperature<br>DC Input Power vs AC Input Power<br>Display<br>Alarms<br>Communication Devices<br>Basic Radiation Safety<br>Test Your Knowledge Exercise<br>Facility Tour | **Hardware**<br>Source:<br>Shutter vs. No Shutter<br>Ion Detector:<br>External Hardware<br>Detector Cable<br>Pre-Amp Board:<br>Pre-Amp Board Gain Settings<br>Power Supply Board<br>Detector Check-Out Procedures<br>Detector Hardware Review<br>Model 1400 Transmitter:<br>Keypad/Display/Connections<br>Internal Hardware<br>Board Placement<br>Display Board<br>Optional AC Power Supply<br>CPU Board<br>Detector Interface Board<br>I/O Relay Boards:<br>24V DC w/0 Relays<br>24V DC w/2 Relays<br>12V DC w/0 Relays<br>No VDC w/0 Relays<br>No VDC w/2 Relays<br>RS-485 Communication's Board<br>Hart Communication's Board<br>Transmitter Hardware Review<br>Spare Parts List<br>Test Your Knowledge Exercise | Approximate Time |

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| Session | Module 4 (Hands-On) | Module 5 (Hands-On) | Module 6 (Hands-On) | Module 7 (Hands-On) |
| Time | 12:30 - 2:00 pm | 2:00 - 3:00 pm | 3:00 - 3:30 pm | 3:30 – 4:00 pm |
| Day 1 | **Software/Programming**<br>Configuring/Calibrating:<br>With Model 1400 Transmitter | **Hardware Installation**<br>Installation/Commissioning<br>Shutter/Lock/Tag Requirements<br>Detector:<br>Board Replacement Guidelines:<br>AC Power Supply<br>CPU and Other Boards<br>Board Installation Exercise<br>Connecting Detector<br>Cable/Applying Power Exercise<br>Wiring Diagrams | **Maintenance**<br>Maintenance Schedule<br>Shutter Check<br>Tag and Label Check<br>Source Check<br>Leak Testing:<br>Leak Testing Regulatory Timeframe<br>Leak Test Service<br>Using the Leak Test Kit<br>Leak Test Results<br>Hands-On Leak Test Activity | **Troubleshooting**<br>Display<br>Detector<br>Detector Interface Board<br>AC Power Supply<br>CPU Board<br>I/O Relay Boards<br>Help from Thermo Fisher |