

## Flo-Cal Training Course Outline

Session	Module 1	Module 2	Lunch	Module 3
Time	8:00 – 8:30 am	8:30 – 11:30 am	11:30 - 12:30 pm	12:30 - 1:30 pm
Day 1	<p><b>Course Basics</b>  Welcome  Introductions  Get Acquainted  Course Objectives  Detailed Course Outline  Analyzer Lab Safety Video</p>	<p><b>Product Information</b>  Definition of a Calorimeter  Flo-Cal's Application  Industry Uses  Models:  7000 and 5000  Safety Ratings  Cabinet Options  Modes of Operation:  Calorific Value Defined  Wobbe Index Defined  Typical Fuel Gas Compounds  Gross Heating Value vs. Net Heating Value  Available Units of Measurement  Hydrocarbon Combustion Explained  Combustion with Oxygen Containing  Compounds  Flo-Cal Weight &amp; Dimensions  Operational Temperature  Sample Requirements  Utility Requirements  Response Time  Accuracy, Repeatability, Linearity  Safety Features  System Options  Test Your Knowledge Exercise  Facility Tour</p>	<p>Approximate Time</p>	<p><b>Hardware/Electronics</b>  System Hardware:  CPU Board  Memory Board  Display Board  Input/Output Board  Interfacing with the Flo-Cal:  Using the Magnetic Keypad  Menu Flow Chart  Setup Screen Descriptions  Cal Mode  Supervisor System Lock  Alarm Acknowledge Feature  Measurement Description &amp;  Engineering Units  Module Range  Activating Linearization  Alarm 1 Setup  Alarm 2 Setup  Fault/Alarm 3 Setup  Zero Value  Span Value  Unity Gain Setup  Serial Port Setup</p>

Session	Module 4	Module 5	Module 6	
Time	1:30 - 2:00 pm	2:00 – 4:30 pm	4:30 - 5:00 pm	
Day 1	<p><b>Hardware Installation</b></p> <ul style="list-style-type: none"> <li>System Mounting</li> <li>Electrical Installation</li> <li>Gas &amp; Air Supply Installation</li> <li>Proper Start Up Procedures</li> <li>Proper Shut Down Procedures</li> <li>Diagram Review</li> </ul>	<p><b>Maintenance</b></p> <p>Maintenance Schedule:</p> <ul style="list-style-type: none"> <li>Daily Maintenance Checks</li> <li>Weekly Maintenance Checks</li> <li>Monthly Maintenance Checks</li> <li>Yearly Maintenance Checks</li> <li>Checks After Major Maintenance</li> </ul> <p>Maintenance Procedures:</p> <ul style="list-style-type: none"> <li>Flame Primary Air Adjustment</li> <li>Relighting the Flame</li> <li>Pressure Measurement</li> <li>Inlet Air Pressure Adjustment</li> <li>Inlet Gas Pressure Adjustment</li> <li>Switch Test &amp; Adjustment</li> <li>Flame Out Timer Settings</li> <li>Precision Gas Regulator Diaphragm Replacement</li> <li>Air Control Valve Diaphragm Replacement</li> <li>Measurement Range Change</li> <li>Constant Volume Pump:               <ul style="list-style-type: none"> <li>Adjustment</li> <li>Maintenance</li> </ul> </li> <li>Lip Seal Replacement</li> <li>Piston Seal Setting</li> </ul> <p>Calibration Procedures:</p> <ul style="list-style-type: none"> <li>Calibration Verification Steps</li> <li>Full Calibration Steps</li> <li>Auto-Cal (if applicable)</li> </ul>	<p><b>Literature</b></p> <ul style="list-style-type: none"> <li>Spare Parts List</li> <li>Course Evaluation</li> </ul>	