

**COURSE OVERVIEW:**

This two-day class is designed for Instrumentation and Electrical Technicians who maintain and troubleshoot various electrical systems within their facility. These individuals will walk away with a strong fundamental understanding of electrical safety, AC & DC electrical theory, multimeters, and electrical for instrumentation. The class is conducted at THE UNIT, TechStar's fully functional verification unit where individuals will have the opportunity for hands-on experience through wiring, testing, and troubleshooting panels and electrical circuits.

ELECTRICAL SAFETY

- Define Voltage resistance current
- Importance of grounding
- Electrical Burns
- Electrical safety at different voltages
- Approach boundaries Arc flash ratings and labels
- LO/TO when working with electricity

A/C ELECTRIC THEORY

- A/C Power how it works
- Ohms law and why it matters
- Single phase vs 3-Phase Power
- Transformer Theory
- Using a meter to check Voltage and current
- Electrical Symbols and Diagrams

INSTRUMENTATION ELECTRICAL

- 4-20
- Loop Power
- 3 Wire - Active/Passive
- 4 Wire – Active/Passive
- Simulating with a multi meter
- Simulating with a HART communicator or through Display

D/C ELECTRIC THEORY

- D/C Power how it works
- Why D/C power is used in electronics and communications
- Power Supplies
- Using a Multimeter to check voltage and current
- Resistors and Diodes – Where and why we use them

MULTI-METERS

- What is a Multimeter
- Functions of a 789/787
- Auto Ranging Vs Manual Ranging
- How to Use a Clamp on amp probe
- How to Check and Simulate milliamps with a 789/787

FOR MORE INFORMATION VISIT OUR WEBSITE OR CONTACT
OUR CUSTOMER EXPERIENCE COORDINATOR, EMILY JONES