

STONY BROOK UNIVERSITY

Hands-on Electrical Troubleshooting

Stony Brook University in conjunction with Lewellyn Technologies present this new hands-on seminar series. The troubleshooting seminar will expose participants to many circuits that are used in industry today. Students will work from diagrams that represent common industrial uses such as: tank fill control, duplex-pump control, and punch press anti-tie-down. Once the ladder diagrams are constructed, the circuits are assembled. The instructor will then insert a realistic fault into the circuit. Students will trouble-shoot the circuit using the techniques that will be discussed in the seminar. This seminar incorporate many types of timing circuits that use both time delay-on and time delay-ff timers. Circuits that include photocells will be included, as well as safety circuits that can be implemented at your facility. Lewellyn Technology conducts thousands of days of training and consulting each year. We work with clients nationwide to better prepare their personnel to face the challenges of today's workplace. We strive to help our clients work safer and more efficiently.

Three of our current offerings include:

BASIC INDUSTRIAL ELECTRICITY I

Fundamentals of Electricity

- Current
- Voltage
- Resistance
- Power

AC and DC

Ohm's Law

Transformers

- Magnetism
- Function (Power Plant to Factory)
- Control Transformer Connections

Understanding Electrical Drawings

- Symbols
- Relays, Contactor, and Motor Starters
- Ladder Drawings
- Motor Control Circuits
- Real Circuit from a Real Machine

Three-Phase Systems

- Three-Phase Motors
- Three-Phase Transformer Connections

ELECTRICAL TROUBLESHOOTING I

Multimeter Basics

- Ranging - Reading Multimeters

Continuity

- Checking Fuses
- Checking Contacts
- Opens & Shorts

Relays

- Ice Cube Relay
- Time Delay Relays
- Machine Tool Relays

Motor Starter

- Pre-wire
- Auxiliary Contacts
- Overload Contacts
- Troubleshooting

Troubleshooting

- Half-Splitting Method

Panel Orientation

- Safety

Circuits

- Troubleshooting

ELECTRICAL TROUBLESHOOTING II

Multimeter Basics

- Categories and Safety

Relays

- 8-Pin Tub Base ("Ice-Cube")
- Time Delay On and Time Delay Off
- Alternating

Photocell Operation

Troubleshooting Three Phase Motors

- Common Faults and Tools

Circuits

- 3-Wire Control
- Permissives
- Multiple Panels
- Hoist Control
- Start Delay and Staggered Start
- Overheat Protection Using Time-Delay
- 3-Wire Control Using Start Relay
- Hydraulic Ram Control
- Automatic Duplex Pump Control
- Two-Speed Motor Control
- Excessive and Short Cycle Prevention
- Circuit Drawing Exercise



For a complete library of our course offerings visit: www.licet.org

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CENTER FOR EMERGING TECHNOLOGIES

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