

## Dislocated Workers' 200-Hour IST Curricula Overview

### Electrical Curriculum

#### **Electrical Control Circuits**

- Basic Electrical Circuits
- Electrical Measurements
- Circuit Analysis
- Inductance and Capacitance
- Combination Circuits

#### **Electrical Motor Control**

- Introduction to Electrical Motor Control
- Manual Motor Control and Overload Protection
- Control Transformers
- Control Ladder Logic
- Control Relays and Motor Starters
- Introduction to Troubleshooting
- Systems Troubleshooting
- Reversing Motor Control
- Automatic Input Devices
- Basic Timer Control: On-Delay and Off-Delay

#### **Industrial Electrical Wiring**

- Introduction to Electrical Control Wiring
- Electrical Control System Wiring

#### **Industrial Power Distribution**

- Introduction to Raceways
- Basic Conduit Bending – EMT
- Advanced Raceways
- Conductors, Disconnects & Overload Protection
- Conduit Sizing and Wire Pulling Techniques

### Electronic Curriculum

#### **Programmable Controllers**

- Introduction to Programmable Controllers
- Basic PLC Programming
- PLC Motor Control
- Discrete I/O Interface
- Introduction to PLC Troubleshooting
- PLC Systems Troubleshooting
- Event Sequencing
- Application Development
- PLC Timer Instructions
- PLC Counter Instructions

### Mechanical Curriculum

#### **Hydraulics**

- Hydraulic Power Systems
- Basic Hydraulic Circuits
- Principles of Hydraulic Pressure and Flow
- Hydraulic Speed Control
- Pressure Control Circuits
- Hydraulic DCV Applications
- Hydraulic Cylinder Applications
- Hydraulic Relief Valve Operation
- Hydraulic Check Valve Applications

#### **Pneumatics**

- Pneumatic Power Supply
- Basic Pneumatic Circuits
- Principles of Pneumatic Pressure and Flow
- Pneumatic Speed Control Circuits

#### **Pneumatics Maintenance**

- Pneumatic Maintenance
- Pneumatic System Construction

### **Piping Systems**

- Metal Piping Systems
- Metal Piping Installation Hoses
- Metal Tubing Systems
- Hoses

### **Electro-Fluid Power**

- Power Devices
- Control Relays
- Sequencing Control

### **Hydraulic Troubleshooting**

- Introduction to Pressure Compensated Pumps
- Troubleshooting Pumps
- Troubleshooting Hydraulic Components
- Troubleshooting Hydraulic Systems

### **Basic Mechanical Drives**

- Introduction to Mechanical Drive Systems
- Key Fasteners
- Power Transmission Systems

### **Light Duty V-Belt and Chain Drives**

- Introduction to V-Belt Drives
- Introduction to Chain Drives

### **Heavy Duty V-Belt Drives**

- Heavy Duty V-Belt Drives
- V-Belt Selection and Maintenance

### **Heavy Duty Chain Drives**

- Heavy Duty Chain Drives