

## NEC for Industrial Installations

40-Hour Course

<b>OVERVIEW</b>	This five-day class was developed to bring workers up to speed on their understanding of the National Electrical Code (NEC). You will receive a thorough overview of the current code, learn how to make your processes and facility compliant and how the NEC protects workers and property.
<b>REFERENCES</b>	<i>NEC 2017</i>
<b>MATERIALS</b>	<i>e-Hazard Workbook, National Electrical Code (2017) Tom Henry's Key Word Index, Soares Book on Grounding and Bonding (2017)</i>

### 1. General Requirements for Electrical Installations

#### 2. Wiring and Protection

- Use and Identification of Grounded Conductors
- Branch Circuits, Feeders, Services
- Branch-Circuit, Feeder and Service Calculations
- Overcurrent Protection
- Grounding and Bonding
- Surge Arresters, SPDs

#### 3. Wiring Methods and Materials

- General Requirements
- Conductors for General Wiring
- Cabinets, Outlets, Devices, Enclosures
- Overview of Cables, Conductors & Raceways

#### 4. Equipment for General Use

- Flexible Chords and Cables
- Fixture Wires, Switches, Receptacles
- Industrial Control Panels
- Luminaires, Lampholders and Lamps
- Appliances and Heating Equipment
- Motors, Motor Circuits and Controllers
- Air-Conditioning and Refrigerating Equipment
- Generators and Transformers
- Other Equipment

#### 5. Special Occupancies

- Hazardous Locations
- Commercial Facilities
- Health Care Facilities
- Assembly Occupancies
- Marinas and Boatyards
- Temporary Installations

#### 6. Special Equipment

- Electrical Signs and Outline Lighting
- Cranes and Hoists
- Elevators, Escalators, Lifts
- Vehicle Charging Systems
- Electric Welders
- Information Technology Equipment
- Industrial Machinery
- Integrated Electrical Systems
- Wind Electrical Systems

#### 7. Emergency Systems

- Standby Systems
- Critical Operations Power Systems (COPS)
- Circuits and Equipment Operating at Less than 50 Volts
- Class 1, 2 and 3 Remote-Control, Signaling and Power-Limited Circuits
- Energy Management Systems
- Fire Alarm Systems
- Optical Fiber Cables and Raceways

#### 8. Communications Systems

- Communications Circuits
- Network-Powered Broadband Communications Systems
- Premises-Powered Broadband Communications Systems

#### 9. Tables

- Conduit and Tubing
- Dimensions
- Conductor Properties