



## 2020 NATIONAL ELECTRIC CODE

Single Class Capacity: 35  
Duration: 3 Days - 24 Hours

The National Electrical Code® (NEC®) applies to all persons who perform electrical work. Maintenance electricians, construction electricians, instrumentation technicians, engineers, and maintenance technicians are examples of those who must have a working knowledge of the NEC. Whether running power to a new piece of electrical equipment, setting the overloads on a motor starter, installing a security camera, or replacing fluorescent ballast, compliance with the NEC is mandatory. The Code has been adopted as law in all fifty states and NTT teaches the NEC throughout the United States and to global organizations in various international locations.

This three-day course provides an excellent introduction to the NEC along with practical navigation exercises. The major changes to the 2020 NEC are addressed throughout the course for those seeking Code updates. Typical field applications challenge both the novice and the experienced electrical worker. The course covers topics most needed by electrical workers including the requirements for grounding and bonding, properly sizing conductors and overcurrent protection for different applications, wiring methods, motor installation and other general equipment specifics and, special topics as requested by attendees. NTT also offers additional training on specific industry applications of the NEC.

### WHAT THIS COURSE COVERS

- The major changes to the code
- How to navigate and understand the NEC to apply it to your specific needs to get installations inspected and approved.
- Bonding and Grounding requirements
- How to install equipment properly for safe use by operators\workers.
- How to install equipment properly to maximize work-life of equipment

### WHO SHOULD TAKE THIS?

- Electrical contractors
- Electricians
- Maintenance electricians
- HVAC maintenance and Repair Technicians
- Plant & facility maintenance technicians
- Building engineers
- Building managers & superintendents
- Plant & facility managers
- Stationary engineers
- Energy management personnel
- Safety directors

### COURSE OUTCOMES

- Understand how NEC safeguards people and property.
- Make your facility and operations NEC compliant.
- Become current with the most recent NEC updates



Every NTT course is eligible for CEUs (or Continuing Education Units) with your governing board approval or your states approval.

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### COURSE AGENDA

#### **INTRODUCTION AND OVERVIEW**

- Successful Code navigation requires an overview of NEC purpose, content and layout, and how to identify changes.
- Basic requirements of Articles 90, 100, and 110. Termination and torque requirements, working spaces and, arc flash hazard labeling.

#### **WIRING AND PROTECTION**

- Branch circuits, feeders, fuses, circuit breakers are all parts of the distribution system that run from the utility service to the individual loads and all must be properly sized and installed.
- Chapter 2 in-depth information: Sizing feeders and branch circuits in facilities, overcurrent selection and sizing, surge arresters and protective devices.

#### **WIRING METHODS AND MATERIALS**

- Installing conductors, cables and conduits properly is necessary for an electrically safe installation.
- Chapter 3 in-depth topics: Ampacity calculations, box fill, pull-box sizing, cover requirements, typically used cables and conduit installation requirements and, cable tray.

#### **EQUIPMENT FOR GENERAL USE**

- Everyday installation and maintenance electrical work is addressed on typical equipment, such as; motors, plant lighting, HVAC equipment, panelboards to switchgear and, industrial control panels.
- Selected articles from Chapter 4, Equipment for General Use: Motors, HVAC type equipment, Industrial control panel installation, typical commercial and industrial lighting applications, and requirements for panelboards, switchboards and switchgear.

#### **SPECIAL OCCUPANCIES, EQUIPMENT AND CONDITIONS AND, COMMUNICATION SYSTEMS**

- Based on student needs, specific industry topics are reviewed.
- Overview of typical articles include hazardous locations, temporary installations, emergency systems, fire alarm systems and some communications circuits

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## EQUIPMENT & MATERIALS

### NTT TO PROVIDE

- 3-days (24 contact hours) of on-site instruction
- Textbooks
- Classroom consumables
- Completion certificates
- Shipping, instructor fees and travel expenses

### CLIENT TO PROVIDE

- Classroom, with easy access, of 750 square feet or greater.
- Projection screen, white board and/or flip chart(s).

