

2017 NATIONAL ELECTRICAL CODE®

Understanding the 2017 National Electrical Code® and NEC® Applications

The National Electrical Code® (NEC®) applies to all persons who perform electrical work. Maintenance electricians, construction electricians, instrumentation technicians, engineers, communication technicians 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 2017 NEC major changes 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

CLASS FORMAT:

Lecture

STANDARD CLASS SIZE:

NTT recommends a class of no more than 35 participants to obtain the best results.

NTT TO PROVIDE:

- Three days (24 contact hours) of on-site instruction
- Textbooks
- Classroom consumables
- Completion certificates
- Shipping and instructor travel logistics

CLIENT PROVIDES:

- Classroom of 500 square feet or greater
- Projection screen, white board and/or flip chart(s)

WHO SHOULD ATTEND:

- 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



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COURSE AGENDA

Topic Outline (description and typical information addressed):

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 and 110. Termination and torque requirements, working spaces and, arc flash hazard labeling.

GROUNDING AND BONDING

Identified by the NFPA as the most misunderstood topic in the NEC, NTT instructors remove the confusion as they explain the “why and how” of Article 250.

Performance requirements of 250.4, sizing EGC's, GEC's and grounded conductors, installation methods, system grounding, separately derived systems, bonding requirements and, grounding of systems over 1000 volts.

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