



## 2020 NFPA 70 – National Electric Code [NEC]: Changes & Updates -2 Day

Single Class Capacity: 35  
Duration: 2 Days – 16 Hours

This 2-day update course is for individuals already familiar with the code and only want to know the updates.

In addition to significant changes throughout the 2020 National Electrical Code, we can expect to see four new articles in the 2020 edition of the NEC. Two of the articles are built around the concept of “combine articles and expand.” One new article adds a different type of cable and one new article appears in Chapter 8.

Innovations like Solar, Data Communication, Electric Vehicle Charging are driving the electrical industry and the NEC is updated every 3 years to reflect these technologic advances. For example, potential changes that may reach final approval include:

- Article 242 Overvoltage Protection
- Article 311 Medium Voltage Conductors and Cable
- Article 337 Type P Cable
- Article 805 General Requirements for Communications Systems

### WHAT THIS COURSE COVERS

- New Article 242 Overvoltage Protection
- Changes in Grounding and Bonding Article 250
- New Article 311 Medium Voltage Conductors and Cable
- New Article 337 Type P Cable
- Change for electronic protection of motors
- Changes to Hazardous (Classified) Locations articles
- New in Article 680: Splash pads
- New allowances for PV connectors
- New Article 805
- New section on interconnected power systems

### COURSE OUTCOMES

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

### WHO SHOULD TAKE THIS?

- Electricians
- Mechanics
- HVAC technicians
- Linemen & utility workers
- Owners & managers
- Maintenance technician
- Energy management personnel
- Stationary engineers



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



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### CHANGES EXPECTED

#### **Article 242 Overvoltage Protection**

Is a new article that combines the surge protective devices that were covered in Articles 280 and 285. 280 and 285 will be deleted.

#### **Article 311 Medium Voltage Conductors and Cable**

Takes information previously found in Articles 310 and 328 and combines it into this article.

#### **Article 337 Type P Cable**

Is a totally new article. It will cover the use, installation, and construction specifications for 600-volt Type P cable (armored and unarmored) for use in hazardous (classified) locations.

#### **Article 805 General Requirements for Communications Systems**

This is another new article for the stand-alone Chapter 8 in the code. This new article takes general information from other articles in Chapter 8 and places this same information in this one new article. Thus, common rules are combined from Chapter articles into one “general” article

### OTHER CHANGES WE ARE EXPECTING

- New definitions Article 100 for “fault current” and “fault current, available” as well as other new and revised definitions.
- A new subdivision (C) titled “Cables and Conductors” has been added to Section 110.12. This section is also the section requiring electrical equipment be “installed a neat and workmanlike manner.” This new subdivision includes requirements for communications cabling that has appeared in Chapters 7 and 8 until the 2020 NEC.
- 110.14(D) has been renamed “Terminal Connection Torque” and changes the requirements from the use of calibrated torque tool to “approved means.” New Informational Notes helps with application of this requirement
- 110.26 Spaces About Electrical Equipment; has several changes regarding large equipment, service equipment and personnel doors
- New Surge Protection requirements for Services as well as, revisions to the six-disconnects rule
- Extensive revisions and reorganization to Article 310 Conductors for General Wiring
- Splash Pads have been added to Article 680 to comply with the same equipotential bonding requirements for swimming pools.
- New provisions for PV system connectors and ground-fault protection



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## **COURSE AGENDA**

### **COURSE INTRODUCTION**

- Determine any specific topic needs of attendees
- Review minor changes to Article 90 Introduction

### **CHAPTER 1 GENERAL**

- New and revised definitions and impacts to code
- Understanding Communications Cabling requirements now in Article 110
- Updated terminal torque requirements
- Updated 110.26 Spaces About Electrical Equipment

### **CHAPTER 2 WIRING AND PROTECTION**

- Expansion and revision of GFCI requirements
- New Article 242 Overvoltage Protection
- Changes in Grounding and Bonding Article 250
- Article 230 Changes for Services

### **CHAPTER 3 WIRING METHODS AND MATERIALS**

- Expansive review of the reorganized Article 310 Conductors for General Wiring
- New Article 311 Medium Voltage Conductors and Cable
- New Article 337 Type P Cable

### **CHAPTER 4 EQUIPMENT FOR GENERAL USE**

- Revisions to receptacle requirements in bath and shower stall areas
- Revisions to installation of panelboards, switchboards and switchgear
- Change for electronic protection of motors
- Improving transformer ventilation through new marking requirements

### **CHAPTER 5 SPECIAL OCCUPANCIES**

- Changes to Hazardous (Classified) Locations articles including the addition of Part III to Article 100
- Revision of receptacle, bonding and ground-fault protection for marinas and boatyards

### **CHAPTER 6 SPECIAL EQUIPMENT**

- New in Article 680: Splash pads – what they are and their installation requirements as compared to swimming pools
- In Article 690, the reference to new UL3741 Standard and certifications for PV Hazard Control – what it is and what are the impacts
- New allowances for PV connectors
- Exceptions to grounding requirements for certain PV systems

### **CHAPTER 7 SPECIAL CONDITIONS**

- New section on interconnected power systems on the requirements of the Power Control System
- Changes to Article 725 affecting low-voltage and communication

### **CHAPTER 8 COMMUNICATIONS SYSTEMS**

- Re-organization of Chapter 8
- Changes in individual articles
- New Article 805



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## EQUIPMENT & MATERIALS

### NTT TO PROVIDE

- 2-days (16 contact hours) of on-site instruction
- Textbooks and lab manuals
- 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).

