

2020 NEC Code Changes –Part I – 8 CE Hours

Course Syllabus & Outline

Course Details:

CEU Credits: 8

Contact Hours: 8

Course Type: Code Update

Required Textbook: 2020 NEC Code Book recommended but not required

Class Format/Location: Web-based course delivered on-line @ go.bluevolt.com

Prerequisite: Current or reciprocal state electrical license

Instructor: Palmer Hickman

Course Description:

Continuing education training on the current National Electrical Code helps electrical license holders work safely and keep their licenses up to date. This course covers the most significant changes to the 2020 NEC, NFPA 70. Specific articles are listed in the course outline below.

Course Learning Objectives:

1. Introduce students to the significant changes in the 2020 NEC Code
2. Provide students with a code change summary, type of change, the new 2020 code, significance of change with corresponding visual aid.

Student Learning Outcomes:

At the conclusion of this course, each student will be able to:

- Find code sections in the 2020 NEC that have been changed
- Explain why certain 2020 NEC changes were made
- Apply the 2020 NEC changes to workplace situations
- Identify applications and implement 2020 NEC Changes

Evaluation/Grading: Participants will have the opportunity to receive feedback on their progress in meeting the student learning outcomes by answering questions with each corresponding code change slide. Each chapter will require the learner score a 70% or higher in order to pass. There is also a comprehensive Final Exam that requires a 75% in order to pass. This Final Exam can be made required when necessary.

Control Time & Security: BlueVolt times each student's active participation in a course and enforces the module seat times (shown on the syllabus) via a timer. After 10 minutes of inactivity, the seat time clock stops and the learner is logged out. If learners complete the material before the seat time requirement is met, they may use review modules to revisit material as needed. For security, learner accounts are password protected. Learners must confirm their identity each time they log into the course.

Chapter 1

Articles 90, 100, and 110 Introduction, Definitions, and Requirements for Electrical Installations

60 MINUTES

*90.2(A)(5) & (6)

Expanded Scope Electric Vehicles and Marinas

*Article 100

Article 100 Scope (.2)

*Article 100

Article 100 Scope (Parts I, II, and III)

*Article 100

Definition of Accessible (as applied to
equipment)

*Article 100

Definition of Habitable Room

*Article 100

Definition of Photovoltaic (PV) System

*Article 100

Definition of Receptacle – New Informational
Note

*Article 100

Definition of Reconditioned

*Article 100

Definition of Service Equipment

*Article 100

Definition of Stand-Alone System

*110.3(B)

Installation and Use

*110.12(C)

Cables and Conductors – Workmanship

*110.14(D)

Terminal Connection Torque

*110.21(A)(2)

Reconditioned Equipment Exception

*110.22(A)

Disconnect Marking

*110.24(A)

Published Values of Available Fault Current

*110.26(A)

Planning for an Electrically Safe Work Condition

*110.26(C)(2)

Sum of Service Disconnect Ratings Added

*110.32

Work Space About Equipment

Chapter 2

Articles 210–250

Wiring and Protection

120 MINUTES

*200.3

Connection to Grounded System

*210.5(C)(1)

Identification of Ungrounded Conductors

*210.8(A)

GFCI, Dwelling Units

*210.8(D), (E), & (F)

GFCI Protection for Personnel

*210.11(C)(3) & (C)(4)

Bathroom and Garage Branch Circuits

*210.19(A)(1)

Conductors, Minimum Ampacity and Size

*210.63

Equipment Requiring Servicing

*Table 220.12

General Lighting Loads by Non-Dwelling
Occupancy

*220.87

Determining Existing Loads

*225.30(A)

Special Conditions (Number of Supplies)

*225.30(B)

Common Supply Equipment

*230.62(C)

Barriers

*230.71

Maximum Number of Disconnects, Two to Six

*230.85

Emergency Disconnects

*240.62, 240.88, & 240.102

Reconditioned Equipment

*240.67(C) & 240.87(C)

Performance Testing

*Article 242

Overvoltage Protection

*250.25

Grounding on Supply Side of Disconnect

*250.68(C)(3)

Grounding Electrode Conductor Connections

*250.119(B)

Multiconductor Cable Reidentified

*250.121(B)

Metal Frame of Building or Structure

*250.122

Size of Equipment Grounding Conductors

Chapter 3

Articles 300–396

Wiring Methods and Materials

30 MINUTES

***300.25**

Exit Enclosures (Stair Towers)

***310.15(B) & (C)**

Ambient Temperature Correction/Adjustment
Factors

***Article 311**

Article 311 Medium Voltage Conductors and
Cable

***314.16**

Number of Conductors...Box Volume/Fill

***Article 337**

Type P Cable

***392.30(B) & 392.44**

Securing/Supporting and Expansion Splice
Plates

Chapter 4

Articles 400–490

Equipment for General Use

60 MINUTES

***404.14**

Rating and Use of Switches

***408.3 & 408.18(C)**

Connections, Switchboards, and Switchgear

***408.4(A) & 408.6**

Short-Circuit Current Rating and Directories

***408.8**

Reconditioning of Equipment

***410.7**

Reconditioned Equipment, Luminaires

***422.5**

GFCI Protection for Personnel

***440.9**

Grounding and Bonding

***445.6**

Listing of Generators

***450.9**

Ventilation

***480.7(B)**

Emergency Disconnect, Batteries

***480.7(G)**

Identification of Power Sources

***490.49**

Reconditioned Switchgear

Chapter 5

Articles 500–590

Special Occupancies

60 MINUTES

*Hazardous Locations Articles .3

Sections

Remove the Term “Class I” from Zones 0, 1, and 2

*501.10(A)(1) (6)(7)

New Wiring Methods

*502.10(A)(1) (6)(7)

Type TC-ER-HL and Type P Cables Added

*503.10(A)(1) Items (2)(3)(4)

Equipment Grounding Conductor Plus Drain Wire

*506.8(K)(L)(M)

Optical Radiation

*Article 517

Categories, Type of Patient Care in Parenthesis

*517.16

Use of Isolated Grounding Receptacles

*517.17(A) & (D)

Ground-Fault Protection of Equipment (GFPE)

*517.18(A)

General Care Spaces – Exception No. 4

*517.18(C)

Risk Assessment for Tamper Resistant Receptacles

*517.29

Type 1 Essential Electrical Systems

*517.31(C)(3) (3)(f)

Mechanical Protection of the Essential Electrical System

*517.44(B)

Delayed Automatic/Manual Connection Equipment Branch

*518.6

Illumination

*Article 545, Part II

Article 545, Part II Relocatable Structures

*551.72(E) & 551.72(F)

Connected Devices, Connection to RV Site Equipment

*Articles 553 & 555

Floating Building Requirements Relocated

*555.35(A)

GFPE and GFCI Protection

*555.35(B)

GFPE and GFCI Protection

*555.53

Ground-Fault Protection, Floating Buildings

*590.8

Overcurrent Protective Devices

Chapter 6

Articles 600–695

Special Equipment

90 MINUTES

*600.5

Branch Circuits

*620.65 & 620.62

Signage (Selectively Coordinated OCPDs)

*625.1

Electric Vehicle Power Transfer System

*625.54 & 625.56

GFCI Protection and Receptacle Enclosures

*680.3 & 680.4

Approval of Equipment, Inspections After Installation

*680.21(C) & 680.21(D)

GFCI Protection/Replacement of Pool Pump Motors

*680.22(A)(4) & 680.22(A)(5)

GFCI Protection, Pool Equipment Room Receptacles

*680.22(C) & 680.22(E)

Switching Devices, Other Equipment

*680.35

Storable and Portable Immersion Pools

*682.15

Ground-Fault Protection

*690.12

Rapid Shutdown of PV on Buildings

*690.15

Disconnecting Means for Isolating PV Equipment

*690.31(D) & (F)

DC Circuits on or in Buildings, Mounting Systems

*690.56(C)

Buildings with Rapid Shutdown

*694.22(C)

Emergency Disconnect, 1 & 2 Family Dwellings

*695.10, 700.5(C), 701.5(C),

702.5(A), & 708.24(A)

Fire Pump Controllers and Transfer Switches

*695.14(F)

Generator Control Wiring Methods

Chapter 7-8

Articles 700–770

Special Equipment

Articles 800–840

Communications Systems

60 MINUTES

***700.5, 701.5, & 702.5**

Transfer Equipment

***700.10(D)**

Fire Protection

***702.7**

Signs, Emergency Shutdown

***705.12**

Load-Side Source Connections

***705.20**

Disconnecting Means, Source

***706.3, 706.7, & 706.8**

Qualified Personnel, Maintenance, Storage
Batteries

***708.24(D)**

Bypass Isolation Automatic Transfer Switches

***710.10 & 710.12**

Identification of Power Sources, Inverter Input

***712.2 & 712.10**

Functionally Grounded, Directory

***725.2 & 725.3**

Cable Bundle, Temperature Limitations, EGCs

***Article 800**

General Requirements for Communications
Systems

***805.179(D) & 805.179(G)**

Communications Wire and Cables