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2023 NEC Code Changes – Part 1 – Significant Changes – 8 hrs

Course Syllabus & Outline

Course Details:
CEU Credits: 8
Contact Hours: 8
Course Type: Code Update
Required Textbook: 2023 NEC Code Book recommended but not required
Class Format/Location: Web-based course delivered on-line @ bluevoltceu.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 significant changes to the 2023 NEC, NFPA 70. Specific articles are listed in the course outline below.

Course Learning Objectives:
1. Introduce students to significant changes in the 2023 NEC Code
2. Provide students with a code change summary, type of change, the new 2023 code, significance of change with corresponding visual aid.

Student Learning Outcomes:
At the conclusion of this course, each student will be able to:
- Find significant changes in the 2023 NEC
- Explain why these changes were made
- Apply the changes to workplace situations
- Identify applications and implement these 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: Significant Changes

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

70 minutes

90.1
Scope

90.5(C)
Explanatory Material

Article 100
Article 100 Reorganization

Article 100
Definition of Branch Circuit, Motor

Article 100
Definition of Class 4 Definitions

Article 100
Definition of Clothes Closet Storage Space

Article 100
Definition of Counter (Countertop)

Article 100
Definition of Energized, Likely to Become

Article 100
Definition of Fault Managed Power

Article 100
Definition of Fibers/Flyings, Combustible

Article 100
Definition of GFCI, Special Purpose

Article 100
Definition of Ground-Fault Detector-Interrupter

Article 100
Definition of Industrial Installation, Supervised

Article 100
Definition of Location, Wet

Article 100
Definition of Locations, Hazardous (Classified)

Article 100
Definition of Microgrid, Health Care

Article 100
Definitions of Panelboard and Panelboard, Enclosed

Article 100
Definition of Receptacle, Weight-Supporting Ceiling

Article 100
Definition of Servicing

Article 100
Definition of Stranding (Compact and Compressed)

110.3(B)
Installation and Use

110.12
Mechanical Execution of Work

110.16(B)
Service Equipment and Feeder Equipment

110.17
Servicing and Maintenance of Equipment

110.20
Reconditioned Equipment

110.26 & 110.26(A)(2)
Width of Working Space

110.26(A)(6)
Grade, Floor, or Working Platform

110.29
In Sight From (Within Sight From, Within Sight)

Chapter 2: Significant Changes
Articles 200–250
Wiring and Protection
55 minutes

210.8
GFCI Protection for Personnel

210.8(A)
Dwelling Units

210.70
Lighting Outlets Required

215.15
Barriers

215.18
Surge Protection

Article 220
Article 220 Reorganization

220.5(C)
Floor Area

220.57
Electric Vehicle Supply Equipment (EVSE) Load

220.70
Energy Management Systems (EMSs)

220.110
Receptacle Loads — Health Care Facilities

225.41
Emergency Disconnects

225.42
Surge Protection

Article 235
Branch Circuits, Feeders, and Services Over 1000 Vac

240.2
Reconditioned Equipment

240.6(D)
Remotely Adjustable Trip Circuit Breakers

240.7
Listing Requirements

240.11
Selective Coordination

240.24
Location in or on Premises

240.89
Replacement Trip Units

242.9
Indicating

Article 245
Overcurrent Prot. Sys. Rated Over 1000 Vac, 1500 Vdc

250.64
Grounding Electrode Conductor Installation

Chapter 3: Significant Changes
Articles 300–398
Wiring Methods and Materials
40 minutes

Article 300
Limitations

300.4(E)
Cables, Raceways, or Boxes Under Metal Decking

300.7(B)
Expansion, Expansion-Deflection, Deflection Fittings

300.26
Remote-Control and Signaling Circuits Classification

Article 305
Systems Rated Over 1000 V ac, 1500 V dc, Nominal

312.8
Splices, Taps, and Feed-Through Conductors

312.10
Screws or Other Fasteners

314.5
Screws or Other Fasteners

314.27(C) & (E)
Outlet Boxes, Ceiling-Suspended (Paddle Fans)

342.24
Bends

342.30(A)
Securing and Supporting

352.10
Insert Uses Permitted

358.10
Uses Permitted

362.10

Uses Permitted

Article 369

Insulated Bus Pipe (IBP)/Tubular Covered Conductors

Article 371

Flexible Bus Systems

Chapter 4

Articles 400–495

Equipment for General Use

38 minutes

400.40 through 400.52

Portable Power Feeder Cables Over 2000 V, Nominal

404.14 & 404.14(D)

Snap Switch Terminations

404.16

Reconditioned Equipment

404.30

Switch Enclosures with Doors

406.12

Tamper-Resistant Receptacles

408.9

Replacement Panelboards

409.70

Surge Protection

410.42

Luminaires with Exposed Conductive Surfaces

410.71

Disconnecting Means-Fluorescent or LED Luminaires

410.190 through 197

Provisions for Germicidal Irradiation Luminaires

Article 422

Appliances

424.48

Installation of Cables in Walls

430.83(F)

Ratings

445.18 & 445.19

Disconnecting Means

Article 495

Equipment Over 1000 Volts ac, 1500 Volts dc, Nominal

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Chapter 5

Articles 500–590

Special Occupancies

50 minutes

500.6(C) & (D)

Class III Combustible and Ignitible Fibers/Flyings

500.8(E)(3)

Unused Openings

501.141

Flexible Cables, Class I, Division 2

501.145

Receptacles and Attachment Plugs, Class I Locations

502.30

Grounding and Bonding

Article 505

Zone 0, 1, and 2 Locations

505.8

Protection Techniques

505.20(C), Exc. Nos. 5 & 6

Equipment Requirements, Zone 2

511.2

Other Articles

Article 512

Cannabis Oil Equipment and Cannabis Oil Systems

517.6

Patient Care-Related Electrical Equipment

517.22

Demand Factors

520.68(D)

Special-Purpose Multi-Circuit Cable Systems

550.33(A)

Feeder Equipment

551.3

Electrical Datum Plane Distances

551.40(D)

Loss of Ground Device

555.14

Equipotential Planes and Bonding of the Planes

555.15
Replacement of Equipment

555.36(C)
Disconnecting Means for Shore Power Connection(s)

555.38
Luminaires

Chapter 6
Articles 600–695
Special Equipment
35 minutes

625.1 Info. Notes
Scope

625.49
Island Mode

630.8
Ground-Fault Circuit-Interrupter Protection

645.5
Supply Circuits and Interconnecting Cables

680.6 & 680.7
Grounding and Bonding

680.58
GFCI and SPGFCI Protection for Receptacles

682.11
Location of Electrical Distribution Equipment

Article 690
Solar Photovoltaic (PV) Systems

690.4
General Requirements

690.12, Exception
Rapid Shutdown of PV Systems on Buildings

691.1 & 691.4
Large-Scale Photovoltaic (PV) Electric Supply Stations

694.50 & 694.68
Interactive System Point of Interconnection

695.1(B)
Not Covered

695.7
Voltage Drop

Chapter 7
Articles 700–770
Special Equipment
33 minutes

700.5
Transfer Equipment

700.11
Wiring, Class-2-Powered Emergency Lighting Systems

700.32
Selective Coordination

705.10
Identification of Power Sources

705.11
Source Connections to a Service

705.20
Source Disconnecting Means

705.80 through 705.82
Interconnected Systems Operating in Island Mode

Article 722
Cables for Power-Limited Circuits

722.10
Hazardous (Classified) Locations

Article 724
Class 1 Power-Limited Circuits

Article 725
Class 2 and Class 3 Power-Limited Circuits

Article 726
Class 4 Fault-Managed Power Systems

760.24
Mechanical Execution of Work

Chapter 8
Articles 800–840
Communications Systems
3 minutes

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Palmer Hickman is the Director of Safety and Code Training and Curriculum Development for the Electrical Training Alliance in Washington, DC. The Electrical Training Alliance is the training arm of the International Brotherhood of Electrical Workers (IBEW) and the National Electrical Contractors Association (NECA). He also serves as a Director of Codes and Standards for the IBEW. In this capacity, he represents the IBEW on the National Electrical Code (NEC) Technical Correlating Committee (TCC), Code Panels 1 and 20 of the NEC®, and on the Technical Committees for NFPA 70E®, *Standard for Electrical Safety in the Workplace*, and NFPA 70B®, *Recommended Practice for Electrical Equipment Maintenance*. In addition to his Codes and Standards responsibilities, he is an OSHA Construction Industry Master Instructor as well as an OSHA authorized Outreach Trainer for both Construction and General Industry. He is twenty-eight year member of the IBEW with additional memberships including IAEI, NFPA, IEEE, NETA, and the UL Electrical Council. In addition to completion of the IBEW/NECA/NJATC apprenticeship, his educational background includes a B.A. in Labor Safety and Health.

CERTIFICATE of COMPLETION

is hereby granted to

[[StudentName]]

to certify that they have completed to satisfaction on

[[CompletionDate]]

COURSE: **[[CourseName]]**	COURSE SPONSOR: BlueVolt
INSTRUCTOR: **[[CourseInstructor]]**	LOCATION: Online/Internet
CREDIT HOURS: **[[CreditHours]]**	
STATE APPROVAL NUMBERS: **[[CourseCode]]**	
LICENSE NUMBER(S): **[[ElectricalLicense]]**	

Julia Griffiths
Course Sponsor

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