

Agenda

Presented by JD White

Overview of Major Changes in 2020 National Electrical Code

Fault current references	Definition statements
Alignment of GFCI requirements	Equipment grounding conductor
Ampacity of conductors	

New Articles for the 2020 NEC

242 Overvoltage Protection	311 Medium Voltage Conductors
337 Type P Cable	800 Gen Req for Communication Systems

Chapter 1: NEC General, Articles 100 – 110

Definitions	Electrical connections
Identification of disconnecting means	Space about electrical equipment

Chapter 2: Wiring and Protection, Articles 210 – 250

Grounded conductors	Branch circuits
Feeder circuits	Services
Overvoltage protection	Grounding and bonding

Chapter 3: Wiring Methods, Articles 300 – 370

Conductors for general wiring	Medium voltage cable
Conductor volume calculations	Type P cable
Multi-outlet assembly	

Chapter 4: Equipment for General Use, Articles 400 – 490

Switches	Receptacles	Luminaries
Appliances	Motor circuits	

Chapter 5: Special Occupancies, Articles 500 – 590

Classified locations	Commercial garages
Motor fuel dispensing facilities	Assembly occupancies
Agricultural buildings	RV parks
Marinas and docks	Temporary installations

Chapter 6: Special Equipment, Articles 600 – 695

Electric signs	Elevators and lifts
Electric vehicles	Pools and fountains
PV systems	Fire pumps

Chapter 7: Special Conditions, Articles 700 – 770

Emergency systems	Interconnected power production
Critical operations power systems	Fire alarm systems
Optical fiber cables	

Chapter 8: Communications Systems, Articles 800 – 840

General requirements	Communications circuits
Powered broadband systems	

Chapter 9: Tables and Informative Annexes

Tables	Annex C Raceway Fill
Annex D Examples	Final notes

National Electrical Code 2020

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Learning Objectives

You'll be able to:

Discuss major changes in the 2020 National Electrical Code involving fault current references, GFCI requirements, equipment grounding, and ampacity of conductors.

Explain compliance standards for new articles for the 2020 NEC, including over-voltage protection, medium voltage conductors, type P cable, and general requirements for communication systems.

Comply with articles in NEC Chapters 1-4, covering electrical connections, wiring and protection, wiring methods, and equipment for general use.

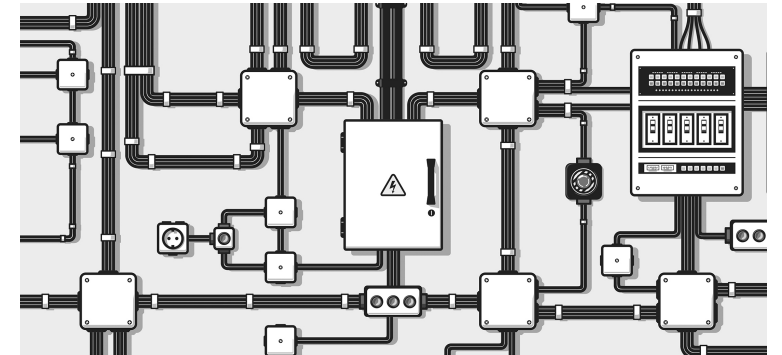
Comply with articles in NEC Chapters 5-9, covering special occupancies, special equipment, special conditions, communication systems, and use of tables and annexes.



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Review major changes in the National Electrical Code, including largescale solar PV systems and electric storage systems.

Understand new GFCI protection for non-dwelling units.

Discuss wiring methods and materials.

Apply required practices for emergency systems and fire alarm circuits.

Examine regulations for elevators and data centers.

Comply with requirements for hazardous locations, healthcare facilities, commercial garages and recreational vehicle parks.

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JD White *Consultant at Freelance Electrical System Design and Drafting*

Mr. White’s past ten years with Columbus State Community College in Columbus, Ohio, as its Skilled Trades Program coordinator, have provided him with insights beyond teaching, including migration to semesters, and providing oversight of 144 apprenticeship courses and 28 open enrollment courses covering construction, carpentry, electrical, plumbing, and welding. Mr. White helped craft 15 plans for study for various certificates, AAS majors, and ATS majors. He has been an active part of articulation agreements, with various vocational career programs and apprenticeship programs. He started a new open enrollment program in June of 2007, which had over 200 active students, and filled 28 course sections per term, prior to him handing it over to a new faculty member. Mr. White is presently working with 10 apprenticeship partnerships with annual enrollment of 1,500 students. He has oversight of five labs, equipment, materials, and lab personnel.

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