

**Instructor's Guide  
to Accompany the  
Illustrated Guide  
to the NEC<sup>®</sup>, 7e**

**Charles R. Miller**



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Instructor's Guide to Accompany the Illustrated  
Guide to the National Electric Code, 7E  
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# TO THE INSTRUCTOR

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*Illustrated Guide to the NEC®7e* is an exciting new tool for those who teach the National Electrical Code. This text represents a dramatic blend of new presentation styles with tried-and-true instructional practices. Symbolizing a revolutionary breakthrough in teaching material, the text communicates with the reader primarily through visualization. If a picture is truly worth a thousand words, this book is a virtual encyclopedia on the National Electrical Code. While technically accurate and highly detailed illustrations tell a story all their own, they are further enhanced through clearly written, concise blocks of text that can be read very quickly and understood with ease.

Not only is the presentation method exceptional, but also the organization of material is unique. After covering fundamental provisions in Section 1, *Illustrated Guide to the NEC* proceeds to address code requirements according to the type of occupancy. Comprehensive information is given for one-family dwellings, multifamily dwellings, commercial locations, and special occupancies. Information found scattered throughout the Code book has been logically gathered and concentrated under the appropriate occupancy. All relevant aspects are thoroughly discussed and illustrated accordingly.

As a teaching tool, this text stands alone, unlike any previously offered. Rest assured, however, that proven training methods have not been sacrificed for the sake of being different. Unit objectives still introduce new ideas to the reader, summaries review the material after presentation, and competency tests reinforce what has been learned.

As a valuable resource to the instructor, this Instructor's Guide provides unit competency test question answers and explanations, and two fifty-question comprehensive final exams, which can be given independently or as a single test. Unequaled as a teaching tool, *Illustrated Guide to the NEC* strives to make the entire process easier and more enjoyable.

From beginners to master electricians, this text has something for everyone practicing a trade in the electrical industry. The variety of teaching styles facilitated by *Illustrated Guide to the National Electrical Code* is essentially limitless. Whether the instructor focuses on a specific area of application or wants to teach the Code from cover to cover, *Illustrated Guide to the NEC* offers a visually pleasing format that holds student interest and awakens comprehension. Intended not as a replacement, but as an indispensable supplement to the National Electrical Code, the text translates the sometimes vague, often rambling, language of the Code into clearer, cleaner, simpler terms. Once the instructor has communicated these concepts so that the student understands how the Code translates in a particular area, the same techniques can be applied throughout this course of study.

As the title implies, frequent references are made to the National Electrical Code. Have each student keep a copy of the current edition close at hand. On countless occasions, the Code provides the definitive source of information. Should, for example, any confusion about terminology exist that is not cleared up by the Definitions section (Unit 2), consulting the Code's Article 100 — Definitions section may well offer the needed clarification. Whenever direct references are made to the Code, the class will benefit by taking the time to read the suggested article or section.

The true success of any teaching endeavor rests in the hands of the instructor. No matter how good the material, it is ultimately the instructor who enriches the mind of each and every student. It is the intention of the author and Delmar, Cengage Learning to lighten this imposing responsibility by placing exceptional resources at the instructor's disposal.



# Section 1 FOUNDATIONAL PROVISIONS

**UNIT 1** *There is no competency test for Unit 1.*

## UNIT 2 COMPETENCY TEST

1. Answer: general purpose  
Reference: Article 100 (**Branch-Circuit, General Purpose**)
2. Answer: remote-control circuit  
Reference: Article 100 (**Remote-Control Circuit**)
3. Answer: multiwire  
Reference: Article 100 (**Branch-Circuit, Multiwire**)
4. Answer: periodic duty  
Reference: Article 100 (**Duty: Periodic Duty**)
5. Answer: main bonding jumper  
Reference: Article 100 (**Bonding Jumper, Main**)
6. Answer: grounding electrode  
Reference: Article 100 (**Grounding Electrode Conductor**)
7. Answer: weatherproof  
Reference: Article 100 (**Weatherproof: Informational Note**)
8. Answer: effective ground-fault current path  
Reference: Article 100 (**Effective Ground-Fault Current Path**)
9. Answer: bypass isolation switch  
Reference: Article 100 (**Switch, Bypass Isolation**)
10. Answer: multioutlet assembly  
Reference: Article 100 (**Multioutlet Assembly**)
11. Answer: wet  
Reference: Article 100 (**Location, Wet**)
12. Answer: thermal protector  
Reference: Article 100 (**Thermal Protector: Informational Note**)
13. Answer: cabinet  
Reference: Article 100 (**Cabinet**)
14. Answer: hoistway  
Reference: Article 100 (**Hoistway**)
15. Answer: c) either I or II  
Reference: 210.4(C) Exceptions No.1 and 2
16. Answer: fuse  
Reference: Article 100 Part B. Over 1000 Volts, Nominal (**Fuse**)
17. Answer: Festoon lighting  
Reference: Article 100 (**Festoon Lighting**)
18. Answer: One item named must be a basin (lavatory or sink); the other item can be a toilet, a urinal, a tub, a shower, a bidet, or similar plumbing fixtures.  
Reference: Article 100 (**Bathroom**)
19. Answer: c) maximum  
Reference: Article 100 (**Continuous Load**)
20. Answer: resistor  
Reference: Article 100 (**Grounded, Solidly**)
21. Answer: outlet  
Reference: Article 100 (**Outlet**)
22. Answer: branch-circuit  
Reference: Article 100 (**Branch-Circuit**)
23. Answer: Raintight  
Reference: Article 100 (**Raintight**)
24. Answer: d) an indefinitely long time  
Reference: Article 100 (**Duty, Continuous**)
25. Answer: its temperature rating  
Reference: Article 100 (**Ampacity**)
26. Answer: 50  
Reference: Article 100 (**In Sight From [Within Sight From, Within Sight]**)
27. Answer: multifamily dwelling  
Reference: Article 100 (**Dwelling, Multifamily**)
28. Answer: the earth  
Reference: Article 100 (**Ground**)
29. Answer: vectorial sum  
Reference: Article 100 (**Neutral Point: Informational Note**)
30. Answer: Yes  
Reference: Article 100 (**Accessible, Readily [Readily Accessible]**)