



# TABLE OF CONTENTS

<b>About This Textbook</b> .....	vii	<b>Article 230—Services</b> .....	45
<b>About the <i>National Electrical Code</i></b> .....	xi	<b>Rule 19</b> 230.71 Number of Disconnects .....	46
<b>About the Author</b> .....	xv	<b>Rule 20</b> 230.72 Grouping of Disconnects .....	47
<b>About the Illustrator</b> .....	xvi	<b>Article 240—overcurrent Protection</b> .....	49
<b>Article 90—Introduction to the <i>National Electrical Code</i></b> .....	1	<b>Rule 21</b> 240.21 Overcurrent Protection Location in Circuit.....	50
<b>Rule 1</b> 90.1 Purpose of the <i>NEC</i> .....	1	<b>Article 250—Grounding and Bonding</b> .....	55
<b>Rule 2</b> 90.2 Scope of the <i>NEC</i> .....	3	<b>Rule 22</b> 250.2 Definition .....	55
<b>Rule 3</b> 90.3 <i>Code</i> Arrangement .....	5	<b>Rule 23</b> 250.4 General Requirements for Grounding and Bonding .....	56
<b>Rule 4</b> 90.4 Enforcement.....	6	<b>Rule 24</b> 250.6 Objectionable Current.....	62
<b>Rule 5</b> 90.7 Examination of Equipment for Product Safety .....	8	<b>Rule 25</b> 250.24 Service Equipment—Grounding and Bonding....	66
<b>Article 110—Requirements for Electrical Installations</b> .....	9	<b>Rule 26</b> 250.30 Separately Derived Systems—Grounding and Bonding.....	72
<b>Rule 6</b> 110.2 Approval of Conductors and Equipment .....	9	<b>Rule 27</b> 250.32 Buildings Supplied by a Feeder.....	78
<b>Rule 7</b> 110.3 Examination, Identification, Installation, and Use of Equipment.....	10	<b>Rule 28</b> 250.34 Generators—Portable and Vehicle-Mounted .....	80
<b>Rule 8</b> 110.14 Conductor Termination and Splicing .....	11	<b>Rule 29</b> 250.50 Grounding Electrode System .....	80
<b>Rule 9</b> 110.16 Arc-Flash Hazard Warning .....	16	<b>Rule 30</b> 250.52 Grounding Electrode Types .....	81
<b>Rule 10</b> 110.24 Available Fault Current .....	17	<b>Rule 31</b> 250.53 Grounding Electrode Installation Requirements.....	84
<b>Rule 11</b> 110.26 Spaces About Electrical Equipment.....	17	<b>Rule 32</b> 250.64 Grounding Electrode Conductor Installation .....	89
<b>Article 210—Branch Circuits</b> .....	25	<b>Rule 33</b> 250.66 Sizing Grounding Electrode Conductor.....	93
<b>Rule 12</b> 210.4 Multiwire Branch Circuits .....	25	<b>Rule 34</b> 250.92 Bonding Equipment for Services.....	94
<b>Rule 13</b> 210.5 Identification for Branch Circuits.....	29	<b>Rule 35</b> 250.94 Intersystem Bonding Termination.....	97
<b>Rule 14</b> 210.8 GFCI Protection .....	30	<b>Rule 36</b> 250.97 Bonding Metal Parts Containing 277V and 480V Circuits.....	98
<b>Rule 15</b> 210.12 Arc-Fault Circuit-Interrupter Protection .....	37	<b>Rule 37</b> 250.104 Bonding of Piping Systems and Exposed Structural Metal .....	99
<b>Rule 16</b> 210.19 Conductor Sizing .....	38	<b>Rule 38</b> 250.118 Types of Equipment Grounding Conductors....	103
<b>Rule 17</b> 210.20 Overcurrent Protection .....	41	<b>Rule 39</b> 250.122 Sizing Equipment Grounding Conductor.....	107
<b>Article 225—Outside Branch Circuits and Feeders</b> .....	43	<b>Rule 40</b> 250.146 Connecting Receptacle Grounding Terminal to Metal Enclosure.....	109
<b>Rule 18</b> 225.32 Disconnect Location .....	43	<b>Rule 41</b> 250.148 Continuity and Attachment of Equipment Grounding Conductors in Metal Boxes .....	112

**Article 300—General Requirements for Wiring Methods and Materials** ..... 115

**Rule 42** 300.5 Underground Installations..... 115

**Rule 43** 300.21 Spread of Fire or Products of Combustion..... 120

**Rule 44** 300.22 Wiring in Ducts and Plenums Spaces..... 120

  

**Article 310—Conductors for General Wiring** ..... 125

**Rule 45** 310.15 Conductor Ampacity ..... 126

  

**Article 312—Cabinet and Cutout Boxes**..... 137

**Rule 46** 312.8 Cabinets and Cutout Boxes Containing Splices, Taps, and Feed-Through Conductors..... 137

**Article 430—Motors, Motor Circuits, and Controllers**..... 139

**Rule 47** 430.22 Single Motor Conductor Size ..... 139

**Rule 48** 430.52 Branch-Circuit Short-Circuit and Ground-Fault Protection ..... 140

  

**Article 450—Transformers**..... 143

**Rule 49** 450.3 Overcurrent Protection ..... 143

**Rule 50** 450.14 Disconnecting Means ..... 144

  

**Practice Questions for the Essential Rules of the NEC**..... 147