



TABLE OF CONTENTS

About This Textbook	viii	725.3	Other Articles	29
About the <i>National Electrical Code</i>	xii	725.21	Electrical Equipment Behind Access Panels	31
About the Author	xvi	725.24	Mechanical Execution of Work	31
About the Illustrator	xvii	725.25	Abandoned Cable	32
About the Team	xviii	725.31	Safety-Control Equipment	32
		725.35	Circuit Requirements	33
Article 90—Introduction to the		Part II. Class 1 Circuit Requirements		33
<i>National Electrical Code</i>	1	725.41	Class 1 Circuit Classifications and Power-Supply	
90.1 Purpose of the <i>NEC</i>	1		Requirements	33
90.2 Scope of the <i>NEC</i>	3	725.43	Class 1 Circuit Overcurrent Protection	34
90.3 Code Arrangement	5	725.46	Class 1 Circuit Wiring Methods	34
90.4 Enforcement	6	725.48	Conductors of Different Circuits in Same Cable,	
90.5 Mandatory Requirements and Explanatory Material	8		Cable Tray, Enclosure, or Raceway	34
90.6 Formal Interpretations	8	725.49	Class 1 Circuit Conductors	34
90.7 Examination of Equipment for Product Safety	8	725.51	Number of Conductors in a Raceway	35
90.9 Units of Measurement	9	Part III. Class 2 and Class 3 Circuit Requirements		35
Article 90 Practice Questions	10	725.121	Power Sources for Class 2 and Class 3 Circuits	35
		725.124	Equipment Marking	36
Article 300—General Requirements for Wiring		725.127	Wiring Methods on Supply Side of the Class 2 or	
Methods and Materials	13		Class 3 Power Source	36
Part I. General	13	725.130	Wiring Methods on Load Side of the Class 2 or	
300.4 Protection Against Physical Damage	13		Class 3 Power Source	36
300.11 Securing and Supporting	14	725.135	Installation of Class 2 and Class 3 Cables	36
300.17 Raceway Sizing	15	725.136	Separation from Power Conductors	37
300.21 Spread of Fire or Products of Combustion	17	725.139	Conductors of Different Circuits in Same Cable,	
300.22 Wiring in Ducts and Plenums Spaces	18		Enclosure, Cable Tray, Raceway, or Cable Routing	
Article 300 Practice Questions	23		Assembly	39
		725.143	Support	40
Article 725—Remote-Control, Signaling, and		725.154	Applications of Class 2, Class 3, and PLTC Cables	40
Power-Limited Circuits	27	Part IV. Listing Requirements		41
Part I. General	27	725.179	Listing and Marking of Class 2 and Class 3 Cables	41
725.1 Scope	27	Article 725 Practice Questions		43
725.2 Definitions	28	Article 760—Fire Alarm Systems		45
		Part I. General		45
		760.1 Scope		45
		760.2 Definitions		46

760.3	Other Articles	46
760.21	Access to Electrical Equipment Behind Panels Designed to Allow Access	48
760.24	Mechanical Execution of Work	48
760.25	Abandoned Cable.....	49
760.30	Fire Alarm Circuit Identification	50
760.32	Fire Alarm Circuit Cables Extending Beyond a Building.....	50
760.35	Fire Alarm Circuit Requirements.....	50
Part III. Power-Limited Fire Alarm (PLFA) Circuits.....		50
760.121	Power Sources for Power-Limited Fire Alarm Circuits.....	50
760.124	Equipment Marking.....	50
760.130	Wiring Methods on Load Side of Power-Limited Fire Alarm Power Source.....	51
760.135	Installation of PLFA Cables in Buildings.....	52
760.136	Separation from Power Conductors.....	52
760.139	Power-Limited Fire Alarm Circuits, Class 2, Class 3, and Communications Circuits	52
760.143	Support.....	53
760.154	Applications of Power-Limited Fire Alarm Cables (PLFA)	53
Part IV. Listing Requirements.....		54
760.179	Listing and Marking of Power-Limited Fire Alarm Cables (PLFA).....	54
Article 760 Practice Questions.....		55
Article 770—Optical Fiber Cables and Raceways		57
Part I. General		57
770.1	Scope	57
770.2	Definitions.....	58
770.3	Other Articles	58
770.12	Innerduct	59
770.21	Access to Electrical Equipment Behind Panels Designed to Allow Access	60
770.24	Mechanical Execution of Work	60
770.25	Abandoned Cable.....	61
770.26	Spread of Fire or Products of Combustion	62
Part II. Cables Outside and Entering Buildings		62
770.48	Unlisted Cables and Raceways Entering Buildings.....	62
770.49	Metallic Entrance Conduit Grounding	62
Part V. Installation Methods Within Buildings.....		63
770.110	Raceways and Cable Routing Assemblies for Optical Fiber Cables.....	63
770.113	Installation of Optical Fiber Cables	64

770.133	Installation of Optical Fiber Cables and Electrical Conductors	64
770.154	Applications of Listed Optical Fiber Cables.....	66
Part VI. Listing Requirements		66
770.179	Listing and Marking of Optical Fiber Cables	66
Article 770 Practice Questions.....		67
Article 800—Communications Circuits.....		69
Part I. General		69
800.1	Scope	69
800.2	Definitions.....	70
800.12	Innerduct	70
800.18	Installation of Equipment.....	70
800.21	Access to Electrical Equipment Behind Panels Designed to Allow Access.....	71
800.24	Mechanical Execution of Work	71
800.25	Abandoned Cable.....	72
800.26	Spread of Fire or Products of Combustion	73
Part II. Cables Outside and Entering Buildings		73
800.44	Overhead (Aerial) Communications Wires and Cables.....	73
800.47	Underground Communications Wires and Cables Entering Buildings.....	73
800.48	Unlisted Cables Entering Buildings	74
800.49	Metallic Entrance Conduit Grounding	74
800.53	Lightning Conductors.....	74
Part III. Protection.....		74
800.90	Primary Protection	74
Part IV. Grounding Methods		75
800.100	Cable and Primary Protector Bonding and Grounding	75
Part V. Installation Methods Within Buildings.....		78
800.110	Raceways and Cable Routing Assemblies for Communications Wires and Cables	78
800.113	Installation of Communications Cables, Raceways, and Cable Routing Assemblies.....	79
800.133	Installation of Communications Wires, Cables, and Equipment	81
800.154	Applications of Communications Cables, Communications Raceways, and Cable Routing Assemblies	82
800.156	Dwelling Unit Communications Outlet	83

Part VI. Listing Requirements	84	820.25	Abandoned Cable.....	102
800.179 Listing and Marking of Communications Wires and Cables.....	84	820.26	Spread of Fire or Products of Combustion	103
800.182 Listing and Marking of Communications Raceways	84	Part II. Coaxial Cables Outside and Entering Buildings		103
Article 800 Practice Questions	85	820.44	Supports	103
 Article 810—Radio and Television Equipment	89	820.47	Underground Coaxial Cables Entering Buildings	104
Part I. General	89	820.48	Unlisted Cables and Raceways Entering Building	104
810.1 Scope	89	820.49	Metallic Entrance Conduit Grounding	104
810.3 Other Articles	90	Part III. Protection		105
810.4 Community Television Antenna.....	90	820.93	Grounding of the Outer Conductive Shield of Coaxial Cables.....	105
810.6 Antenna Lead-In Protectors.....	90	Part IV. Grounding Methods		105
810.7 Grounding Devices.....	91	820.100	Bonding and Grounding Methods	105
Part II. Receiving Equipment—Antenna Systems	91	Part V. Installation Methods Within Buildings		108
810.12 Supports	91	820.110	Raceways and Cable Routing Assemblies for Coaxial Cables	108
810.13 Avoid Contact with Conductors of Other Systems.....	91	820.113	Installation of Coaxial Cables.....	110
810.15 Metal Antenna Supports—Grounding.....	91	820.133	Installation of Coaxial Cables and Equipment	111
810.18 Clearances.....	92	820.154	Applications of Coaxial Cables	112
810.20 Antenna Discharge Unit.....	92	Part VI. Listing Requirements		113
810.21 Bonding Conductor and Grounding Electrode Conductors	93	820.179	Listing and Marking of Coaxial Cables.....	113
Part III. Amateur and Citizen Band Transmitting and Receiving Antenna Systems	96	Article 820 Practice Questions		115
810.51 Other Sections	96	 FINAL EXAM		119
810.54 Clearance on Building	96	 INDEX		131
810.57 Antenna Discharge Units.....	96			
810.58 Bonding Conductor or Grounding Electrode Conductors	96			
Article 810 Practice Questions	97			
 Article 820—Community Antenna Television (CATV) and Radio Distribution Systems	99			
Part I. General	99			
820.1 Scope	99			
820.2 Definitions.....	100			
820.15 Power Limitations	100			
820.21 Access to Electrical Equipment Behind Panels Designed to Allow Access	101			
820.24 Mechanical Execution of Work	101			