VIDEO USER GUIDE

2017 Journeyman Comprehensive Video Library

Total Play Time: [80:05:30]



The best way to understand the concepts in this program is to use the videos along with the textbook. The videos contain explanations and commentary from a panel of experts that expand on the concepts in the textbook and help you understand the application of the topics in real-world situations. Whether you're a visual or an auditory learner, watching these videos will enhance your knowledge and understanding.

- Watch the videos sequentially and follow along with the textbook. Stop and review any section that you don't understand.
- Pay special attention to the detailed instructional graphics.
- Work through the questions in your textbook to test your comprehension.

Basic Electrical Theory

VIDEO USER GUIDE

Play Time Total 12:54:21



	<u>Play Time</u>	Book Page:
Introduction	[0:10:44]	
CHAPTER 1 - ELECTRICAL FUNDAMENTALS	[2:56:19]	page 1
Unit 1 - Matter	[0:36:48]	
Unit 2 - Electron Theory	[0:08:17]	
Unit 3 – Magnetism	[0:19:57]	
Unit 4 - Electricity	[0:56:07]	
Unit 5 – Electromagnetism	[0:05:44]	
Unit 6 - Uses of Electromagnetism	[0:49:26]	
CHAPTER 2 - BASIC ELECTRICITY	[1:17:25]	page 73
Unit 7 - The Electrical Circuit	[0:20:45]	
Unit 8 - Math	[0:25:21]	
Unit 9 - Electrical Formulas	[0:31:19]	
CHAPTER 3 - BASIC ELECTRICAL CIRCUITS	[2:03:39]	page 121
Unit 10 - Series Circuits	[0:40:55]	
Unit 11 - Parallel Circuits	[0:29:22]	
Unit 12 - Series-Parallel Circuits	[0:10:00]	
Unit 13 - Multiwire Circuits	[0:43:22]	
CHAPTER 4 - ELECTRICAL SYSTEMS AND PROTECTION	[2:09:37]	page 171
Unit 14 - The Electrical System	[0:51:10]	
Unit 15 - Protection Devices	[1:18:27]	
CHAPTER 5 - ALTERNATING CURRENT	[2:19:37]	page 209
Unit 16 - Alternating Current	[0:44:05]	
Unit 17 - Capacitance	[0:24:35]	
Unit 18 - Induction	[0:27:37]	
Unit 19 - Power Factor & Efficiency	[0:33:20]	
CHAPTER 6 - MOTORS, GENERATORS & TRANSFORMERS.	[1:57:00]	page 265
Unit 20 - Motors	[0:31:48]	
Unit 21 - Generators	[0:04:17]	
Unit 22 – Transformers	[1:20:55]	

Understanding the NEC Volume 1

Based on the 2017 NEC®

VIDEO USER GUIDE

Play Time Total 27:26:50



	Play Time	Book Page#
INTRODUCTION	. [0:02:30]	
ARTICLE 90 - INTRODUCTION TO THE NATIONAL		
ELECTRICAL CODE	. [0:53:13]	. page 7
CHAPTER 1 - GENERAL RULES	. [4:50:34]	. page 19
Article 100—Definitions	[1:55:47]	
Article 110—Requirements for Electrical Installations	[2:54:47]	
CHAPTER 2 - WIRING AND PROTECTION	. [5:38:53]	. page 89
Article 200—Use and Identification of Neutral Conductors	[0:36:00]	
Article 210—Branch Circuits	[2:22:54]	
Article 215—Feeders	[0:12:14]	
Article 220—Branch-Circuit, Feeder, and Service Load		
Calculations	[0:01:57]	
Article 225—Outside Branch Circuits and Feeders	[0:08:54]	
Article 230—Services	[0:55:25]	
Article 240—Overcurrent Protection	[1:04:25]	
Article 285—Surge Protective Devices	[0:17:04]	
CHAPTER 3—WIRING METHODS AND MATERIALS	[10:44:59]	. page 319
Article 300—Wiring Methods and Materials	[2:49:36]	
Article 310—Conductors for General Wiring	[1:27:23]	
Article 312—Cabinets and Meter Socket Enclosures	[0:14:41]	
Article 314—Boxes, Conduit Bodies, and Handhole		
Enclosures	[1:35:45]	
Article 320—Armored Cable (Type AC)	[0:47:33]	
Article 330—Metal-Clad Cable (Type MC)	[0:35:10]	
Article 334—Nonmetallic-Sheathed Cable (Type NM)	[0:45:42]	

	Article 336—Power and Control Tray Cable (Type TC)	[0:06:13]
	Article 338—Service-Entrance Cable (Types SE and USE)	[0:03:11]
	Article 340—Underground Feeder and Branch-Circuit	
	Cable (Type UF)	[0:03:55]
	Article 342—Intermediate Metal Conduit (Type IMC)	[0:03:23]
	Article 344—Rigid Metal Conduit (Type RMC)	[0:19:06]
	Article 348—Flexible Metal Conduit (Type FMC)	[0:08:31]
	Article 350—Liquidtight Flexible Metal Conduit	
	(Type LFMC)	[0:07:52]
	Article 352—Rigid Polyvinyl Chloride Conduit (Type PVC)	[0:18:39]
	Article 356—Liquidtight Flexible Nonmetallic Conduit	
	(Type LFNC)	[0:11:32]
	Article 358—Electrical Metallic Tubing (Type EMT)	[0:15:41]
	Article 362—Electrical Nonmetallic Tubing (Type ENT)	[0:20:15]
	Article 376—Metal Wireways	[0:22:09]
	Article 380—Multioutlet Assemblies	[0:02:53]
	Article 386—Surface Metal Raceways	[0:02:19]
	Article 392—Cable Trays	[0:13:30]
CHAF	PTER 4-EQUIPMENT FOR GENERAL USE	[5:16:41] page 503
	Article 400—Flexible Cords and Flexible Cables	[0:34:29]
	Article 404-Switches	[0:44:07]
	Article 406—Receptacles, Cord Connectors, and Attachment	
	Plugs	[1:06:22]
	Article 408 – Switchboards, Switchgear, and Panelboards	[0:24:55]
	Article 410—Luminaires, Lampholders, and Lamps	[0:32:54]
	Article 411—Low-Voltage Lighting	[0:05:40]
	Article 422—Appliances	[0:17:30]
	Article 424—Fixed Electric Space-Heating Equipment	[0:16:52]
	Article 430—Motors, Motor Circuits, and Controllers	[0:35:38]
	Article 440—Air-Conditioning and Refrigeration Equipment	[0:08:48]
	Article 445—Generators	[0:09:13]
	Article 450—Transformers and Transformer Vaults	[0.20.13]

Bonding & Grounding

Based on the 2017 NEC®

VIDEO USER GUIDE

Play Time Total 16:02:52



Please note: The Bonding and Grounding video series was made for a different book, but we have included all of the video clips to help you understand the full scope of this important topic. The page numbers shown are from the Understanding the National **Electrical Code Volume 1** textbook that covers the same topics.

	Play Time	Book Page #
Article 90—Introduction to the National Electrical Code	. [0:08:07]	page 7
CHAPTER 1 - GENERAL RULES	. [1:25:51]	page 19
Article 100—Definitions	[0:58:15]	
Article 110—Approval of Conductors and Equipment	[0:27:36]	
CHAPTER 2 - WIRING AND PROTECTION	[9:59:46]	page 223
Article 250—Grounding and Bonding – Part I	[2:51:23]	
Article 250—Grounding and Bonding - Part II	[1:27:37]	
Article 250—Grounding and Bonding - Part III	[2:20:46]	
Article 250—Grounding and Bonding - Part IV	[0:05:17]	
Article 250—Grounding and Bonding - Part V	[1:34:54]	
Article 250—Grounding and Bonding - Part VI	[0:42:58]	
Article 250—Grounding and Bonding - Part VII	[0:56:51]	
CHAPTER 3—WIRING METHODS AND MATERIALS	5 [1:04:25]	page 319
Article 300—General Requirements for Wiring Methods		
and Materials	[0:17:35]	
Article 314—Outlet, Device, Pull, and Junction Boxes, Cond	uit	
Bodies, and Handhole Enclosures	[0:07:52]	
Articles 320—392		
Armored Cable (Type AC) — Cable Trays	[0:39:58]	

	Play Time	Book Page#
CHAPTER 4-EQUIPMENT FOR GENERAL USE	[0:46:55]	. page 503
Article 404—Switches	[0:05:13]	
Article 406—Receptacles, Cord Connectors, and Attachmen	nt	
Plugs (Caps)	[0:13:20]	
Article 408—Switchboards, Switchgear, and Panelboards	[0:08:32]	
Article 410—Luminaires, Lampholders, and Lamps	[0:09:54]	
Article 440—Air-Conditioning and Refrigeration Equipment	[0:05:33]	
Article 450—Transformers	[0:04:23]	

Please note: The Bonding and Grounding video series was made for a different book, but we have included all of the video clips to help you understand the full scope of this important topic. The page numbers for the clips shown below are from the Understanding the National Electrical Code Volume 2 textbook that covers the same topics.

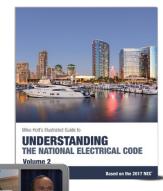
CHAPTER 5-SPECIAL OCCUPANCIES	[0:38:28] page 91
Articles 501–503 Classes I to III Hazardous	
(Classified) Locations	[0:05:53]
Article 517—Health Care Facilities	[0:24:29]
Article 547—Agricultural Buildings	[0:07:11]
Article 555—Marinas, Boatyards, and Docking Facilities	[0:00:55]
CHAPTER 6-SPECIAL EQUIPMENT	[1:37:44] page 211
Article 600—Electric Signs and Outline Lighting	[0:01:43]
Article 645—Information Technology Equipment	[0:05:43]
Article 680—Swimming Pools, Spas, Hot Tubs, Fountains,	
and Similar Installations	[0:56:13]
Article 690—Solar Photovoltaic (PV) Systems	[0:34:05]
CHAPTER 8-COMMUNICATIONS SYSTEMS	[0:11:35] page 383
Articles 800—820 Communications Circuits—CATV	

Understanding the NEC Volume 2

Based on the 2017 NEC®

VIDEO USER GUIDE

Play Time Total 19:20:00





Pla	aν	Ti	m	_
ГΙ	a v			ᆫ

Book Page

	Play Tille	<u>DOOK Page</u>
CHAPTER 5 - SPECIAL OCCUPANCIES	. [8:17:07]	. page 91
Article 500—Hazardous (Classified) Locations	[1:09:38]	
Article 501—Class I Hazardous (Classified) Locations	[1:23:30]	
Article 502—Class II Hazardous (Classified) Locations	[0:33:57]	
Article 503—Class III Hazardous (Classified) Locations	[0:10:50]	
Article 511—Commercial Garages, Repair and Storage	[0:53:06]	
Article 514—Motor Fuel Dispensing Facilities	[0:17:29]	
Article 517—Health Care Facilities	[0:25:08]	
Article 518—Assembly Occupancies	[0:12:39]	
Article 525—Carnivals, Circuses, Fairs, and Similar Events	[0:49:59]	
Article 547—Agricultural Buildings	[0:22:04]	
Article 550—Manufactured Homes, and Mobile Home Parks	.[0:25:06]	
Article 555—Marinas, Boatyards, and Docking Facilities	[0:43:46]	
Article 590—Temporary Installations	[0:49:57]	
CHAPTER 6 - SPECIAL EQUIPMENT	. [6:15:17]	. page 211
Article 600—Signs and Outline Lighting	[0:22:19]	
Article 604—Manufactured Wiring Systems	[0:06:19]	
Article 620—Elevators, Escalators, and Moving Walks	[0:43:50]	
Article 625—Electric Vehicle Charging Systems	[0:17:54]	
Article 640—Audio Signal Processing, Amplification, and		
Reproduction Equipment	[0:32:51]	
Article 645—Information Technology Equipment	[1:02:08]	
Article 680—Swimming Pools, Spas, Hot Tubs, Fountains, and	d	
Similar Installations	[2:28:01]	
Article 690—Solar Photovoltaic (PV) Systems	[0:00:35]	
	[0.44.00]	

Article 695—Fire Pumps......[0:41:20]

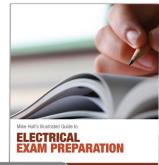
CHAPTER 7 - SPECIAL CONDITIONS	[3:18:06] page 313
Article 700—Emergency Systems	[0:52:13]
Article 701—Legally Required Standby Systems	[0:17:52]
Article 702—Optional Standby Systems	[0:19:12]
Article 725—Remote-Control, Signaling, and Power-Limite	ed
Circuits	[0:51:20]
Article 760—Fire Alarm Systems	[0:35:59]
Article 770—Optical Fiber Cables and Raceways	[0:21:30]
CHAPTER 8 - COMMUNICATIONS SYSTEMS	[1:29:30] page 383
Article 800—Communications Systems	[0:38:26]
Article 810—Radio and Television Antenna Equipment	[0:33:58]
Article 820—Community Antenna Television (CATV) and	
Radio Distribution Systems (Coaxial Cable)	[0:17:06]

Electrical Exam Preparation

Based on the 2017 NEC®

Journeyman **VIDEO USER GUIDE**

Play Time Total 20:24:19





Play Time

Book Page#

CHAPTER 2 - NEC CALCULATIONS	page 185
Unit 5—Raceway and Box Calculations	[4:21:02] page 187
Part A—Raceway Sizing	
Part B—Outlet Box Sizing	
Part C—Pull Boxes, Junction Boxes, and Conduit Bodies	
Unit 6—Conductor Sizing and Protection Calculations	[5:07:36] page 243
Part A—Conductor Requirements	
Part B—Conductor Ampacity	
Unit 7—Motor, and Air-Conditioning Calculations	[4:23:39] page 301
Part A—Motor Calculations	
Part B—Air-Conditioning Calculations	
Unit 8—Voltage-Drop Calculations	[3:21:28] page 355
Part A – Understanding Conductor Resistance	
Part B – Voltage Drop Considerations	
Unit 9—Dwelling Unit Calculations	[3:10:34] page 397
Part A—Load Calculations Standard Method	
Part B-Load Calculations Optional Method	
Part C—Neutral Calculations	