**Class:** 2017 National Electrical Code®

**Description:**

 The purpose of this training is to help electricians understand the most recent version of the National Electrical Code® (2017) and introduce non-electrical personnel to the code book with an in-depth, practical introduction. The NEC® is the most widely used installation and construction code in the world, and anyone who handles electrical systems should understand it. This class will give students a thorough understanding of the National Electrical Code®, and most importantly, how it is applied to a specific site or facility so that they can install and maintain electrical systems properly.

**Presentation:** Classroom - lecture and demonstration

**Anticipated size:** Maximum 20

**Proposed Hours:** 16

**Attendance Verification:**

 All students must sign in both days, provide their ID card, and note their state license number on the sign-in sheet to apply for Continuing Education Units in their state. The rosters are kept on file for three years at TPC Trainco headquarters and will be submitted in accordance with the state’s requirements.

**Participant Evaluation:**

 A proctored exam is not required to complete this class, although the option of an online or paper mail-in exam is available at the student’s request after successful completion. The students will receive a three star certificate of completion at the end of the course. If they choose to take the exam, they will receive an additional four or five star certificate after passing the exam; four if they choose to take it online and five if they choose to get it proctored.

**Fees:** $1100 for 2 days, all materials included

**Materials:** NEC 2017 Codebook

 IPNCE 101 0916 ATMT 2017 NEC® Training Powerpoint

 WBNCE 101 0916 ATMT 2017 NEC® Student Workbook

 RGNCE 101 0916 ATMT 2017 NEC® Reference Guide

Course Objectives

Upon completion of this seminar, students will have demonstrated their ability to:

1. Navigate and find answers in the NEC ®
2. Identify key electrical terms found in the National Electrical Code ®
3. Locate specific information for their job regarding:
	1. Electrical installations
	2. Wiring and protection
	3. Wiring methods and materials
	4. Equipment for general use; motors, transformers
4. Determine the applicability of the code rules found in each chapter of the NEC ®
5. Locate specific information for their job regarding:
	1. Special occupancies
	2. Special equipment
	3. Special conditions
	4. Communication systems
6. Learn how to apply the tables found in chapter nine of the NEC ® in solving typical electrical wiring and conduit problems.
7. Understand the most important 2017 National Electrical Code ® changes

Course Agenda

**Introduction to the National Electrical Code ®**

* NEC ® layout as the first step in successful navigation
* Differences between the first four chapters and chapters five through nine
* How to quickly put yourself in the right chapter of the National Electrical Code ®

**Chapter 1: General**

* Key words and definitions you must know
* Installation requirements topics

**Chapter 2: Wiring and Protection**

* Use and identification of grounded conductors branch circuits
* Feeders
* Branch-circuit, feeder and service calculations outside branch circuits and feeders
* Services
* Overcurrent protection
* Grounding
* Transient voltage surge suppressors

**Chapter 3: Wiring Methods and Materials**

* Wiring methods
* Conductors for general wiring
* Cabinets, cutout boxes, meter socket enclosures outlet, device, pull, and junction boxes; conduit bodies; fittings; and manholes armored cable: Type AC
* Nonmetallic-sheathed cable: Types NM, NMCn and NMS
* Flexible metal conduit: Type FMC
* Liquidtight flexible metal conduit, rigid nonmetallic conduit: Type LFMC
* Rigid nonmetallic conduit: Type FMC
* Liquidtight flexible nonmetallic conduit: Type LFNC
* Electrical nonmetallic tubing: Type ENT
* Auxiliary gutters
* Busways
* Cablebus
* Metal wireways
* Surface metal raceways
* Surface nonmetallic raceways
* Cable trays

**Chapter 4: Equipment for General Use**

* Flexible cords and cables
* Fixture wires
* Switches
* Receptacles, cord connectors, and attachment caps switchboards and panelboards
* Luminaries, lamp holders, lamps
* Appliances
* Fixed electric space-heating equipment
* Motors, motor circuits, and controllers, including disconnecting means for motors
* Air conditioning and refrigeration equipment transformers and transformer vaults
* Equipment over 600 volts, nominal

**Chapters 5 through 8**

* The interrelationships between the first four chapters and these chapters
* Special occupancies
* Special equipment
* Special conditions
* Communication systems

**Chapter 9: Tables**

* How to use ready information quickly
* Solving problems with tables

Course Timeline

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| **DAY ONE** |
| **Start Time** | **End Time** | **Hours** | **Topic** |
| 7:30 | 8:00 | .5 | Registration/Sign-In |
| 8:00 | 9:00 | 1 | **Introduction to the National Electrical Code ®** |
| 9:00 | 10:30 | 1.5 | **Chapter 1: General** |
| 10:30 | 10:45 | .25 | Break |
| 10:45 | 12:00 | 1.25 | **Chapter 1: General (cont’d)** |
| 12:00 | 1:00 | 1 | Lunch |
| 1:00 | 2:45 | 1.75 | **Chapter 2: Wiring and Protection** |
| 2:45 | 3:00 | .25 | Break |
| 3:00 | 4:30 | 1.5 | **Chapter 3: Wiring Methods and Materials** |
| **DAY TWO** |
| **Start Time** | **End Time** | **Hours** | **Topic** |
| 7:30 | 8:00 | .5 | Registration/Sign-In |
| 8:00 | 8:30 | .5 | **Chapter 3: Wiring Methods and Materials (cont’d)** |
| 8:30 | 10:00 | 1.5 | **Chapter 4: Equipment for General Use** |
| 10:00 | 10:15 | .25 | Break |
| 10:15 | 12:00 | 1.75 | **Chapters 5 & 6: Special Occupancies & Special Equipment** |
| 12:00 | 1:00 | 1 | Lunch |
| 1:00 | 2:30 | 1.5 | **Chapter 7: Special Conditions** |
| 2:30 | 2:45 | .25 | Break |
| 2:45 | 3:30 | .75 | **Chapter 8: Communications Systems** |
| 3:30 | 4:30 | 1 | **Chapter 9: Tables** |