

Core Curriculum

Curriculum Compass

Fall 2026 New Course Outline



Core Curriculum: Credit Summary Per Session

1st Session	
Core	n/a
Advanced	0
Local Advanced	2
STA	0
Application	2
Total	4

2nd Session	
Core	n/a
Advanced	1.5
Local Advanced	0
STA	0
Application	2
Total	3.5

3rd Session	
Core	n/a
Advanced	12.5
Local Advanced	0
STA	0
Application	0
Total	12.5

4th Session	
Core	n/a
Advanced	15
Local Advanced	2
STA	0
Application	0
Total	17

Grand Totals	
Total Core Credits	n/a
Total Advanced Credits	29
Total Local Advanced Credits	4
Total STA Credits	0
Total Application Credits	4
Total Credits	37

Core Curriculum: Course Selection Per Session

1st Session Core		2nd Session Core		3rd Session Core	
PTSI Online Learning System Review	0	IBEW Orientation	1	Torque for the Electrical Industry - CML	1
Harassment Prevention: Awareness and Responsibilities - 2025 - CML	0	Conduit System Fabrication 2 - CML	4	Rigging for the Electrical Industry - CML	3.5
Constructing Your Future - CML	0.5	Electrical Theory 3: Alternating Current - CML	12	Construction Documentation - CML	3.5
Introduction to Apprenticeship - CML	3	Fundamental Code Calculations, Based on the 2023 NEC - CML	2.5	Applied Grounding and Bonding, Based on the 2023 NEC - CML	5
Electrical Job Information 1 - CML	7.5	Code, Standards, and Practices 3, Based on the 2023 NEC - CML	2.5	Lightning Protection, Level I	1
Conduit System Fabrication 1 - CML	4	Code, Standards, and Practices 6, Based on the 2023 NEC - CML	1.5	Preparing for Leadership: Personal Qualities - 2nd Ed.	2
Applied Codeology, Navigating the 2023 NEC - CML	4	Electrical Safety-Related Work Practices, Based on the 2024 70E - CML	4	Motors for Electricians - CML	4
Electrical Theory 1: Direct Current - CML	15	Transformer Principles and Applications 1 - CML	3	Motor Code Calculations, Based on the 2023 NEC - CML	1
Code, Standards, and Practices 1, Based on the 2023 NEC - CML	1.5	Transformer Principles and Applications 2 - CML	3	Code, Standards, and Practices 4, Based on the 2023 NEC - CML	1.5
Code, Standards, and Practices 2, Based on the 2023 NEC - CML	4	Transformer Code Calculations, Based on the 2023 NEC - CML	2	Intrusion Detection, Level I - 2nd Ed.	1.5
Construction Drawings - CML	3.5	Electrical Industry Applications Manual, Lesson 1-Splicing Conductors	0.25	Digital Electronics, Level I	5
Electrical Industry Applications Manual, Lesson 2-Installing a Duplex Receptacle	0.25	Electrical Industry Applications Manual, Lesson 5-Proper Device Installation Techniques, GFCI Rough-In	0.25	Fire Alarm Systems, Based on the 2022 NFPA 72 and the 2023 NEC - CML	4
Electrical Industry Applications Manual, Lesson 3-Installing a Single Pole Switch	0.25	Electrical Industry Applications Manual, Lesson 6-Using Anchors to Install a Metal Enclosure	0.25	Health Care Facility Electrical Systems, Level I, Based on the 2024 NFPA 99 and 2023 NEC	1
Electrical Industry Applications Manual, Lesson 4-Installing a Switched Duplex Receptacle	0.25	Electrical Industry Applications Manual, Lesson 10-Erecting an Extension Ladder	0.25		
Electrical Industry Applications Manual, Lesson 8-Using a Hacksaw	0.25	Electrical Industry Applications Manual, Lesson 13-Cutting a Hole in a Metal Enclosure for an EMT Connector	0.25		
Electrical Industry Applications Manual, Lesson 9-Lifting and Carrying Conduit	0.25	Electrical Industry Applications Manual, Lesson 15-Threading Conduit (Tapered Thread)	0.25		
Electrical Industry Applications Manual, Lesson 11-Hand Bending a 90° Stub-up	0.25	Electrical Industry Applications Manual, Lesson 16-Installing Flexible Metallic Conduit	0.25		
Electrical Industry Applications Manual, Lesson 12-Hand Bending a Box Offset	0.25	Electrical Industry Applications Manual, Lesson 17-Installing Armor Clad and Metal Clad Cables	0.25		
OSHA 10	1	Electrical Industry Applications Manual, Lesson 20-Wire Pulling Techniques	0.25		
First Aid/CPR	1				
Electrical Theory 2: AC Systems - CML	3				

Core Curriculum: Course Selection Per Session

4th Session Core	
Code, Standards, and Practices 5, Based on the 2023 NEC - CML	2
Structured Cabling Systems and Power-Limited Technologies - CML	4
Introduction to Programmable Logic Controllers - 2nd Ed.	4.5
Test Instruments, Level I	2
Building Automation 1: Control Devices and Applications, Level I	1.5
Load and Service Calculations, Based on the 2023 NEC - CML	3
Lighting Essentials, Level I - 2nd Ed.	1.5
Lighting Essentials, Level II - 2nd Ed.	1.5
Motor Control for Electricians - CML	7
Practicing Leadership: Foreman Development Series, Level I	0
Practicing Leadership: Foreman Development Series, Level II	0
Practicing Leadership: Foreman Development Series, Level III	0
OSHA 30	2

Core Curriculum: 1st Session Core Courses

	Credits	Page
PTSI Online Learning System Review		
PTSI001	0	2
Harassment Prevention: Awareness and Responsibilities - 2025 - CML		
J158LM.F	0	2
Constructing Your Future - CML		
J200LM.J1	0.5	3
Introduction to Apprenticeship - CML		
J200LM.J2	3	3
Electrical Job Information 1 - CML		
J221LM.P	7.5	4
Conduit System Fabrication 1 - CML		
J204LM.I1	4	5
Applied Codeology, Navigating the 2023 NEC - CML		
J207LM.N	4	6
Electrical Theory 1: Direct Current - CML		
J202LM.M	15	7
Code, Standards, and Practices 1, Based on the 2023 NEC - CML		
J231LM.N	1.5	8
Code, Standards, and Practices 2, Based on the 2023 NEC - CML		
J232LM.N1	4	8
Construction Drawings - CML		
J244LM.J1	3.5	9
Electrical Industry Applications Manual, Lesson 1-Splicing Conductors		
≡ J300.K	0.25	1
Electrical Industry Applications Manual, Lesson 2-Installing a Duplex Receptacle		
≡ J300.K	0.25	1
Electrical Industry Applications Manual, Lesson 3-Installing a Single Pole Switch		
≡ J300.K	0.25	1
Electrical Industry Applications Manual, Lesson 4-Installing a Switched Duplex Receptacle		
≡ J300.K	0.25	1
Electrical Industry Applications Manual, Lesson 8-Using a Hacksaw		
≡ J300.K	0.25	1

Core Curriculum: 1st Session Core Courses

Electrical Industry Applications Manual, Lesson 9-Lifting and Carrying Conduit

≡ J300.K	0.25	1
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Electrical Industry Applications Manual, Lesson 11-Hand Bending a 90° Stub-up

≡ J300.K	0.25	1
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Electrical Industry Applications Manual, Lesson 12-Hand Bending a Box Offset

≡ J300.K	0.25	1
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OSHA 10

TX2720.LC1	1	9
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First Aid/CPR

TX2720.LC2	1	10
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Electrical Theory 2: AC Systems - CML

J103LM.M	3	10
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Core Curriculum: 1st Session Required Materials

Required Materials:

- *AC Theory Textbook (S641)*
- *Building a Foundation in Mathematics (S665)*
- *Conduit Bending and Fabrication Textbook (S495)*
- *DC Theory Textbook (S640)*
- *electrical training ALLIANCE Architectural Scale (S187)*
- *Student Notebook 1 (N202)*
- *TI-30X IIS Solar Calculator (S159)*
- *Applied Codeology Textbook (S01723)*
- *Commercial Blueprints (S136.H)*
- *Construction Drawings Textbook (S748)*
- *Electrical Systems Textbook (S1170)*
- *National Electrical Code - 2023 (S1150)*
- *Student Notebook 2 (N203)*
- *Ugly's Electrical References (S1154)*

Core Curriculum: 2nd Session Core Courses

	Credits	Page
IBEW Orientation		
J200LM.J3	1	11
Conduit System Fabrication 2 - CML		
J204LM.I2	4	11
Electrical Theory 3: Alternating Current - CML		
J203LM.M	12	12
Fundamental Code Calculations, Based on the 2023 NEC - CML		
J227LM.N1	2.5	13
Code, Standards, and Practices 3, Based on the 2023 NEC - CML		
J233LM.N	2.5	14
Code, Standards, and Practices 6, Based on the 2023 NEC - CML		
J236LM.N	1.5	14
Electrical Safety-Related Work Practices, Based on the 2024 70E - CML		
J444LM.N	4	15
Transformer Principles and Applications 1 - CML		
J205LM.J1	3	16
Transformer Principles and Applications 2 - CML		
J205LM.J2	3	16
Transformer Code Calculations, Based on the 2023 NEC - CML		
J227LM.N4	2	17
Electrical Industry Applications Manual, Lesson 5-Proper Device Installation Techniques, GFCI Rough-In		
≡ J300.K	0.25	1
Electrical Industry Applications Manual, Lesson 6-Using Anchors to Install a Metal Enclosure		
≡ J300.K	0.25	1
Electrical Industry Applications Manual, Lesson 10-Erecting an Extension Ladder		
≡ J300.K	0.25	1
Electrical Industry Applications Manual, Lesson 13-Cutting a Hole in a Metal Enclosure for an EMT Connector		
≡ J300.K	0.25	1
Electrical Industry Applications Manual, Lesson 15-Threading Conduit (Tapered Thread)		
≡ J300.K	0.25	1
Electrical Industry Applications Manual, Lesson 16-Installing Flexible Metallic Conduit		
≡ J300.K	0.25	1

Core Curriculum: 2nd Session Core Courses

Electrical Industry Applications Manual, Lesson 17-Installing Armor Clad and Metal Clad Cables

≡ J300.K	0.25	1
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Electrical Industry Applications Manual, Lesson 20-Wire Pulling Techniques

≡ J300.K	0.25	1
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Core Curriculum: 2nd Session Required Materials

Required Materials:

- *AC Theory Textbook (S641)*
- *Conduit Bending and Fabrication Textbook (S495)*
- *Electrical Systems Textbook (S1170)*
- *Student Notebook 2 (N203)*
- *Transformer Principles and Applications Textbook (S576)*
- *Code Calculations Textbook - 2023 (S00823)*
- *Electrical Safety-Related Work Practices Textbook (S1044)*
- *National Electrical Code - 2023 (S1150)*
- *TI-30X IIS Solar Calculator (S159)*

These are materials that would have been bought previously based on this worksheet:

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|--|-----------------------------|
| • <i>AC Theory Textbook (S641)</i> | <i>Purchased, Session 1</i> |
| • <i>Conduit Bending and Fabrication Textbook (S495)</i> | <i>Purchased, Session 1</i> |
| • <i>Electrical Systems Textbook (S1170)</i> | <i>Purchased, Session 1</i> |
| • <i>National Electrical Code - 2023 (S1150)</i> | <i>Purchased, Session 1</i> |
| • <i>Student Notebook 2 (N203)</i> | <i>Purchased, Session 1</i> |
| • <i>TI-30X IIS Solar Calculator (S159)</i> | <i>Purchased, Session 1</i> |

Core Curriculum: 3rd Session Core Courses

	Credits	Page
Torque for the Electrical Industry - CML		
J242LM.A	1	17
Rigging for the Electrical Industry - CML		
J241LM.K1	3.5	18
Construction Documentation - CML		
J244LM.J2	3.5	19
Applied Grounding and Bonding, Based on the 2023 NEC - CML		
J210LM.N1	5	20
Lightning Protection, Level I		
J276LM.J1	1	21
Preparing for Leadership: Personal Qualities - 2nd Ed.		
J900LM.A	2	22
Motors for Electricians - CML		
J206LM.K1	4	23
Motor Code Calculations, Based on the 2023 NEC - CML		
J227LM.N5	1	24
Code, Standards, and Practices 4, Based on the 2023 NEC - CML		
J234LM.N	1.5	24
Intrusion Detection, Level I - 2nd Ed.		
J146LM.A1	1.5	25
Digital Electronics, Level I		
J240LM.I1	5	25
Fire Alarm Systems, Based on the 2022 NFPA 72 and the 2023 NEC - CML		
J211LM.N	4	26
Health Care Facility Electrical Systems, Level I, Based on the 2024 NFPA 99 and 2023 NEC		
J260LM.M1	1	27

Core Curriculum: 3rd Session Required Materials

Required Materials:

- *Applied Grounding and Bonding Textbook (S36823)*
- *Construction Documentation Textbook (S749)*
- *Electrical Systems Textbook (S1170)*
- *Fire Alarm Systems Textbook (S1046)*
- *Motors Textbook (S649)*
- *Rigging for the Electrical Industry Textbook (S761)*
- *Code Calculations Textbook - 2023 (S00823)*
- *Effective Leadership Skills Textbook (S197)*
- *electrical training ALLIANCE Architectural Scale (S187)*
- *Health Care Systems Textbook (S998)*
- *National Electrical Code - 2023 (S1150)*

These are materials that would have been bought previously based on this worksheet:

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|--|-----------------------------|
| • <i>Code Calculations Textbook - 2023 (S00823)</i> | <i>Purchased, Session 2</i> |
| • <i>Electrical Systems Textbook (S1170)</i> | <i>Purchased, Session 1</i> |
| • <i>electrical training ALLIANCE Architectural Scale (S187)</i> | <i>Purchased, Session 1</i> |
| • <i>National Electrical Code - 2023 (S1150)</i> | <i>Purchased, Session 1</i> |

Core Curriculum: 4th Session Core Courses

	Credits	Page
Code, Standards, and Practices 5, Based on the 2023 NEC - CML		
J235LM.N	2	27
Structured Cabling Systems and Power-Limited Technologies - CML		
J271LM.K	4	28
Introduction to Programmable Logic Controllers - 2nd Ed.		
J162LM.A	4.5	29
Test Instruments, Level I		
J285LM.H1	2	30
Building Automation 1: Control Devices and Applications, Level I		
J238LM.H1	1.5	30
Load and Service Calculations, Based on the 2023 NEC - CML		
J227LM.N2	3	31
Lighting Essentials, Level I - 2nd Ed.		
J259LM.K1	1.5	31
Lighting Essentials, Level II - 2nd Ed.		
J259LM.K2	1.5	32
Motor Control for Electricians - CML		
J209LM.I1	7	33
Practicing Leadership: Foreman Development Series, Level I		
J905LM.1	0	34
Practicing Leadership: Foreman Development Series, Level II		
J905LM.2	0	34
Practicing Leadership: Foreman Development Series, Level III		
J905LM.3	0	35
OSHA 30		
TX2720.LC3	2	35

Core Curriculum: 4th Session Required Materials

Required Materials:

- *Building Automation: Control Devices (S518)*
- *Fundamentals of Motor Control (S547)*
- *National Electrical Code - 2023 (S1150)*
- *Structured Cabling Textbook (S681)*
- *Code Calculations Textbook - 2023 (S00823)*
- *Lighting Design Basics Textbook (S699)*
- *Programmable Logic Controllers Textbook (S631)*
- *Test Instruments and Applications Textbook (S571)*

These are materials that would have been bought previously based on this worksheet:

- *Code Calculations Textbook - 2023 (S00823)* *Purchased, Session 2*
- *National Electrical Code - 2023 (S1150)* *Purchased, Session 1*

Core Curriculum: Curriculum Compass

Applications Manual

Item Code: J300.K

Core Curriculum Session: 1 and 2

Credits

Level I/II

Course Prerequisite(s): None

Required Material(s): None

Lesson 1	Splicing Conductors	0.25
Lesson 2	Installing a Duplex Receptacle	0.25
Lesson 3	Installing a Single Pole Switch	0.25
Lesson 4	Installing a Switched Duplex Receptacle	0.25
Lesson 5	Proper Device Installation Techniques, GFCI Rough-In	0.25
Lesson 6	Using Anchors to Install a Metal Enclosure	0.25
Lesson 7	Installing a Retrofit "Old Work" Electrical Box	0.25
Lesson 8	Using a Hacksaw	0.25
Lesson 9	Lifting and Carrying Conduit	0.25
Lesson 10	Erecting an Extension Ladder	0.25
Lesson 11	Hand Bending a 90° Stub-up	0.25
Lesson 12	Hand Bending a Box Offset	0.25
Lesson 13	Cutting a Hole in a Metal Enclosure for an EMT Connector	0.25
Lesson 14	Installing a Raceway Support System (Trapeze)	0.25
Lesson 15	Threading Conduit (Tapered Thread)	0.25
Lesson 16	Installing Flexible Metallic Conduit	0.25
Lesson 17	Installing Armor Clad and Metal Clad Cables	0.25
Lesson 18	Installing a Luminaire (Recessed "Can" Fixture)	0.25
Lesson 19	Installing a Luminaire (2' x 4' Fluorescent)	0.25
Lesson 20	Wire Pulling Techniques	0.25
Lesson 21	Terminating a Category 5e or 6/6A Work Area Outlet	0.25
Lesson 22	Labeling and Marking	0.25
Lesson 23	"Trimming Out" an Electrical Panel	0.25
Lesson 24	Exothermic Welding of Copper Conductors	0.25
Lesson 25	Connecting a Dual-Voltage, Wye-Wound Motor	0.25

ATTENTION: Your JATC will choose four out of the 25 Applications Manual lessons to be presented to students during the first session, and four out of the remaining Applications to be presented to students during the second session. Any Applications presented above the four per session must be matched with additional classroom time beyond 180 hours.

Core Curriculum: Curriculum Compass

PTSI Online Learning System Review

Item Code: PTSI001

Core Curriculum Session: 1

Core Credits

0.0

Course Prerequisite(s): None

Other Prerequisites: None

Notifications:

This course is designed to inform the users of the ProTech Skills Institute (PTSI) Online Learning System and its associated resources with the basics of how to interact with the tools. This course shows the user how the system is laid out and provides insight into how to get the most out of this online learning experience.

Required Material(s):

- Lesson 1 Online Learning System Layout
- Lesson 2 My Records
- Lesson 3 PTSI Mobile App

Harassment Prevention: Awareness and Responsibilities - 2025 - CML

Item Code: J158LM.F

Core Curriculum Session: 1

Core Credits

0.0

Course Prerequisite(s): None

Other Prerequisites: None

Notifications:

This course meets DOL and Committee requirements to provide anti-harassment training to apprentices and those who work with them.

Required Material(s):

- Lesson 1 Prohibited Harassment
- Lesson 2 Sexual Harassment
- Lesson 3 Reporting Harassment

Core Curriculum: Curriculum Compass

Constructing Your Future - CML

Item Code: J200LM.J1

Core Curriculum Session: 1

Core Credits

0.5

Course Prerequisite(s): None

Other Prerequisites: None

Required Material(s):

- Lesson 1 What to Expect
- Lesson 2 Opportunities Abound
- Lesson 3 Personal Responsibilities & Expectations
- Lesson 4 Safety Never Takes a Break
- Lesson 5 What it Takes to Succeed

Introduction to Apprenticeship - CML

Item Code: J200LM.J2

Core Curriculum Session: 1

Core Credits

3.0

Course Prerequisite(s): Constructing Your Future

Other Prerequisites: None

Required Material(s):

- Lesson 1 Welcome to the Beginning of Your Electrical Career!
- Lesson 2 Preparing for Your Apprenticeship
- Lesson 3 The Economics of Working in Construction
- Lesson 4 The Organized Electrical Industry
- Lesson 5 Reaping the Rewards of the IBEW-NECA Partnership

Core Curriculum: Curriculum Compass

Electrical Job Information 1 - CML

Item Code: J221LM.P

Core Curriculum Session: 1

Core Credits

7.5

Course Prerequisite(s): None

Other Prerequisites: None

Required Material(s):

- Lesson 1 Safety and Awareness in the Workplace of an Electrical Worker
- Lesson 2 Identifying Some Basic Tools and Common Materials of the Electrical Trade
- Lesson 3 Basics of Insulated Conductors
- Lesson 4 Choosing and Installing Anchors and Fasteners
- Lesson 5 Types of Building Construction
- Lesson 6 Conductor Installation
- Lesson 7 Devices and Switches
- Lesson 8 Introduction to Firestopping
- Lesson 9 Sizing Building Wire
- Lesson 10 Topic Review

Core Curriculum: Curriculum Compass

Conduit System Fabrication 1 - CML

Item Code: J204LM.I1

Core Curriculum Session: 1

Core Credits

4.0

Course Prerequisite(s): Electrical Job Information 1

Other Prerequisites: None

Required Material(s):

• *Conduit Bending and Fabrication Textbook (\$495)*

• *TI-30X IIS Solar Calculator (\$159)*

- Lesson 1 Raceways and Conduit Systems
- Lesson 2 Cutting and Threading Conduit
- Lesson 3 Hand Bending 90° Bends
- Lesson 4 Hand Bending Offsets and Kicks
- Lesson 5 Hand Bending Saddles and Corner Offsets
- Lesson 6 Underground Conduit Installation
- Lesson 7 Resources
- Lesson 8 Support - Labs

Core Curriculum: Curriculum Compass

Applied Codeology, Navigating the 2023 NEC - CML

Item Code: J207LM.N

Core Curriculum Session: 1

Core Credits

4.0

Course Prerequisite(s): Electrical Job Information 1

Other Prerequisites: None

Required Material(s):

• ***Applied Codeology Textbook (S01723)***

• ***National Electrical Code - 2023 (S1150)***

- Lesson 1 Overview, Organization, and Chapter 1 of the *National Electrical Code*
- Lesson 2 Planning the Installation
- Lesson 3 Building the Installation
- Lesson 4 Using the Electricity
- Lesson 5 Special Occupancies
- Lesson 6 Special Equipment
- Lesson 7 Special Conditions
- Lesson 8 Communications
- Lesson 9 Tables and the Informative Annexes
- Lesson 10 The Codeology Method
- Lesson 11 Post-Course Assessment

Core Curriculum: Curriculum Compass

Electrical Theory 1: Direct Current - CML

Item Code: J202LM.M

Core Curriculum Session: 1

Core Credits

15.0

Course Prerequisite(s): None

Other Prerequisites: None

Required Material(s):

- *DC Theory Textbook (S640)*
- *Student Notebook 1 (N202)*
- *Ugly's Electrical References (S1154)*
- *TI-30X IIS Solar Calculator (S159)*
- *Building a Foundation in Mathematics (S665)*

- Lesson 1 Introduction to DC Theory: Terminology and the Basics
- Lesson 2 Series Circuits
- Lesson 3 Parallel Circuits
- Lesson 4 Combination Circuits
- Lesson 5 DC Circuit Analysis
- Lesson 6 Switches and Conductors
- Lesson 7 Magnetism and Electromagnetism
- Lesson 8 Resources
- Lesson 9 Support - Labs
- Lesson 10 Final Circuit Assessment

Core Curriculum: Curriculum Compass

Code, Standards, and Practices 1, Based on the 2023 NEC - CML

Item Code: J231LM.N

Core Curriculum Session: 1

Core Credits

1.5

Course Prerequisite(s): None

Other Prerequisites: None

Required Material(s):

• *National Electrical Code - 2023 (S1150)*

• *Electrical Systems Textbook (S1170)*

Lesson 1 Introduction to the NEC

Lesson 2 Interpreting Language of the NEC

Lesson 3 Understanding and Applying Article 110

Code, Standards, and Practices 2, Based on the 2023 NEC - CML

Item Code: J232LM.N1

Core Curriculum Session: 1

Core Credits

4.0

Course Prerequisite(s): Code, Standards, and Practices 1, Level I

Other Prerequisites: None

Required Material(s):

• *National Electrical Code - 2023 (S1150)*

• *Electrical Systems Textbook (S1170)*

Lesson 1 An Introduction to Branch Circuits

Lesson 2 Feeders and Outside Branch Circuits

Lesson 3 Services

Lesson 4 Conduit Raceway Basics

Lesson 5 NEC Requirements for Cable Assemblies

Lesson 6 General Requirements for Wiring Methods and Materials

Lesson 7 Conductors for General Wiring

Core Curriculum: Curriculum Compass

Construction Drawings - CML

Item Code: J244LM.J1

Core Curriculum Session: 1

Core Credits

3.5

Course Prerequisite(s): None

Other Prerequisites: None

Required Material(s):

- *Construction Drawings Textbook (S748)*
- *electrical training ALLIANCE Architectural Scale (S187)*
- *Commercial Blueprints (S136.H)*
- *Student Notebook 1 (N202)*

Lesson 1 Introduction to Blueprints and the Design Process

Lesson 2 Scaling and Dimensions

Lesson 3 Plan Views

Lesson 4 Elevations

Lesson 5 Details and Sections

Lesson 6 Schedules and Specifications

Lesson 8 Additional Practice Questions

OSHA 10

Item Code: TX2720.LC1

Core Curriculum Session: Advanced

Local Advanced Credits

0.0

Course Prerequisite(s): None

Other Prerequisites: None

Required Material(s):

Core Curriculum: Curriculum Compass

First Aid/CPR

Item Code: TX2720.LC2

Core Curriculum Session: Advanced

Local Advanced Credits

0.0

Course Prerequisite(s): None

Other Prerequisites: None

Required Material(s):

Electrical Theory 2: AC Systems - CML

Item Code: J103LM.M

Core Curriculum Session: 1

Core Credits

3.0

Course Prerequisite(s): DC Theory, Level I/IV

Other Prerequisites: None

Required Material(s):

- AC Theory Textbook (S641)
- DC Theory Textbook (S640)
- TI-30X IIS Solar Calculator (S159)
- Student Notebook 2 (N203)

- Lesson 1 Electrical Theory Review
- Lesson 2 Effects of Electromagnetism
- Lesson 3 DC Theory Review
- Lesson 4 Circuit Calculations for Basic Two-Wire Systems
- Lesson 5 Understanding Vectors
- Lesson 6 Elements of AC Generation
- Lesson 7 Resources
- Lesson 8 Support - Labs

Core Curriculum: Curriculum Compass

IBEW Orientation

Item Code: J200LM.J3

Core Curriculum Session: 2

Core Credits

1.0

Course Prerequisite(s): Introduction to Apprenticeship

Other Prerequisites: None

Required Material(s):

- Lesson 1 Becoming Familiar with the IBEW Constitution
- Lesson 2 Understanding Your Local Union By-Laws
- Lesson 3 Parliamentary Procedure and How It Works
- Lesson 4 An Introduction to The COMET Program

Conduit System Fabrication 2 - CML

Item Code: J204LM.I2

Core Curriculum Session: 2

Core Credits

4.0

Course Prerequisite(s): Conduit Fabrication, Level I

Other Prerequisites: None

Required Material(s):

- *Conduit Bending and Fabrication Textbook (S495)*

- Lesson 1 Mechanical and Electric Benders
- Lesson 2 Hydraulic Benders
- Lesson 3 Advanced Bending Techniques
- Lesson 4 Resources
- Lesson 5 Support - Labs

Core Curriculum: Curriculum Compass

Electrical Theory 3: Alternating Current - CML

Item Code: J203LM.M

Core Curriculum Session: 2

Core Credits

12.0

Course Prerequisite(s): DC Theory, Level I/IV; AC Systems, Level I

Other Prerequisites: None

Required Material(s):

- *AC Theory Textbook (S641)*
- *TI-30X IIS Solar Calculator (S159)*
- *Student Notebook 2 (N203)*

- Lesson 1 Introduction to Alternating Current
- Lesson 2 Inductors, Inductance, X_L , L , and RL
- Lesson 3 Capacitors, Capacitance, X_C , C , and RC
- Lesson 4 Series LC and RLC Circuits
- Lesson 5 Parallel RL, RC, RLC, and LC Circuits
- Lesson 6 Comparing Series and Parallel RLC Circuits and Analyzing Combination RLC Circuits
- Lesson 7 Introduction to AC Applications
- Lesson 8 Resources
- Lesson 9 Support - Labs

Core Curriculum: Curriculum Compass

Fundamental Code Calculations, Based on the 2023 NEC - CML

Item Code: J227LM.N1

Core Curriculum Session: 2

Core Credits

2.5

Course Prerequisite(s): Code, Standards, and Practices 2, Level II

Other Prerequisites: None

Required Material(s):

- *National Electrical Code - 2023 (S1150)*
- *Code Calculations Textbook - 2023 (S00823)*
- *Electrical Systems Textbook (S1170)*

- Lesson 1 Beginning to Calculate Conductor Ampacity
- Lesson 2 Determining Conductor Ampacity
- Lesson 3 Special Ampacity Considerations
- Lesson 4 Finalizing Ampacity Calculations
- Lesson 5 Calculating Voltage Drop in Feeders and Branch Circuits
- Lesson 6 Identifying Boxes and Fittings as Defined by the *NEC*
- Lesson 7 Performing Box Size and Fill Calculations
- Lesson 8 Calculating Raceway Fill

Core Curriculum: Curriculum Compass

Code, Standards, and Practices 3, Based on the 2023 NEC - CML

Item Code: J233LM.N

Core Curriculum Session: 2

Core Credits

2.5

Course Prerequisite(s): Elect. Code Calc., Lvl I or FCC CML; Code, Standards, and Practices 2, Level II

Other Prerequisites: None

Required Material(s):

- **National Electrical Code - 2023 (\$1150)**

- Lesson 1 Purpose of Overcurrent Protection and Types of Overcurrents
- Lesson 2 Overcurrent Protective Device Categories
- Lesson 3 Overcurrent Protective Device Ratings
- Lesson 4 Types of OCPDs—Circuit Breakers
- Lesson 5 Types of OCPDs—Fuses
- Lesson 6 Practical Guidelines for OCPD Ampere Rating Sizing
- Lesson 7 Special Conductor Overcurrent Protection Permitted, Including Taps
- Lesson 8 Calculation of Available Fault Current

Code, Standards, and Practices 6, Based on the 2023 NEC - CML

Item Code: J236LM.N

Core Curriculum Session: Advanced

Advanced Credits

1.5

Course Prerequisite(s): Code, Standards, and Practices 3

Other Prerequisites: None

Required Material(s):

- **National Electrical Code - 2023 (\$1150)**

- Lesson 1 Motor Branch-Circuit Devices and Protection – NEC Article 430
- Lesson 2 Motor Branch Circuits and Air-Conditioning and Refrigeration Equipment
- Lesson 3 Transformer Protection—Article 450
- Lesson 4 Interrupting Rating: Fully Rated and Series Rated Systems
- Lesson 5 Equipment Short-Circuit Protection
- Lesson 6 Selective Coordination
- Lesson 7 Ground-Fault Protection of Equipment

Core Curriculum: Curriculum Compass

Electrical Safety-Related Work Practices, Based on the 2024 70E - CML

Item Code: J444LM.N

Core Curriculum Session: 2

Core Credits

4.0

Course Prerequisite(s): Code, Standards, and Practices 3

Other Prerequisites: None

Required Material(s):

- *Electrical Safety-Related Work Practices Textbook (S1044)*

- Lesson 1 Electrical Safety Culture
- Lesson 2 Electrical Hazard Awareness
- Lesson 3 Introduction to OSHA and the Control of Hazardous Energy
- Lesson 4 Introduction to *NFPA 70E*®
- Lesson 5 Work Involving Electrical Hazards
- Lesson 6 Fault Current Fundamentals
- Lesson 7 Identifying Overcurrent Protective Device Types
- Lesson 8 Methods to Select Arc Flash PPE
- Lesson 9 Maintenance Considerations
- Lesson 10 Eliminating or Reducing Hazards by Design and Upgrades

Core Curriculum: Curriculum Compass

Transformer Principles and Applications 1 - CML

Item Code: J205LM.J1

Core Curriculum Session: 2

Core Credits

3.0

Course Prerequisite(s): AC Theory, Level I/II

Other Prerequisites: None

Required Material(s):

- *Transformer Principles and Applications Textbook (S576)*

- Lesson 1 Transformer Operation
- Lesson 2 Transformer Classification
- Lesson 3 Single-Phase Transformer Connections
- Lesson 4 3-Phase Transformer Connections
- Lesson 5 Resources
- Lesson 6 Support - Labs

Transformer Principles and Applications 2 - CML

Item Code: J205LM.J2

Core Curriculum Session: 2

Core Credits

3.0

Course Prerequisite(s): Transformers 1 CML

Other Prerequisites: None

Required Material(s):

- *Transformer Principles and Applications Textbook (S576)*

- Lesson 1 Power Generation and Distribution
- Lesson 2 Harmonics
- Lesson 3 Autotransformers
- Lesson 4 Buck-Boost Transformers
- Lesson 5 Special Transformers
- Lesson 6 Resources
- Lesson 7 Support - Labs

Core Curriculum: Curriculum Compass

Transformer Code Calculations, Based on the 2023 NEC - CML

Item Code: J227LM.N4

Core Curriculum Session: 2

Core Credits

2.0

Course Prerequisite(s): Elect. Code Calc., Lvl I or FCC CML; Transformers 2 CML

Other Prerequisites: None

Required Material(s):

• *National Electrical Code - 2023 (S1150)*

• *Code Calculations Textbook - 2023 (S00823)*

Lesson 1 Understanding the Basics

Lesson 2 Understanding Transformer Overcurrent Selection

Lesson 3 Transformer Overcurrent Protection with Associated Secondary Conductor Rules

Lesson 4 Special Scenarios in Transformer Protection and Conductor Sizing

Torque for the Electrical Industry - CML

Item Code: J242LM.A

Core Curriculum Session: 3

Core Credits

1.0

Course Prerequisite(s): None

Other Prerequisites: None

Required Material(s):

Lesson 1 Torque Theory

Lesson 2 Hardware—Threaded Fasteners, Bolts, Nuts, and Washers

Lesson 3 Torque Wrenches and Their Uses

Lesson 4 Torque Tightening

Lesson 5 Electrical Torque Applied

Lesson 6 Resources

Lesson 7 Support - Labs

Lesson 8 Final Torque Assessment

Core Curriculum: Curriculum Compass

Rigging for the Electrical Industry - CML

Item Code: J241LM.K1

Core Curriculum Session: 3

Core Credits

3.5

Course Prerequisite(s): None

Other Prerequisites: None

Required Material(s):

- *Rigging for the Electrical Industry Textbook (S761)*

- Lesson 1 Hoisting Safety
- Lesson 2 Cranes
- Lesson 3 Lift Planning
- Lesson 4 Signaling
- Lesson 5 Load Weight and Balance
- Lesson 6 Slings and Sling Hitches
- Lesson 7 Rigging Equipment Maintenance
- Lesson 8 Rigging Hardware
- Lesson 9 Chains and Chain Slings
- Lesson 10 Synthetic Slings
- Lesson 11 Wire Rope and Wire Rope Slings
- Lesson 12 Fiber Rope and Knots
- Lesson 13 Block and Tackle
- Lesson 14 Hoists

Core Curriculum: Curriculum Compass

Construction Documentation - CML

Item Code: J244LM.J2

Core Curriculum Session: 3

Core Credits

3.5

Course Prerequisite(s): Construction Drawings

Other Prerequisites: 4000 Hours of OJT

Required Material(s):

• *Construction Documentation Textbook (S749)*

• *electrical training ALLIANCE Architectural Scale (S187)*

- Lesson 1 Moving Beyond Construction Drawings
- Lesson 2 Introduction to Construction Estimating
- Lesson 3 Project Delivery Methodologies
- Lesson 4 Construction Project Communication
- Lesson 5 Project Detailing
- Lesson 6 Prefabrication
- Lesson 7 Project Closeout and Building Operation

Core Curriculum: Curriculum Compass

Applied Grounding and Bonding, Based on the 2023 NEC - CML

Item Code: J210LM.N1

Core Curriculum Session: 3

Core Credits

5.0

Course Prerequisite(s): AC Theory, Level II/III

Other Prerequisites: None

Required Material(s):

- ***Applied Grounding and Bonding Textbook (S36823)***
- ***National Electrical Code - 2023 (S1150)***

- Lesson 1 Introduction to Grounding
- Lesson 2 Grounding Electrodes and the Grounding Electrode System
- Lesson 3 Grounding Requirements for Services and Grounded Conductors
- Lesson 4 Grounding Electrode Conductors
- Lesson 5 Bonding Requirements
- Lesson 6 Equipment Grounding Conductors
- Lesson 7 Grounding Electrical Equipment
- Lesson 8 Isolated/Insulated Grounding Circuits and Receptacles
- Lesson 9 Grounding at Separate Buildings or Structures
- Lesson 10 Grounding Electrical Systems
- Lesson 11 Grounding and Bonding for Separately Derived Systems
- Lesson 12 Grounding and Bonding for Special Occupancies
- Lesson 13 Grounding and Bonding for Special Equipment
- Lesson 14 Grounding and Bonding for Special Systems

Core Curriculum: Curriculum Compass

Lightning Protection, Level I

Item Code: J276LM.J1

Core Curriculum Session: Advanced

Advanced Credits

1.0

Course Prerequisite(s): Grounding and Bonding, Level I

Other Prerequisites: None

Required Material(s):

- Lesson 1 Lightning Protection Systems Introduction
- Lesson 2 Lightning Protection Systems - Ground Work
- Lesson 3 Down Conductors and Bonding
- Lesson 4 Rooftops
- Lesson 5 Concealed and Structural Steel Systems
- Lesson 6 Bonding Requirements and Potential Equalization
- Lesson 7 Surge Protection Devices

Core Curriculum: Curriculum Compass

Preparing for Leadership: Personal Qualities - 2nd Ed.

Item Code: J900LM.A

Core Curriculum Session: 3

Core Credits

2.0

Course Prerequisite(s): None

Other Prerequisites: None

Notifications:

Instructors must have satisfactorily completed the TTT version of this course to be enrolled into this course.

Required Material(s):

- ***Effective Leadership Skills Textbook (\$197)***

- Lesson 1 The Contracting Business
- Lesson 2 Personal Qualities: Professionalism And Respect
- Lesson 3 Personal Qualities: Credibility and Character
- Lesson 4 Personal Qualities: Ethics and Integrity
- Lesson 5 Personal Qualities: Teaching and Learning
- Lesson 6 Communications: Effective Communication
- Lesson 7 Planning: The Importance of Planning
- Lesson 8 Planning: Planning Challenges
- Lesson 9 Communications: Crew Support and Morale
- Lesson 10 Communications: Disruptive Behaviors

Core Curriculum: Curriculum Compass

Motors for Electricians - CML

Item Code: J206LM.K1

Core Curriculum Session: 3

Core Credits

4.0

Course Prerequisite(s): Code, Standards, and Practices 3; ET3: AC Theory or AC II

Other Prerequisites: None

Required Material(s):

- ***Motors Textbook (S649)***

- Lesson 1 Magnetism and Induction Review
- Lesson 2 Motor Nameplates
- Lesson 3 AC Alternators
- Lesson 4 Three-Phase Motors
- Lesson 5 Motor Types
- Lesson 6 Single-Phase Motors
- Lesson 7 Motor Protection
- Lesson 8 DC Motors
- Lesson 9 Starting and Stopping Motors
- Lesson 10 Motor Alignment
- Lesson 11 Troubleshooting Motors
- Lesson 12 Resources
- Lesson 13 Support - Labs

Core Curriculum: Curriculum Compass

Motor Code Calculations, Based on the 2023 NEC - CML

Item Code: J227LM.N5

Core Curriculum Session: 3

Core Credits

1.0

Course Prerequisite(s): Elect. Code Calc., Lvl I or FCC CML; Motors CML

Other Prerequisites: None

Required Material(s):

• *National Electrical Code - 2023 (S1150)*

• *Code Calculations Textbook - 2023 (S00823)*

- Lesson 1 General Rules and Part I of Article 430
- Lesson 2 Sizing Motor Branch-Circuit Conductors
- Lesson 3 Selecting Single Motor Branch-Circuit Short-Circuit and Ground-Fault Protection
- Lesson 4 Sizing Motor Overload Protection
- Lesson 5 Sizing Motor Branch-Circuit Disconnecting Means
- Lesson 6 Calculations for Multi-Load Branch Circuits and Feeders
- Lesson 7 Calculations for Air-Conditioning and Refrigeration Motors
- Lesson 8 Special Applications

Code, Standards, and Practices 4, Based on the 2023 NEC - CML

Item Code: J234LM.N

Core Curriculum Session: 3

Core Credits

1.5

Course Prerequisite(s): Code, Standards, and Practices 3

Other Prerequisites: None

Required Material(s):

• *National Electrical Code - 2023 (S1150)*

• *Electrical Systems Textbook (S1170)*

- Lesson 1 Special Occupancies
- Lesson 2 Electrical Equipment
- Lesson 3 Special Equipment
- Lesson 4 Introduction to Cable Tray Systems
- Lesson 5 Installing Surface Metal Raceway

Core Curriculum: Curriculum Compass

Intrusion Detection, Level I - 2nd Ed.

Item Code: **J146LM.A1**

Core Curriculum Session: Advanced

Advanced Credits

1.5

Course Prerequisite(s): DC Theory, Level I/IV

Other Prerequisites: None

Notifications:

This course replaces Intrusion Detection, Level I - 1st Ed.

Required Material(s):

- Lesson 1 Terms and Definitions
- Lesson 2 Introduction to Security Systems
- Lesson 3 Specific Applications for Magnetic Contacts
- Lesson 4 Motion Sensors
- Lesson 5 Glassbreak Sensors
- Lesson 6 Control Panels, Keypads, and Modules
- Lesson 7 Security System Design

Digital Electronics, Level I

Item Code: **J240LM.I1**

Core Curriculum Session: Advanced

Advanced Credits

5.0

Course Prerequisite(s): DC Theory, Level I/IV

Other Prerequisites: None

Required Material(s):

- Lesson 1 Introduction to Digital Electronics
- Lesson 2 Introduction to Boolean Algebra
- Lesson 3 AND Logic
- Lesson 4 OR Logic
- Lesson 5 BUFFER and INVERTER Amplifiers
- Lesson 6 NAND and NOR Logic
- Lesson 7 XOR and XNOR Logic
- Lesson 8 Debouncing Circuits

Core Curriculum: Curriculum Compass

Fire Alarm Systems, Based on the 2022 NFPA 72 and the 2023 NEC - CML

Item Code: J211LM.N

Core Curriculum Session: Advanced

Advanced Credits

4.0

Course Prerequisite(s): DC Theory, Level I/IV; Job Information, Level I

Other Prerequisites: None

Required Material(s):

• *Fire Alarm Systems Textbook (S1046)*

• *National Electrical Code - 2023 (S1150)*

Lesson 1	Introduction to Fire Alarm Systems
Lesson 2	Fundamentals and System Requirements
Lesson 3	Initiating Devices
Lesson 4	Notification Appliances
Lesson 5	Wiring and Wiring Methods
Lesson 6	System Interfaces and Safety Control Functions
Lesson 7	Advanced Detection Topics
Lesson 8	Emergency Communications Systems and Emergency Voice/Alarm Communications Systems
Lesson 9	Public Emergency Alarm Reporting Systems and Supervising Stations
Lesson 10	Single- and Multiple-Station Alarms and Household Fire Alarm Systems
Lesson 11	Plans and Specifications
Lesson 12	Inspection, Testing, and Maintenance
Lesson 13	IPSI Sample Exam Fire Alarm Certification Program Level 1 Interior
Lesson 14	Sample NICET Exam

Core Curriculum: Curriculum Compass

Health Care Facility Electrical Systems, Level I, Based on the 2024 NFPA

Item Code: J260LM.M1

Core Curriculum Session: Advanced

Advanced Credits

1.0

Course Prerequisite(s): Code, Standards, and Practices 3

Other Prerequisites: None

Required Material(s):

• *Health Care Systems Textbook (S998)*

• *National Electrical Code - 2023 (S1150)*

Lesson 1	Introduction
Lesson 2	Utility Power
Lesson 3	Distribution
Lesson 4	Patient Care Spaces

Code, Standards, and Practices 5, Based on the 2023 NEC - CML

Item Code: J235LM.N

Core Curriculum Session: 4

Core Credits

2.0

Course Prerequisite(s): Code, Standards, and Practices 4

Other Prerequisites: None

Required Material(s):

• *National Electrical Code - 2023 (S1150)*

Lesson 1	Installing Electrical Services
Lesson 2	Swimming Pools, Fountains, and Similar Installations
Lesson 3	Understanding Emergency and Standby Systems Installation Requirements
Lesson 4	Over 1,000-Volt Installations
Lesson 5	Remote-Control, Signaling, and Power-Limited Circuits

Core Curriculum: Curriculum Compass

Structured Cabling Systems and Power-Limited Technologies - CML

Item Code: J271LM.K

Core Curriculum Session: Advanced

Advanced Credits

4.0

Course Prerequisite(s): AC Theory, Level II/III

Other Prerequisites: None

Notifications:

The NEC is now optional for this course (removed as a required material).

Required Material(s):

- ***Structured Cabling Textbook (S681)***

- Lesson 1 The Need for Structured Cabling Systems
- Lesson 2 Structured Cabling Standards and the *NEC*®
- Lesson 3 Cables and Connectors
- Lesson 4 Structured Cabling System Performance
- Lesson 5 Pathways and Spaces
- Lesson 6 Telecommunications Cabling Administration
- Lesson 7 Telecommunications Grounding and Bonding
- Lesson 8 Configuring Structured Cabling Systems
- Lesson 9 Residential Cabling Systems
- Lesson 10 Testing Structured Cabling Systems
- Lesson 11 Introduction to Fiber Optics
- Lesson 12 Power over Ethernet and Class 4, Fault Managed Power

Core Curriculum: Curriculum Compass

Introduction to Programmable Logic Controllers - 2nd Ed.

Item Code: J162LM.A

Core Curriculum Session: Advanced

Advanced Credits

4.5

Course Prerequisite(s): Motor Control, Level I

Other Prerequisites: None

Required Material(s):

- ***Programmable Logic Controllers Textbook (S631)***

Lesson 1	Programmable Logic Controllers and Critical Safety Practices
Lesson 2	PLC Electrical Principles, Ratings, and Circuit Calculations
Lesson 3	PLC Programming Symbols, Diagrams, and Logic Functions
Lesson 4	PLC Hardware, Memory, and Operating Cycle
Lesson 5	PLC Systems, Circuits, and Interface Devices
Lesson 6	PLC Programming Diagrams, Addresses, and Bit Instructions
Lesson 7	PLC Programming Timer and Counter Instructions
Lesson 8	PLC Analog Device Installation, Programming, and Troubleshooting
Lesson 9	PLC Installations and Startup
Lesson 10	Troubleshooting Methods and Test Instrument Operation
Lesson 11	Testing and Troubleshooting Electrical Devices and PLC Hardware
Lesson 12	Troubleshooting with PLC Software
Lesson 13	PLC System Maintenance

Core Curriculum: Curriculum Compass

Test Instruments, Level I

Item Code: **J285LM.H1**

Core Curriculum Session: Advanced

Advanced Credits

2.0

Course Prerequisite(s): AC Systems, Level I

Other Prerequisites: None

Required Material(s):

- ***Test Instruments and Applications Textbook (S571)***

Lesson 1	Voice-Data-Video (VDV) Test Instruments
Lesson 2	Power Quality Test Instruments
Lesson 3	Medium (and High) Voltage and Insulation Test Instruments
Lesson 4	Instrumentation and Process Control Test Instruments
Lesson 5	Special Maintenance Test Instruments
Lesson 6	Troubleshooting

Building Automation 1: Control Devices and Applications, Level I

Item Code: **J238LM.H1**

Core Curriculum Session: Advanced

Advanced Credits

1.5

Course Prerequisite(s): None

Other Prerequisites: 4000 Hours of OJT

Required Material(s):

- ***Building Automation: Control Devices (S518)***

Lesson 1	Introduction to Building Automation
Lesson 2	Electrical Systems
Lesson 3	Lighting Sources and Controls
Lesson 4	Lighting System Control Devices
Lesson 5	HVAC Systems
Lesson 6	HVAC System Applications
Lesson 7	Automated Building Operation and Applications

Core Curriculum: Curriculum Compass

Load and Service Calculations, Based on the 2023 NEC - CML

Item Code: J227LM.N2

Core Curriculum Session: 4

Core Credits

3.0

Course Prerequisite(s): Elect. Code Calc., Lvl I or FCC CML

Other Prerequisites: None

Required Material(s):

• *National Electrical Code - 2023 (S1150)*

• *Code Calculations Textbook - 2023 (S00823)*

- Lesson 1 Introduction to Electrical Load Calculations
- Lesson 2 Range and Appliance Calculations
- Lesson 3 Calculating the Parameters of Residential Loads in Accordance with the *NEC*
- Lesson 4 Calculating the Parameters of Multifamily Dwelling Loads in Accordance with the *NEC*
- Lesson 5 Calculating the Parameters of Commercial Loads in Accordance with the *NEC*

Lighting Essentials, Level I - 2nd Ed.

Item Code: J259LM.K1

Core Curriculum Session: Advanced

Advanced Credits

1.5

Course Prerequisite(s): None

Other Prerequisites: 4000 Hours of OJT

Required Material(s):

• *Lighting Design Basics Textbook (S699)*

- Lesson 1 Basic Concepts in Lighting
- Lesson 2 The Science of Light
- Lesson 3 Qualities of Light Sources
- Lesson 4 Daylighting
- Lesson 5 Lamps
- Lesson 6 Luminaires
- Lesson 7 Lighting Controls
- Lesson 8 Quantity and Quality of Light

Core Curriculum: Curriculum Compass

Lighting Essentials, Level II - 2nd Ed.

Item Code: J259LM.K2

Core Curriculum Session: Advanced

Advanced Credits

1.5

Course Prerequisite(s): Lighting Essentials, Level I - 2nd Ed.

Other Prerequisites: None

Required Material(s):

- *Lighting Design Basics Textbook (S699)*

Lesson 1	Basic Lighting Retrofit and Energy Codes
Lesson 2	Understanding Fluorescent and HID Lighting Terminology
Lesson 3	The ABCs of Electronic Fluorescent Ballasts
Lesson 4	The ABCs of High Intensity Discharge (HID) Ballasts I
Lesson 5	The ABCs of High Intensity Discharge (HID) Ballasts II
Lesson 6	Introduction to LED Lighting and Technology
Lesson 7	LED Lighting in Detail
Lesson 8	LED Lighting Applications

Core Curriculum: Curriculum Compass

Motor Control for Electricians - CML

Item Code: J209LM.I1

Core Curriculum Session: 4

Core Credits

7.0

Course Prerequisite(s): Motors, Level I/II

Other Prerequisites: None

Required Material(s):

• ***Fundamentals of Motor Control (S547)***

- Lesson 1 Introduction to Motor Control and the Industry
- Lesson 2 Electrical Safety with Motor Controls
- Lesson 3 Symbols, Diagrams, Drawings, and Logic
- Lesson 4 Input and Output Devices
- Lesson 5 Solenoids and Control Relays
- Lesson 6 Control Transformers
- Lesson 7 Motor Control Centers, Contactors, and Motor Starters
- Lesson 8 Timing and Counting Devices
- Lesson 9 Solid-State Devices
- Lesson 10 Programmable Controllers
- Lesson 11 Motor Drives
- Lesson 12 Industrial Networks
- Lesson 13 System-Wide Troubleshooting
- Lesson 14 Resources
- Lesson 15 Support - Labs
- Lesson 16 REMOVED - 1-4-2024 - PRM

Core Curriculum: Curriculum Compass

Practicing Leadership: Foreman Development Series, Level I

Item Code: J905LM.1

Core Curriculum Session: Advanced

Advanced Credits

0.0

Course Prerequisite(s): None

Other Prerequisites: None

Required Material(s):

- Lesson 1 Role of the Foreman
- Lesson 2 The Foreman's Role in Job Safety
- Lesson 3 Project Start-Up
- Lesson 4 Labor Relations

Practicing Leadership: Foreman Development Series, Level II

Item Code: J905LM.2

Core Curriculum Session: Advanced

Advanced Credits

0.0

Course Prerequisite(s): None

Other Prerequisites: None

Required Material(s):

- Lesson 1 Material Management
- Lesson 2 Manloading and Scheduling
- Lesson 3 Managing Production
- Lesson 4 Communications

Core Curriculum: Curriculum Compass

Practicing Leadership: Foreman Development Series, Level III

Item Code: J905LM.3

Core Curriculum Session: Advanced

Advanced Credits

0.0

Course Prerequisite(s): None

Other Prerequisites: None

Required Material(s):

Lesson 1 Estimating Principles

Lesson 2 Documentation

Lesson 3 Specifications

OSHA 30

Item Code: TX2720.LC3

Core Curriculum Session: Advanced

Local Advanced Credits

0.0

Course Prerequisite(s): None

Other Prerequisites: None

Required Material(s):