

**STATE OF CONNECTICUT METAL  
ELECTRICAL APPRENTICESHIP  
INFORMATION PACKET**

# Connecticut Technical Education and Career System

## Electrical APPRENTICESHIP INFORMATION PACKET

Coursework in this packet align to the CT-DOL Related Instruction Requirements for the following apprenticeship classifications:

E-2 Electrician  
L-6 Low Voltage  
T-2 Telephone Interconnect  
C-6 Telephone Interconnect/Low Voltage  
PV-2 Limited Solar Electric Journeyperson

**Concerning related classroom instruction, each apprentice student is expected:**

- To purchase the textbooks required for each course
- To complete all instructor assigned quizzes and exams as well as any academic reinforcement activities.

**Student Responsibility Enrollment and Attendance:**

- Students are held responsible for making informed enrollment decisions and for knowledge of and compliance with CTECS policies and procedures, current printed class schedule as well as special registration instructions which may be issued on a semester-by-semester basis.

**Tuition and Fees Information:**

**Apprentice Students**

- Registration fee and Technology fee of \$50.00 (**non-refundable**) per semester per school due at registration
- Tuition of \$325.00 per course (can be prorated downward for courses of less than 36 hours) payable prior to the completion of the student's 1<sup>st</sup> class attended.

**DEFINITION OF APPRENTICE STUDENT (All criteria below must be satisfied):**

- Must be registered with the State Labor Department, Office of Apprenticeship Training
- Possesses a current and valid apprentice card prior to the 1<sup>st</sup> class session – current and valid is defined as an apprentice card that meets all of the following:
  1. The card is for the student's current employer;
  2. The card has an expiration date of 6/30/ of the subsequent year;
  3. The card is signed by Labor Department Apprentice Program Manager.
- Be enrolled in a class that is part of his/her apprenticeship trade curriculum

**Extension Students:**

- Registration fee and Technology fee of \$50.00 (non-refundable) per semester per school due at registration
- Tuition of \$350.00 per 36 hours of instruction (will be prorated for courses of more or less than 36 hours) payable prior to the completion of the student's 1<sup>st</sup> class attended.

**Online Students:**

- **A \$20.00 Convenience Fee will be added to normal tuition rates. Students are responsible for technology to access content (see minimum requirements below).**

**Minimum Technology Requirements and Guidelines for Online Coursework:**

- When participating in distance education courses, it is vital to consider the technology needed in order to have a successful course. We recommend that you meet the technical requirements below when attending online programming:
- A computer (desktop/laptop/ Chromebooks) that is less than 3 years old will work.

- Speakers/headphones/earbuds for listening to audio or videos presented in courses.
- **Webcams are required**, and must be on and pointed at the student during class. (There is background blurring technology to uphold privacy that may be utilized)
  - Failure to abide by this will result in removal from class!

**Attendance Requirements:**

Based on 3-hour class sessions, the following is a list of total hours in a course and the maximum number of allowed absences (by number of classes) prior to denial of credit:

<u>Total hours in classes</u>	<u>Maximum absences</u>	<u>Total hours in classes</u>	<u>Maximum absences</u>
1 - 9	0	61 - 90	3
10 - 30	1	91 - 120	4
31 - 60	2		

**Excessive tardiness and/or early departures will be addressed on an individual basis and may cause denial of credit; example being marked tardy for 3- 1-hour incidents will equate to an absence.**

**Employers have the right to verify their employee's attendance in a program.**

**NOTE: A minimum grade of 75% is necessary to pass each course.**

All trade area content is based on a strong mathematical foundation. For this reason the baseline for transfer credit needs to be set to a higher standard, as well as being recent. Basic Math transfer credit may be awarded with a minimum of an '85' average completed in a comparable course, and taken within the last five years from date request for credit is submitted. All communications will need to be forwarded through the apprentice school supervisor at the local school. For perusal of waiver, please provide the apprentice school supervisor with the following:

- Transcripts detailing grades earned in the course, showing a minimum proficiency level of an '85' or better.
- Course description from institution listed on transcripts.

The following section, Apprentice Responsibilities, is taken from the **State of Connecticut-Apprentice Handbook & Progress Report**, which is given to each apprentice at the beginning of their training by the Office of Apprenticeship Training, Connecticut State Labor Department.

Apprentice Responsibilities:

1. Work safely.
2. **Avoid absenteeism and tardiness at work and at school.**
3. **Attend and participate in related instruction and maintain the highest possible grades.**
4. Be involved and show dedication to your training (both on the job and in the classroom).
5. Keep track of your training hours, (either in the form of work records or logbook) and advise your supervisor of any deficiencies in your apprenticeship training.
6. Show dedication and interest in learning the trade.
7. Show respect to the skilled journeypersons training and supervising you.
8. Comply with the provisions of the Apprentice Agreement.
9. Follow your sponsor's written work rules and policies.
10. You must be accompanied by a journeyperson while on the job site.

**Regional Apprenticeship Representatives  
Office of Apprenticeship Training  
Department of Labor  
860-263-6085**

**Contact information and region assigned:**

**Region 1: Larry Satchell, [larry.satchell@ct.gov](mailto:larry.satchell@ct.gov)**

.....

**Region 2: Owen Golding, [owen.golding@ct.gov](mailto:owen.golding@ct.gov)**

.....

**Region 3: Gina Knox, [gina.knox@ct.gov](mailto:gina.knox@ct.gov)**

.....

**Region 4: Keri Valente, [Keri.Valenti@ct.gov](mailto:Keri.Valenti@ct.gov)**

.....

**Region 5: Isaiah Curtis, [Isaiah.curtis@ct.gov](mailto:Isaiah.curtis@ct.gov)**

.....

**Region 6: Nicholas Blardo, [Nicholas.Blardo@ct.gov](mailto:Nicholas.Blardo@ct.gov)**

.....

**Towns and Cities by Regional DOL Rep located on the following page:**

Region 1	Region 2	Region 3	Region 4	Region 5		Region 6
Larry Satchell	Owen Golding	Gina Knox	Keri Valente	Isaiah Curtis		Nicholas Blardo
<a href="mailto:Larry.Satchell@ct.gov">Larry.Satchell@ct.gov</a>	<a href="mailto:Owen.Golding@ct.gov">Owen.Golding@ct.gov</a>	<a href="mailto:Gina.Knox@ct.gov">Gina.Knox@ct.gov</a>	<a href="mailto:Keri.Valente@ct.gov">Keri.Valente@ct.gov</a>	<a href="mailto:Isaiah.Curtis@ct.gov">Isaiah.Curtis@ct.gov</a>		<a href="mailto:Nicholas.Blardo@ct.gov">Nicholas.Blardo@ct.gov</a>
Berlin	Avon	Bridgeport	Branford	Amston	Niantic	Ansonia
Bolton	Bantam	Darien	Clinton	Andover	North Franklin	Beacon Falls
East Granby	Bethlehem	Easton	Cromwell	Ashford	North Grosvenordale	Bethany
East Hartford	Bloomfield	Fairfield	Durham	Baltic	North Stonington	Bethel
East Windsor	Bridgewater	Greenwich	East Haven	Bozrah	North Windham	Bristol
Ellington	Burlington	Milford	Guilford	Brooklyn	Norwich	Brookfield
Enfield	Canaan	Monroe	Hamden	Canterbury	Oakdale	Cheshire
Glastonbury	Canton	New Canaan	Killingworth	Centerbrook	Old Lyme	Danbury
Granby	Collinsville	Norwalk	Madison	Central Village	Old Saybrook	Derby
Hartford	Cornwall Bridge	Orange	Middlefield	Chaplin	Pawcatuck	Middlebury
Manchester	East Canaan	Redding	Middletown	Chester	Pomfret Center	Naugatuck
Meriden	East Hartland	Shelton	New Haven	Cobalt	Preston	New Britain
Somers	Farmington	Stamford	Newington	Colchester	Sterling	Newton
South Windsor	Forestville	Stratford	North Branford	Coventry	Stonington	Oxford
Stafford	Goshen	Trumbull	North Haven	Danielson	Storrs	Plainville
Suffield	Harwinton	West Haven	Portland	Dayville	Thompson	Prospect
Tolland	Kent	Weston	Rocky Hill	Deep River	Uncasville	Ridgefield
Vernon	Litchfield	Westport	Wallingford	East Haddam	Voluntown	Seymour
Waterbury	Marbledale	Wilton	Wethersfield	East Hampton	Waterford	Southbury
Windsor	Morris		Woodbridge	East Lyme	Westbrook	Southington
Windsor Locks	New Fairfield			Eastford	Willimantic	Terryville
	New Hartford			Essex	Willington	Wolcott
	New Milford			Gales Ferry	Woodstock	
	Northfield			Griswold	Yantic	
	Oakville			Grosvenordale		
	Plymouth			Groton		
	Salisbury			Haddam		
	Sharon			Hebron		
	Sherman			Higganum		
	Simsbury			Killingly		
	Thomaston			Lebanon		
	Torrington			Ledyard		
	Unionville			Lisbon		
	Warren			Lyme		
	Washington Depot			Mansfield		
	Watertown			Marlborough		
	West Hartford			Montville		
	West Simsbury			Moodus		
	Winchester			Moosup		
	Winsted			Mystic		
	Woodbury			New London		

## **Electrical Work Licenses: Licenses Expire annually: September 30th**

### **Section 20-330 of the Connecticut General Statutes**

**"Electrical work"** means the installation, erection, maintenance, alteration or repair of any wire, cable, conduit, busway, raceway, support, insulator, conductor, appliance, apparatus, fixture or equipment which generates, transforms, transmits or uses electrical energy for light, heat, power or other purposes.

#### **E-1 Unlimited Electrical Contractor**

The holder of this license may do all electrical work as defined in section 20-330 of the General Statutes.

#### **E-2 Unlimited Electrical Journeyman**

The holder of this license may do the same work as an E-1 licensee, but only while in the employ of a contractor licensed for such work.

#### **L-5 Limited Electrical Contractor**

The holder of this license may perform only work limited to ADT, similar or low voltage signal work, audio and sound systems. The installation or repair of any electrical work for plating or similar low voltage work is not authorized. The voltage of the system is not to exceed 25 volts or five amperes where such work commences at an outlet receptacle or connection previously installed by a person holding the proper electrical license.

#### **L-6 Limited Electrical Journeyman**

The holder of this license may perform the same work as the L-5 licensee, but only while in the employ of a contractor licensed for such work.

#### **C-5 Limited Electrical Contractor**

The holder of this license may perform only work limited to ADT, similar or low voltage signal work, audio and sound systems, and telephone-interconnect systems. The installation, repair, maintenance of any electrical work for plating is not authorized. The voltage of any system is not to exceed forty-eight (48 ) volts or five (5) amperes where such work commences at an outlet receptacle or connection previously installed by a person holding the proper electrical license.

#### **C-6 Limited Electrical Journeyman**

The holder of this license may perform the same work as the C-5 licensee, but only while in the employ of a contractor licensed for such work.

#### **T-1 Limited Electrical Contractor**

The holder of this license may perform only work limited to telephone-interconnect systems where such work commences at an outlet receptacle or connection previously installed by a person holding the proper electrical license.

#### **T-2 Limited Electrical Journeyman**

The holder of this license may perform the same work as the T-1 licensee, but only while in the employ of contractor licensed for such work.

#### **PV-1 LIMITED SOLAR ELECTRIC CONTRACTOR\***

The holder of this license may perform only work limited to Solar Electric systems; which means the installation, erection, repair, replacement, alteration or maintenance of photovoltaic or wind generation systems, including storage and distribution of such energy for heat, light, power or other purposes to a point immediately inside a structure or adjacent to an end use. The requirements to qualify for this license examination shall be two years as a solar journeyman or equivalent experience and training.

#### **PV-2 LIMITED SOLAR ELECTRIC JOURNEYMAN\***

The holder of this license may perform only work limited to Solar Electric systems; which means the installation, erection, repair, replacement, alteration or maintenance of photovoltaic or wind generation systems, including storage and distribution of such energy for heat, light, power or other purposes to a point immediately inside a structure or adjacent to an end use and only while in the employ of a licensed electrical contractor. The requirements to qualify for this license examination shall be the completion of a registered apprenticeship program or equivalent experience and training.



Electrical Apprenticeship Program Course  
Sequence Sheets listed on the following  
pages:

**Effective- January 1, 2002**  
**E-2 ELECTRICAL APPRENTICESHIP**  
**COURSE SEQUENCE AND PREREQUISITES**

Related Instruction- 720 Hours

OJT - 8000 Hours

<b>COURSES (EACH COURSE IS 36 HOURS)</b>	<b>Course number</b>	<b>Semester</b>	<b>Prerequisites</b>
<b>FIRST YEAR COURSES:</b>			
Basic Math Computations	A0001	1	
Blueprint Reading	A0031	1	
Algebra with Trigonometry	A0005	2	<b>A0001</b>
Electrical Theory I	A0901	2	
OSHA-30	A0099	2	
<b>SECOND YEAR COURSES:</b>			
Electrical Code I	A0904	1	
Telecom Cabling	A0925	1	
Electrical Code II	A0905	2	<b>A0904</b>
Basic Telecommunications	A0924	2	
Electrical Theory II	A0902	2	<b>A0901</b>
<b>THIRD YEAR COURSES:</b>			
Electrical Code III	A0909	1	<b>A0904, A0905</b>
Motor Controls	A0906	1	
Basic Alarm Technology	A0927	2	
Semiconductors for Electricians	A0908	2	
Logic Circuits-Programmable Controllers, Part 1	A0914	2	<b>A0906</b>
<b>FOURTH YEAR COURSES:</b>			
Logic Circuits-Programmable Controllers, Part II	A0926	1	<b>A0914</b>
Motor and Generator Theory	A0907	1	
Fire, Access & CCTV Systems	A0928	2	
Electrical Code IV	A0910	2	<b>A0904, A0905, A0909</b>
Power Distribution and Load Calculations	A0917	2	

**Connecticut Technical High School System**

**Effective- January 1, 2002**

**T-2 Telephone Interconnect Electrical Apprenticeship**

**COURSE SEQUENCE AND PREREQUISITES**

**Related Instruction- 288 Hours**

**OJT-4000**

<b>Courses (EACH COURSE IS 36 HOURS)</b>	<b>Course Number</b>	<b>Semester</b>	<b>Prerequisites</b>
Basic Math Computations	A0001	1	
Blueprint Reading	A0031	1	
Electrical Theory I	A0901	2	
OSHA-30	A0099	2	
Electrical Code I	A0904	1	
Basic Telecommunications	A0924	1	
Electrical Theory II	A0902	2	<b>A0901</b>
Telecom Cabling	A0925	2	

**Effective- January 1, 2002**

**L-6 Low Voltage Electrical Apprenticeship**

**COURSE SEQUENCE AND PREREQUISITES**

**Related Instruction- 288 Hours**

**OJT-4000**

<b>Courses (EACH COURSE IS 36 HOURS))</b>	<b>Course Number</b>	<b>Semester</b>	<b>Prerequisites</b>
Basic Math Computations	A0001	1	
Blueprint Reading	A0031	1	
Electrical Theory I	A0901	2	
OSHA-30	A0099	2	
Electrical Code I	A0904	1	
Basic Alarm Technology	A0927	1	
Electrical Theory II	A0902	2	<b>A0901</b>
Fire, Access & CCTV Systems	A0928	2	

**C-6 Telephone Interconnect/Low Voltage Electrical Apprenticeship**

**COURSE SEQUENCE AND PREREQUISITES**

**Related Instruction- 360 Hours**

**OJT-4000**

<b>Courses (EACH COURSE IS 36 HOURS)</b>	<b>Course Number</b>	<b>Semester</b>	<b>Prerequisites</b>
Basic Math Computations	A0001	1	
Blueprint Reading	A0031	1	
Electrical Theory I	A0901	1	
Electrical Code I	A0904	2	
OSHA-30	A0099	2	
Basic Alarm Technology	A0927	1	
Basic Telecommunications	A0924	1	
Fire, Access & CCTV Systems	A0928	2	
Electrical Theory II	A0902	2	<b>A0901</b>
Telecom Cabling	A0925	2	

Effective- July 10, 2009  
Electrical Apprentice Curriculum  
Related Instruction Credit Award

**PV-2 ELECTRICAL APPRENTICESHIP**

**OJT-4000 Hours    Related Instruction- 360 Hours**

<b>COURSES (EACH COURSE IS 36 HOURS)</b>	<b>Course number</b>	<b>Semester</b>	<b>Prerequisites</b>
<b>FIRST YEAR COURSES:</b>			
Basic Math Computations	A0001	1	
Blueprint Reading	A0031	1	
Electrical Code I	A0904	2	
Building Trade Safety / <b>OSHA-30</b> (eff. 9/1/13)	A0099	2	
Electrical Theory I	A0901	2	
<b>SECOND YEAR COURSES:</b>			
Electrical Code II	A0905	1	<b>A0904</b>
Electrical Theory II	A0902	1	
Electrical Code IV	A0910	2	<b>A0904, A0905</b>
Power Distribution and Load Calculations	A0917	2	



**Course: Electrical Theory I** **A0901** **36 Hours**

- A. Introduction to Electricity and Matter
- B. Electricity Production and Use
- C. Electrostatics and Basic Circuit Concepts
- D. Scientific Notation and Metric Prefixes
- E. Electric Measurements
- F. Conductors, Resistance & Insulators
- G. OHM's Law, Electrical Power and Energy
- H. Series Circuit Calculations
- I. Parallel Circuit Calculations
- J. Series – Parallel Circuits

**Course: OSHA-30** **A0099** **36 Hours**

- A. Introduction to OSHA – 2 hours
- B. Managing Safety and Health – 2 hours
- C. OSHA Focus Four Hazards – 6 hours
  - a. (1) Falls (minimum one hour and 15 minutes)
  - b. (2) Electrocution
  - c. (3) Struck-By (e.g., falling objects, trucks, cranes)
  - d. (4) Caught-In or Between (e.g., trench hazards, equipment)
- D. Personal Protective and Lifesaving Equipment – 2 hours
- E. Health Hazards in Construction – 2 hours
- F. Stairways and Ladders – 1 hour.
- G. Electives - 12 hours
  - a. Concrete and Masonry Construction
  - b. Confined Space Entry
  - c. Cranes, Derricks, Hoists, Elevators, & Conveyors
  - d. Ergonomics
  - e. Excavations
  - f. Fire Protection and Prevention
  - g. Materials Handling, Storage, Use and Disposal
  - h. Motor Vehicles, Mechanized Equipment and Marine Operations; Rollover Protective Structures and Overhead Protection; and Signs, Signals and Barricades
  - i. Powered Industrial Vehicles
  - j. Safety and Health Programs
  - k. Scaffolds
  - l. Steel Erection
  - m. Tools - Hand and Power
  - n. Welding and Cutting

**Course: Electrical Code I** **A0904** **36 Hours**

- A. Articles 80-225, 300-310 & Chapter 9

**Course: Telecom Cabling** **A0925** **36 Hours**

- A. Telephone Cable
- B. Connection Methods
- C. Distribution
- D. LAN Cabling
- E. Grounding
- F. Telecom Code

**Course: Electrical Code II** **A0905** **36 Hours**

**Prerequisite: Code I**

- A. Articles 230-427 & Chapter 9

**Course: Basic Telecommunications** **A0924** **36 Hours**

- A. Describing basic telephone terms and their usage
- B. Ohms Law and Circuits
- C. Dial Tone and Components of a Telephone
- D. LATAs Local Access Transport Area. Placing a Local Phone Call
- E. LD Network and Preferred Inter-exchange carrier. Placing a Long Distance Phone Call
- F. Understanding POTS Lines
- G. The Telecom Landscape – The Players
- H. The Telecom Landscape – The Customers
- I. Basic Voice Network Concepts
- J. Fundamentals of Transmission Systems
- K. Fundamentals of Data Communications
- L. Fundamentals of LANs
- M. ISDN BRI and PRI Lines
- N. Private Line Services
- O. Understanding Key Systems
- P. What is a PBX?
- Q. Voice Mail Integration with Key Systems and PBXs

**Course: Electrical Theory II** **A0902** **36 Hours**

**Prerequisite: Electrical Theory I**

- A. Introduction to Alternating Current
- B. Alternating-Current Circuits Containing Resistance and Inductance in Alternating – Current Circuits
- C. Series Circuits – Resistance and Impedance and Resolving Vectors
- D. Capacitors, dielectric of capacitors, elementary functions of each part. Capacitors connected in series and parallel. Also RC and RL time constants
- E. Capacitors in alternating current circuits. Capacitive reactance
- F. Series Circuits: Resistance, Inductive Reactance, and Capacitive Reactance
- G. AC parallel circuits with branches containing resistance, inductance and capacitance

**Course: Electrical Code III** **A0909** **36 Hours**

**Prerequisite: Code I & II**

- A. Articles 430 Motors – 490 Equipment over 600 volts

**Course: Motor Controls** **A0906** **36 Hours**

- A. Tools, Instruments and Safe Work Habits.
- B. Control Language, Symbols and Diagrams
- C. Logic Applied to Control Circuits
- D. Motor Control, Control Devices.
- E. Control Circuits
- F. Troubleshooting Control Circuits

**Course: Basic Alarm Technology** **A0927** **36 Hours**

- A. Terms & Definitions: Describing basic alarm terms and their usage.
- B. Basic Electronic Theory: Ohms Law and Circuits
- C. Perimeter Protection: Perimeter devices and sensors
- D. Sound Protection: Sound devices and sensors
- E. Interior Protection: Interior devices and sensors.
- F. Control Panel Features: Control Panel and Key Pad functionality.
- G. TELCO Connection with an RJ31X and line seizure. The Central Station

**Course: Semiconductors for Electricians** **A0908** **36 Hours**

- A. Electrical Safety
- B. PC Board Construction and Repairs.
- C. Semiconductors and Diodes
- D. DC Power Supplies, Transducers, and Transistors
- E. Integrated Circuits, specific Inputs and Outputs

**Course: Logic Circuits-Programmable Controllers, Part I** **A0914** **36 Hours**

**Prerequisite: Motor Controls**

- A. Introducing Logic and the PLC Number System
- B. Symbols, Truth Tables, and Logic
- C. Boolean Algebra, Logic circuits and PLC operation
- D. Introduction to Logic and PLC Operation
- E. Data Organization, Programming

**Course: Logic Circuits-Programmable Controllers, Part II** **A0926** **36 Hours**

**Prerequisite: Logic Circuits Part I**

- A. Relay Programming Instructions
- B. Understanding Safe and Proper Programming
- C. Documenting your system
- D. Comparing, Timers, Counters, and Data Handling Instructions.
- E. Troubleshooting, Debugging and Diagnostic Capabilities



**Course: Motor and Generator Theory** **A0907** **36 Hours**

---

- A. Introduction to Generators
- B. Types of Motors
- C. Single-Phase Motors
- D. Polyphase Motors
- E. Reviewing Motor Circuit Calculations

**Course: Fire, Access & CCTV Systems** **A0928** **36 Hours**

---

- A. Terms & Definitions: Describing Basic Fire Alarm Terms and their usage
- B. Basic Elements and CPU Features
- C. Signal Initiation and Types of Initiating Devices
- D. Notification Appliances and Extinguishing Systems
- E. System Design, Approvals, Authorities and Acceptance
- F. Testing and Maintenance
- G. Introduction to Access Control and Forms of Access Control
- H. Access Control Major Devices
- I. Access Control Controller, Software, Code Compliance and Wiring Standards
- J. Common Types of CCTV
- K. CCTV Basic Components
- L. CCTV Basic Technology

**Course: Electrical Code IV** **A0910** **36 Hours**

---

**Prerequisite: Code I, II & III**

- A. Hazardous Locations and Special Occupancies, Articles 500-516
- B. Health Care Facilities, Article 517
- C. Special Occupancies, Articles 518-555
- D. Special Equipment, Article 600-695
- E. Special Conditions, Article 700-780
- F. Communication Systems, Articles 800-830
- G. Tables & Annex
- H. Code Review

**Course: Power Distribution and Load Calculations** **A0917** **36 Hours**

---

- A. Voltage Drop and Wire Sizes
- B. Power Transformers
- C. Three-Phase Power
- D. Poly Phase Systems
- E. Special Transformer Connections and Harmonics
- F. Power Factor Correction
- G. Load Calculations – Small Commercial Building – Phase I
- H. Load Calculations – Small Commercial Building – Phase II

## **Required Booklist for Electrical Apprentice Students:**

Following are the required textbooks that each student must purchase for each course.

**\*\*PLEASE NOTE:** The **current CT. adopted** National Electric Code must be brought to all Electrical Theory and Blueprint Reading Courses. **\*\***

### **For Low Voltage C-6 License Apprentice Coursework,**

- Telecommunications Distribution Methods Manual, 2012 or 2013, BICSI, 8610 Hidden River Pkwy., Tampa, FL 33637, (813) 979-1991 or (800) 242-7405, [www.bicsi.org](http://www.bicsi.org)
- National Electrical Code or The National Electrical Code Handbook, 2011 or 2014 edition, National Fire Protection Association, 1 Batterymarch Park, Quincy, MA 02169, (800) 344-3555, [www.nfpa.org](http://www.nfpa.org)
- 2013 Amendment to the CT State Building Code. <http://www.ct.gov/dcs/site>
- Live Sound Reinforcement: A Comprehensive Guide to P.A. and Music Reinforcement Systems and Technology, 2nd Edition, 2002, Scott Hunter Stark, MixBooks/Artistpro, LLC, 236 Georgia Street, Ste. 100, Vallejo, CA 94590, 707/554-1935
- NFPA 72 - National Fire Alarm Code – 2013, National Fire Protection Association, 1 Batterymarch Park, Quincy, MA 02169, (800) 344-3555, [www.nfpa.org](http://www.nfpa.org)
- NFPA 720 - Standard for the Installation of Carbon Monoxide(CO) Detection and Warning Equipment – 2012, National Fire Protection Association, 1 Batterymarch Park, Quincy, MA 02169, (800) 344-3555, [www.nfpa.org](http://www.nfpa.org)
- Ugly's Electrical References, George V. Hart, 2011 or 2014, Jones and Bartlett, (800) 832-0034, [www.uglys.net](http://www.uglys.net). All items are based on either the current last two editions.
- CCTV: Networking and Digital Technology, Vlado Damjanovski, 2005, 2nd edition, Butterworth- Heinemann, (800) 545-2522, [www.bh.com](http://www.bh.com)
- Data, Voice, and Video Cabling, 3rd Edition, 2009, The Fiber Optic Association, Jim Hayes and Paul Rosenberg, [www.cengage.com](http://www.cengage.com).
- Code of Federal Regulations - 29 CFR Part 1926 (OSHA), with latest available amendments, U.S. Government Printing Office, (866) 512-1800 or <http://www.access.gpo.gov/nara/cfr/cfr-table-search.html#page1>
- ANSI / NECA / BICSI 568-2006 Standard for Installing Commercial Building Telecommunication Cabling Product Code BICSI-568-STAND-2006 [www.bicsi.org](http://www.bicsi.org) BICSI TEL: 800-242-7405, 8610 Hidden River Parkway, Tampa, FL 33637-1000 USA

### **For Low Voltage L-6 License Apprentice Coursework,**

- National Electrical Code or The National Electrical Code Handbook, 2011 or 2014 edition, National Fire Protection Association, 1 Batterymarch Park, Quincy, MA 02169, (800) 344-3555, [www.nfpa.org](http://www.nfpa.org)
- NFPA 72 - National Fire Alarm Code – 2013, National Fire Protection Association, 1 Batterymarch Park, Quincy, MA 02169, (800) 344-3555, [www.nfpa.org](http://www.nfpa.org)
- Live Sound Reinforcement: A Comprehensive Guide to P.A. and Music Reinforcement Systems and Technology, 2nd Edition, 2002, Scott Hunter Stark, MixBooks / Artistpro, LLC, 236 Georgia Street, Ste. 100, Vallejo, CA 94590, 707/554-1935
- Ugly's Electrical References, George V. Hart, 2011 or 2014, Jones and Bartlett, (800) 832-0034, [www.uglys.net](http://www.uglys.net). All items are based on either the current last two editions.
- Dr Watts Shirt Pocket Electrical Guide, Mark N. Shapiro, Atlas Publishing (888) 226-7052, [www.wmarketingonline.com](http://www.wmarketingonline.com)
- Data, Voice, and Video Cabling, 3rd Edition, 2009, The Fiber Optic Association, Jim Hayes and Paul Rosenberg, [www.cengage.com](http://www.cengage.com)
- NTC Blue Book; Security System Design and Installation, 2009 Print, National Training Center, 4148 Mantle Avenue, North Las Vegas, NV, 89084, [www.NationalTrainingCenter.net](http://www.NationalTrainingCenter.net)

### **For Telephone Interconnect T-2 License Apprentice Coursework,**

- National Electrical Code or The National Electrical Code Handbook, 2011 or 2014 edition, National Fire Protection Association, 1 Batterymarch Park, Quincy, MA 02169, (800) 344-3555, [www.nfpa.org](http://www.nfpa.org)
- CFR 47 PART 68—Connection of Terminal Equipment to the Telephone Network, 2002
- Telecommunications Wiring, Clyde N. Herrick, 3rd edition (December 15, 2000) Prentice Hall PTR.
- Ugly's Electrical References, George V. Hart, 2011 or 2014, Jones and Bartlett, (800) 832-0034, [www.uglys.net](http://www.uglys.net). All items are based on either the current last two editions.
- Telecommunications Cabling Installation, 2003, 2nd edition, McGraw Hill Professional, (877) 833-5524, [www.mhprofessional.com](http://www.mhprofessional.com).
- ANSI/NECA/BICSI 568-2006, Standard for Installing Commercial Building Telecommunications Cabling BICSI, 8610 Hidden River Parkway, Tampa, FL 33637-1000, Phone: 800.242.7405 Email: [customerservice@bicsi.org](mailto:customerservice@bicsi.org), <https://www.bicsi.org>
- Telecommunications Distribution Methods Manual, 2012 or 2013, BICSI, 8610 Hidden River Pkwy., Tampa, FL 33637, (813) 979-1991 or (800) 242-7405, [www.bicsi.org](http://www.bicsi.org)

### **For Solar Photovoltaic PV-2 License Apprentice Coursework,**

- National Electrical Code or The National Electrical Code Handbook, 2011 or 2014 edition, National Fire Protection Association, 1 Batterymarch Park, Quincy, MA 02169, (800) 344-3555, [www.nfpa.org](http://www.nfpa.org)
- Code of Federal Regulations - 29 CFR Part 1926 (OSHA), with latest available amendments, U.S. Government Printing Office, (866) 512-1800 or <http://www.access.gpo.gov/nara/cfr/cfr-tablesearch.html#page1>
- Ugly's Electrical References, George V. Hart, 2011 or 2014, Jones and Bartlett, (800) 832-0034, [www.uglys.net](http://www.uglys.net). All items are based on either the current last two editions.
- Practical Photovoltaics, Electricity from Solar Cells, 2002, Richard J. Komp, Ph.D. AATEC Publications, P.O.Box 7119, Ann Arbor, MI 48107 (800) 995-1470.
- The Easy Guide to Solar Electric Part II Installation Manual, 2001, Adi Pieper, Adi Solar 209 Arroyo Salado, Santa Fe, NM 87508 [www.adisolar.com](http://www.adisolar.com)
- Photovoltaic Systems, 3rd edition, 2011, James Dunlap, American Technical Publishers, Orland Park, IL 60467-5756, [www.atplearning.com](http://www.atplearning.com)
- Convert Your Home to Solar Energy by Everett M Barber, Jr., Joseph R Provey. Taunton Press, Incorporated. December 07, 2010

### **For Unlimited Electrical Apprenticeship Coursework, E-2**

- National Electrical Code or The National Electrical Code Handbook, 2011 or 2014 edition, National Fire Protection Association, 1 Batterymarch Park, Quincy, MA 02169, (800) 344-3555, [www.nfpa.org](http://www.nfpa.org)
- Code of Federal Regulations - 29 CFR Part 1926 (OSHA), with latest available amendments, U.S. Government Printing Office, (866) 512-1800 or <http://www.access.gpo.gov/nara/cfr/cfr-table-search.html#page1>
- Ugly's Electrical References, George V. Hart, 2011 or 2014, Jones and Bartlett, (800) 832-0034, [www.uglys.net](http://www.uglys.net). All items are based on either the current last two editions.
- NFPA 72 - National Fire Alarm Code – 2013, National Fire Protection Association, 1 Batterymarch Park, Quincy, MA 02169, (800) 344-3555, [www.nfpa.org](http://www.nfpa.org)
- Photovoltaic Systems, 3rd edition, James Dunlap, American Technical Publishers, Orland Park, IL 60467-5756, [www.atplearning.com](http://www.atplearning.com)
- Convert Your Home to Solar Energy by Everett M Barber, Jr., Joseph R Provey. Taunton Press, Incorporated. December 07, 2010
- National Electrical Safety Code, 2012 Edition, Institute of Electrical Electronics Engineers, Inc., 800-699-9277, <http://www.techstreet.com/ieee/>

**APPRENTICE PROGRAM**  
**BOOK PUBLISHERS PHONE ORDER NUMBERS & WEBSITES**

<b><u>Book Publishers</u></b>	<b><u>Phone Numbers</u></b>	<b><u>Website</u></b>
Goodheart-Willcox	1-800-323-0440	<a href="http://www.goodheartwillcox.com">www.goodheartwillcox.com</a>
Thomson Delmar Learning	1-800-347-7707	<a href="http://www.delmarlearning.com">www.delmarlearning.com</a>
National Fire Protection Association (NFPA)	1-800-344-3555	<a href="http://www.nfpa.org/index.asp">www.nfpa.org/index.asp</a>
American Technical Publishers	1-800-323-3471	<a href="http://www.go2atp.com">www.go2atp.com</a>
International Code Council (ICC)	1-800-786-4452	<a href="http://shop.iccsafe.org/">http://shop.iccsafe.org/</a>
CRC Press	1-800-272-7737	<a href="https://www.crcpress.com/">https://www.crcpress.com/</a>
Amazon Bookstore	1-800-201-7575	<a href="http://www.amazon.com">www.amazon.com</a>
BICSI	1-813-979-1991	<a href="http://www.bicsi.org/">www.bicsi.org/</a>
Prentice Hall	1-800-282-0693	<a href="http://vig.prenhall.com/catalog/">http://vig.prenhall.com/catalog/</a>