

ELECTRICAL 2

It is required that all students obtain a copy of the National Electrical Code, 2023 Edition, with the Commonwealth of Massachusetts Amendments (527 CMR 12.00) for classes.

Course Curriculum Areas of Study:

- Alternating Current
 - Motors: Theory and Application
 - Electric Lighting
 - Conduit Bending
 - Pull and Junction Boxes
 - Conductor Installations
 - Cable Tray
 - Conductor Terminations and Splices
 - Grounding and Bonding
 - Circuit Breakers and Fuses
 - Control Systems and Fundamental Concepts
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ELECTRICAL 3

It is required that all students obtain a copy of the National Electrical Code, 2023 Edition, with the Commonwealth of Massachusetts Amendments (527 CMR 12.00) for classes.

Course Curriculum Areas of Study:

- Load Calculations – Branch and Feeder Circuits
 - Conductor Selection and Calculations
 - Practical Applications of Lighting
 - Hazardous Locations
 - Overcurrent Protection
 - Distribution Equipment
 - Transformers
 - Commercial Electrical Services
 - Motor Calculations
 - Voice, Data, and Video
 - Motor Controls
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ELECTRICAL 4

It is required that all students obtain a copy of the National Electrical Code, 2023 Edition, with the Commonwealth of Massachusetts Amendments (527 CMR 12.00) for classes.

Course Curriculum Areas of Study:

- Load Calculations –Feeders and Services
- Health Care Facilities
- Standby and Emergency Systems
- Basic Electronic Theory
- Fire Alarm Systems
- Specialty Transformers
- Advanced Controls
- HVAC Controls
- Heat Tracing and Freeze Protection
- Motor Operation and Maintenance
- Medium-Voltage Terminations/Splices
- Special Locations
- Fundamentals of Crew Leadership

MASTER'S ELECTRICAL

The 168 hour Certified Master's Program as per requirements contained in "237 CMR 22.02: Required Electrical Education as a Prerequisite for Master Electrician Examination" will focus the attention of the Eligible Candidate to the current testing edition of the National Electrical Code (NFPA 70-2020) with particular attention also given to the Commonwealth of Massachusetts Electrical Code Amendments (527 CMR 12.00) as contained in the current edition of the National Electrical Code (NFPA 70-2020) and other required documents and information required to sit for the test.

This course is intended to supplement the continuing studies of the serious Eligible Candidate, with emphasis on assisting the Eligible Candidate to pass the desired Commonwealth of Massachusetts, Certificate A (Master) Electrician License Examination. It is required that all students obtain a copy of the National Electrical Code 2023 Edition, with the Commonwealth of Massachusetts Amendments (527 CMR 12.00) for classes. It is required that all students hold an Electrical Journeyman License to attend this class. Book fees are not included in the tuition price. Students are responsible for purchasing books before the first day of the course.

Prerequisites:

- Massachusetts Electrical Journeyman License

Required Course Materials:

- NASCLA Contractor's Guide to Business, Law, and Project Management - 12th Edition, National Association of State Contractors Licensing Agencies (NASCLA), www.nascla.org. Effective April 23, 2018, only the 12th edition may be used.
- NFPA 72 - National Fire Alarm Code - National Fire Protection Association,
- Code of Federal Regulations Title 29, Part 1926 (OSHA) 2002, ---OR---PSI, OSHA Excerpts 2003 , Superintendent of Documents, P.O. Box 371954, Pittsburgh, PA 15250- 7954- (888)293-6498, <http://bookstore.gpo.gov> ---OR--- -PSI, 3210 E Tropicana, Las Vegas, NV
- Exam Busters 2023
- Texas Instruments TI-30Xa calculator

MASTER'S ELECTRICAL COURSE MATERIALS PACKAGE - \$ 265.00

- This package includes all books listed above under "Required Course Materials".
- Master's Electrical students are not obligated to purchase books through GCI.
- Email Diane Craven to purchase: diane@gwgci.org.

MASSACHUSETTS PIPEFITTING APPRENTICE

IMPORTANT CMR UPDATE

****Applicants whose application for examination is dated and received by the Division prior to November 9, 2026: a. Shall have completed successfully 350 hours study in a pipefitter's course approved by the Bureau and shall have worked for not less than 6,000 hours as an apprentice, such work time to be verified by a licensed Master Pipefitter employer.**

Unrestricted Pipefitting Journeyman License Requirements

- High School Diploma or its equivalent
- 350 classroom hours (ASME)**
- 6,000 field hours obtained on the job
- Two different cards must be obtained prior to the start of school. Apprentices **MUST** apply for an apprentice license through the Bureau of Pipefitters, Refrigeration Technicians, and Sprinklerfitters **AND** register as an apprentice through the Division of Apprenticeship Standards.

Pipefitter Master's License Requirements

- Additional 100 classroom hours (ASME)
- Additional 2,000 field hours
- The ASME Correspondence Course = 350 hours and is only available for those who have been in the field for 6+ years

BUREAU OF PIPEFITTERS, REFRIGERATION TECHNICIANS, AND SPRINKLERFITTERS

Address: One Federal Street, Suite 600
Boston, MA 02110

Phone: (617) 727-3200

mass.gov/dps - Engineering Division

PIPEFITTING 1 *not offered this year

Course Curriculum Areas of Study:

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| • Basic Safety | • Pipefitting Power Tools |
| • Introduction to Construction Math | • Oxyfuel Cutting |
| • Introduction to Hand Tools | • Ladder & Scaffolds |
| • Introduction to Power Tools | • Motorized Equipment |
| • Introduction to Construction Drawings | • Piping Systems |
| • Basic Rigging | • Drawing & Detail Sheets |
| • Basic Communication Skills | • Identifying & Installing Valves |
| • Basic Employability Skills | • Pipefitting Trade Math |
| • Introduction to Materials Handling | • Threaded Pipe Fabrication |
| • Orientation to the Trade | • Socket Weld Pipe Fabrications & Butt Weld Pipe Fabrication |
| • Pipefitting Hand Tools | |