

ELECTRICAL MAINTENANCE TECHNICIAN

APPENDIX A

O*NET CODE 47-2111.00

This training outline is a minimum standard for Work Processes and Related Instruction. Changes in technology and regulations may result in the need for additional on-the-job or classroom training.

WORK PROCESSES

	Approximate Hours
A. Traffic Signal and Control	2,500
1. Signal lamp replacement.	
2. Maintaining and repairing Loop detectors and signal devices.	
3. Repairing, maintaining, and/or replacing fiber optic cables.	
4. Maintenance/repair of controllers and signal amplification systems.	
5. Troubleshooting all traffic and control systems with knowledge and ability using laptop computers.	
6. Necessary shop work and preparation.	
7. Maintenance and repair of all other equipment associated with Traffic Signal and Control Systems.	
B. Parking Lot, Area Lighting and Street Lighting	2,500
1. Lamp replacement and socket repair.	
2. Pole replacement.	
3. Location and repair of underground cable faults.	
4. Low and high voltage ballast replacement.	
5. Replacement of fuses, ground fault interrupters, breakers, outside service equipment.	
6. Necessary shop work and preparation.	
7. Maintenance of all other equipment associated with parking lot, area lighting, and street lighting.	

C. Buildings

5,000

1. Lighting
 - a. Maintenance and repair of all incandescent fixtures, fluorescent fixtures, battery-operated emergency lighting.
 - b. Hook up of miscellaneous equipment.
Replacement of PCB ballast with electronic ballast; documentation; containerizing PCB ballast for shipping.
2. Other Electrical Systems
 - a. Hooking up, troubleshooting, and repairing motor and programmable control centers, boilers, escalators, elevators, and HVAC systems.
 - b. Maintenance of energy management system for lighting, heating, ventilating, refrigeration, air conditioning.
3. Alarm and Security Systems
 - a. Troubleshooting and repair of intrusion, motion, infrared security systems and fire alarms.
4. Communication Systems
 - a. Troubleshooting and repair of sound and page systems.
5. Other
 - a. Maintenance of all other electrical equipment and systems associated with buildings.
 - b. Troubleshooting and repair of ATM machines and credit check systems.
 - c. Necessary shop work and preparation.

Approximate Total Hours 10,000

Apprenticeship work processes are applicable only to training curricula for apprentices in approved programs. Apprenticeship work processes have no impact on classification determinations under Article 8 or 9 of the Labor Law. For guidance regarding classification for purposes of Article 8 or 9 of the Labor Law, please refer to <https://dol.ny.gov/public-work-and-prevailing-wage>

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APPENDIX B

RELATED INSTRUCTION

Safety

1. Fundamentals
2. OSHA 10-hour course (safety and health in the construction industry)
3. Safety for the electrical trade
4. First aid – minimum 6.5 hours every 3 years
5. Asbestos Awareness – minimum 4 hours (see attachment)

Blueprints

1. Freehand sketching
2. Blueprint reading

Mathematics

1. Mathematics for electricians

Interpersonal Workplace Skills

1. Industrial & labor relations (20 hours)
2. History and background (6 hours, first year)
3. Current laws and practices (14 hours, second year)
4. Sexual Harassment Prevention Training – must comply with section 201-g of the Labor Law

Trade Theory and Science

1. A C fundamentals
2. D C fundamentals
3. Transformer fundamentals
4. Motors and generators fundamentals
5. Local, state, and federal codes
6. Motor control requirements
7. Electrical materials
8. Use of meters
9. Use of bucket trucks and other equipment
10. Pipebending

11. Basic wiring methods
12. Motor control wiring
13. Programmable motor controls
14. Programmable controllers
15. Traffic signal systems
16. Street lighting systems
17. Structured wiring systems
18. Troubleshooting all types of electrical systems
19. Introduction to the personal computer
20. Troubleshooting with laptops

Other related courses as necessary

180+ Hours of Related Instruction are Required for Each Apprentice for Each Year.

Appendix B topics are approved by New York State Education Department.

ATTACHMENT TO APPENDIX B

Asbestos Awareness

This course must be delivered by one of the following:

1. A provider currently approved by the New York State Department of Health to deliver asbestos safety training.
2. A person holding a current Asbestos Handler certificate from the New York State Department of Labor in the title of: Inspector, Supervisor, Project Monitor, Management Planner, or Project Designer.
3. Anyone otherwise approved by the New York State Education Department.

Minimum course contents must include the following:

1. Definition of asbestos
2. Types and physical characteristics
3. Uses and applications
4. Health effects:
 - a. Asbestos-related diseases
 - b. Risks to families
 - c. Cigarette smoking
 - d. Lack of safe exposure level
5. Employer-specific procedures to follow in case of potential exposure, including making a supervisor or building owner immediately aware of any suspected incidental asbestos disturbance so that proper containment and abatement procedures can be initiated promptly.

Notwithstanding the above course requirement, employers are advised that they must also be in compliance with New York State Department of Labor Industrial Code Rule 56 at all times.

Employers are further advised, and must advise all apprentices, that completion of the above course requirement does not authorize any person to remove, encapsulate, enclose, repair, disturb, or abate in any manner, any friable or non-friable asbestos, asbestos containing material, presumed asbestos containing material, or suspect miscellaneous asbestos containing material.