



STATE OF NEW YORK
DEPARTMENT OF LABOR

APPENDIX A

PLANT MAINTENANCE – ELECTRICIAN/MECHANIC

D.O.T. CODE 899.261.014

This training outline represents a minimum standard in terms of work processes and related instruction which are required to achieve skilled worker status. It is recognized that rapid technological and regulatory changes will frequently result in the need for mastery of additional on-the-job or theoretical instruction.

WORK PROCESSES

	<u>Approximate Hours</u>
A. <u>Tool and Supply Room</u> Learn size of wire condulets and conduits simple meters, bending of conduit, use of tools and how to determine the size of load safety.	200
B. <u>Lighting</u> Replacement of incandescent lamps and hot cathode fluorescent tubes and starters. Repair of fluorescent fixtures, replacing ballast, socket and wiring, code requirements. Safety.	200
C. <u>Trouble Shooting AC Wiring</u> Learn to locate and repair contactor problems, replacing contacts and contactor. Locate and replace blown fuses. Check and repair limit switches, push buttons, etc. Safety.	300
D. <u>Minor AC Motor Repair</u> Learn to disassemble and assemble motors, replacing bearings, cleaning, checking and painting windings. User of Megger.	200
E. <u>Three Phase Motor Repair</u> Learn to locate and repair grounds, repair and cutting of bad coils. Tapping and reconnecting windings for voltage changes. Safety.	100
F. <u>Special Circuits AC</u> Learn to read wiring diagrams. Operation of special control circuits, time delay switches, electrical braking. Safety.	500

Plant Maintenance – Electrician/Mechanic – continued

Approximate Hours

G.	<u>Direct Current Machinery</u> Learn to locate and repair direct current motor and generator troubles in fields, armatures, bearings, brush holders, and commutators. Knowledge of variable speed DC drives, motor generators. Repair and maintenance of DC contactors and field control. Battery maintenance, battery chargers (rectifier and motor generator types). Safety.	1,000
H.	<u>General Wiring</u> Learn proper handling and installation of power feeding, wiring, fuse panels, breakers, etc. Estimate load requirements. Code requirements. Install general wiring. Safety.	500
I.	<u>Instruments</u> Learn proper use and care of volt meter, ammeter, watt meter, power factor meter and recording meters, etc. Safety.	100
J.	<u>Industrial Electronics</u> Installation, operation and repair of electronic electrifiers, speed control units, etc. Safety.	1,000
K.	<u>Care, Use and Safety of Tools and Equipment</u> Hand tools, power tools, machines and power equipment, ladders, scaffolding and hoists.	500
L.	<u>Machine Repair (Mechanical)</u> Assembly and disassembly, bearings, power transmission, construction, rigging, lubrication. Safety.	1,500
M.	<u>Bench Work and Machinery</u> Lathes, milling machines, grinding machines, drill press, power saw, etc. Safety.	300
N.	<u>Pipefitting</u> Layout, installation, repair, replacement, pumps and compressors, valves and controls. Safety.	300
O.	<u>Welding</u> Protective clothing and equipment, burning and cutting, controls and gauges, electric arc welding, properties of metals. Safety.	500
P.	<u>Sheet Metal Working</u> Layout, cutting and shaping, forming, fitting, fabrication. Safety.	200

<u>Plant Maintenance – Electrician/Mechanic – continued</u>		<u>Approximate Hours</u>
Q.	<u>General Building Maintenance</u>	200
R.	<u>Painting</u> Priming, painting and finishing on plastic, wood, metal. Safety.	200
S.	<u>Carpentry</u> Reading, blueprints, layouts, selection and use of stock, methods of joining and attaching, minor building alterations. Safety.	200
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Total Hours		8,000

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 <http://www.labor.state.ny.us/workerprotection/publicwork/PDFs/Article8FAQS.pdf>.

APPENDIX B

PLANT MAINTENANCE – ELECTRICIAN/MECHANIC

RELATED INSTRUCTION

Blue Print Reading

- Elementary
- Advanced
- Sketching & Layout
- For Electricians
- Elec. Civ Diagrams

Mathematics

- Fundamentals
- Math for Electricians
- Math for Shops
- Use of Handbook & Reference Tables

Safety (24 hours)

- Fundamentals – 4 hours first year
- Trade Safety – 12 hours second year
- First Aid – minimum 6.5 hours every 3 years
- Asbestos Awareness – minimum 4 hours (see attachment)

Trade Theory

- Tools & Equipment
- Terminology
- Materials
- Stock Room
- Lighting Installations
- Power Wiring
- Rigging
- Troubleshooting
- Line Wiring
- Inspection of Tools & Machinery
- Plant Lay-out
- Gas & Electric Welding
- Power Transmission Equipment (gears – bushings – bearings)
- Lubrication
- Care & Use of Tools & Machinery

Trade Science

- Fundamentals of AC
- Fundamentals of DC
- Fundamentals of Motors & Generators
- Fundamentals of Transformers

Plant Maintenance – Electrician/Mechanic Related Instruction – continued

Sexual Harassment Prevention Training (minimum 3 hours)

Other Related Courses as Necessary

144 Hours of Related Instruction is Required for Each Apprentice for Each Year.

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:
 - Asbestos-related diseases
 - Risks to families
 - Cigarette smoking
 - 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.