

INDUSTRIAL EQUIPMENT WIRER & ASSEMBLER

APPENDIX A

O*NET CODE 51-2022.00

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. Installation Procedures	2000
1. Planning of work. Material lists, layouts, procedures, timing.	
2. Sizing of wireway, conduits, wires to meet load requirements and code.	
3. Final installation and start-up – off-site work including final connects main isolation, collaborate with other trades and organizations.	
B. Wiring of AC and DC Circuits	1000
1. Installation of machines, wiring contactors, push buttons, principles of overload device and proper selection.	
2. Wiring of PLC's and basic knowledge and understanding operation.	
3. Learning to read wiring diagram.	
C. General Wiring	1500
1. Learn proper handling and installation or power feeding, wiring, fuse panels, breakers, etc.	
2. Estimate load requirements, laying out conduit runs.	
3. Code requirements.	
4. Install general wiring, wiring fixtures, receptacles, etc.	
5. Connecting transformers, three-phase, star and delta connections, transformer polarity, knowledge of generally used wiring systems and current relationship.	
6. Three-phase and two-phase, single-phase two and three wire, and three-phase four wire.	
7. Safety.	

D. Special Circuits AC	500
<ol style="list-style-type: none"> 1. Learning to read wiring diagrams. 2. Operation of special control circuits, time delays switches, electric breaking. 3. Safety. 	
E. Checking, Testing, Trouble Shooting and Repair	1500
<ol style="list-style-type: none"> 1. Start-up – to ensure correct wiring and operation. 2. Calibration of meters and instruments. 3. Rectification of faults. 4. Identifying and correction of incorrect operation. 	
F. Care and Use of Tools and Equipment	500
<ol style="list-style-type: none"> 1. Tools – screwdrivers, cutters, pliers, wrenches, hammers, files, electric hand drill. 2. Test Equipment – amp meter, Pro-mac calibrator, multi-tester, etc. 3. Machinery – bench grinder, drill press, jigsaw, Ko punch, hand grinder, die grinder. 4. Rigging – Proper use of chains, slings, etc. and correct method of lifting. 	
G. Safety Precautions and Devices	500
<ol style="list-style-type: none"> 1. Mechanical Equipment – crane, fork truck, mill, lathe, etc. 2. Hand tools. 3. Tag and lockout procedures 	
H. Other	500
<ol style="list-style-type: none"> 1. Building Maintenance – lighting, power distribution, machinery and codes. 	
Approximate Total Hours	8000

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

Blueprint Reading, Sketching and Drawing

1. Elementary Blueprint Reading and Sketching
2. Blueprint Reading for Electricians
3. Electrical Circuit Diagrams

Mathematics

1. Fundamentals of Mathematics
2. Mathematics for Electricians

Safety

1. Fundamentals (4 hours, 1st year)
2. Trade Safety (12 hours, 2nd year)
3. First Aid (6.5 hours every 3 years)
4. Sexual Harassment Prevention Training – must comply with section 201-g of the Labor Law

Industrial & Labor Relations (20 hours)

1. History and Background (6 hours, 1st year)
2. Current Laws and Practices (14 hours, 2nd year)

Trade Theory

1. Tools and Equipment
2. Terminology
3. Materials
4. Stock Room
5. Signal Wiring
6. Lighting Installations
7. Power Wiring
8. Rigging
9. Appliance Repair
10. Troubleshooting

Trade Science

1. Fundamentals of AC

2. Fundamentals of DC
3. Fundamentals of Motors and Generators
4. Fundamentals of Transformers

Refrigeration

1. Fundamentals of Operation, Construction & Maintenance

Instrumentation

1. Basics, process controllers, including temperature and pressure instruments maintenance and calibration

Other Related Courses as Necessary

A minimum of 144 hours of Related Instruction is required for each Apprentice for each year.

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