PLANT MAINTENANCE – MECHANIC (3 YEAR)

APPENDIX A

O*NET CODE 49-9042.00

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

<table>
<thead>
<tr>
<th>Approximate Hours</th>
<th>A. Tools and Equipment</th>
<th>B. Machine Maintenance and Repair</th>
<th>C. Machine Tools</th>
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</thead>
<tbody>
<tr>
<td>375</td>
<td>1. Familiarizing self with supplies and stockroom.</td>
<td>1. Installing machinery and equipment.</td>
<td>1. Safe operation of:</td>
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<tr>
<td></td>
<td>2. Safe use and care of hand tools, power tools, machines, and equipment.</td>
<td>2. Lubrication.</td>
<td>a. lathe</td>
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<td></td>
<td>3. Safe use and care of ladders, scaffolding and rigging.</td>
<td>3. Preventive maintenance.</td>
<td>b. milling machine</td>
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<td>975</td>
<td>4. Inspecting machinery and equipment. Diagnosing</td>
<td>c. grinding machine</td>
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<td>5. problems or malfunctions.</td>
<td>d. router</td>
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<td>6. Disassembling machinery and equipment.</td>
<td>e. power saw</td>
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<td>7. Repairing defective parts.</td>
<td>600</td>
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<td>8. Installing new or repaired parts.</td>
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<td>9. Re-assembling machinery and equipment.</td>
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<td>10. Making adjustments as needed.</td>
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<td>11. Recording work done.</td>
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</tbody>
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f. drill

D. Electrical Repair
1. Safe installation and repair of:
   a. lighting, fusing, circuit breakers
   b. basic circuit wiring
   c. motors (AC, DC, multi-phase)
   d. instrumentation
   e. controls
   f. power distribution system

E. Pipefitting
1. Layout of pipe systems and related hydraulic and pneumatic equipment.
2. Installation.
3. Repairing pipe systems.
4. Replacing element of pipe systems.
5. Installing and repairing pumps and compressors.
6. Installing and repairing valves and controls.

F. Cutting and Welding
1. Using protective clothing and equipment
2. Burning and cutting.
3. Welding.
4. Brazing and soldering.

G. Sheet Metal Working
1. Layout
2. Cutting and shaping
3. Forming
4. Fitting
5. Fabrication

H. General Building Maintenance

I. Painting
1. Priming, painting, and finishing:
   a. plaster
b. wood

c. metal

### J. Carpentry

1. Reading rough sketches and blueprints
2. Layout
4. Joining and attaching.
5. Building small items such as cupboards, shelves.
6. Making minor building alterations such as partitions.

**Approximate Total Hours** 6,000

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](https://dol.ny.gov/public-work-and-prevailing-wage).
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APPENDIX B

RELATED INSTRUCTION

Safety
1. Fundamentals of trade safety, including lockout procedures
2. Hazardous materials
3. First Aid (minimum 6.5 hours every 3 years)
5. Sexual Harassment Prevention – must comply with Section 201-g of the Labor Law

Blueprints
1. Elementary blueprint reading (electrical and mechanical)
2. Advanced blueprint reading (electrical and mechanical)
3. Sketching and layout

Mathematics
1. Fundamentals of mathematics
2. Shop math
3. Estimating
4. Using handbooks and reference tables

Industrial and Labor Relations (20 hours)
1. History and background (6 hours, first year)
2. Current laws and practice (14 hours, second year)

Trade Theory and Science
1. Materials of the trade
2. Hand tools and portable equipment
3. Machining and machine tools
4. Fundamentals of mechanics
5. Inspection of tools and machinery
6. Oils, lubricants, and coolants
7. Gears, bushings, and bearings
8. Plant layout  
9. Rigging and moving principles  
10. Installation of machinery and controlling auxiliaries  
11. Welding  
12. Fundamentals of electricity  
13. Power transmission equipment  
14. Basic pipefitting  
15. Hydraulic and pneumatics  
16. Basic Sheetmetal work  
17. Basic carpentry  

144 hours of Related Instruction are required for each apprentice for each year.  

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