

MOLDMAKER, DIE-CASTING & PLASTIC MOLDING

APPENDIX A

O*NET CODE 51-4111.00

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. Safety	100
1. Use of personal protective equipment; safe use of hand tools, power tools and machinery.	
B. Drills	500
1. Kinds of drills, tapping, reaming, lapping, counter-boring, countersinking, grinding, lubricants to use, speeds and feeds, safety.	
C. Milling Machine	1000
1. Use of dividing head, spline, milling, fluting spiral milling, rack cutting, cutter miling, set-up, speeds and feeds, safety. Basic programming if machine is NC or CNC.	
D. Grinders	1000
1. Selection of grinding wheels, mounting wheels, taper form, angle and hold grinding, grinding of mills, speeds, feeds, lubricants, safety. Basic programming if machine is NC or CNC.	
E. Lathes (Engine and Bench)	950
1. Use of face plates, straight turning, facing, tapping, threading, set-up, speed, feeds, lubricants, safety. Basic programming if machine is NC or CNC.	
F. Bench and Die Work	2400
1. Use of gauge blocks and measuring instruments, use of hand tools, assembly and finishing of dies, die repair.	

G. Design and Layout	950
1. Take specifications, make design, use of drawing tools, make layouts.	
H. Heat Treating	200
I. Miscellaneous Machines	700
1. Machinery repair and such other work as may be considered adequate to complete the experience necessary to attain the skill and versatility required of journey person.	
J. EDM Machine	200
1. Set up and operation.	

Approximate Total Hours	8000
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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 (16 hours)

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

Industrial and Labor Relations (20 hours)

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

Blueprint Reading, Sketching and Drawing

1. Elementary Blueprint Reading and Sketching
2. Advanced Blueprint Reading and Sketching
3. Specifications, Scales, etc.

Mathematics

1. Elementary Fundamentals
2. Elementary Foundry Mathematics
3. Advanced Foundry Mathematics
4. Estimating Quantities and Costs

Trade Theory and Science

1. Tools, Machines and Equipment – Care and Maintenance
2. Materials of the Trade
3. Terminology
4. Technology of Jobs and Processes
5. Basic NC and CNC Programming
6. Inspection, Layout and Assembly Practices
7. Principles of Patterns
8. Properties of Materials
9. Principles of Punch and Die Design
10. Principles of Jig and Fixture Design

11. Principles of Gauge Design

12. Principles of Cutting Tool Design

Other Related Courses as Necessary

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

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