



STATE OF NEW YORK  
DEPARTMENT OF LABOR

APPENDIX A

MOLD MAKER

D.O.T. CODE 601.280.030

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 learning.

WORK PROCESSES

	<u>Approximate Hours</u>
A. <u>Safety</u>	100
Use of personal protective equipment; safe use of hand tools, power tools, and machinery. Basic First Aid and CPR	
B. <u>Drills</u>	500
Kinds of drills, tapping, reaming, lapping, counter-boring, countersinking, grinding, lubricants, speeds and feeds, safety.	
C. <u>Milling Machines (Vertical and Horizontal)</u>	1,000
Use of dividing head, spline, milling, fluting spiral milling, rack cutting, cutter milling, set-up tram bridge porheads, rotary tables, speeds, feeds, lubricants, safety.	
D. <u>Grinders</u>	1,000
Selection of grinding wheels, mounting wheels, taper form, angle and hole grinding, grinding of mills, speeds, feeds. Use of gauge blocks and measuring instruments, jig grinding, injector pins, safety.	
E. <u>Lathes (Engine and Bench)</u>	1,000
Use of face plates, straight turning, facing, tapping, threading, set-up, speed, feeds, lubricants, safety.	
F. <u>Bench and Die Work</u>	1,000
Use of gauge blocks and measuring instruments, use of hand tools,	

F.	<u>Bench and Die Work</u> – continued assembly and repair of molds and dies, finishing of dies, shut off and fitting.	
G.	<u>Polishing and Handwork</u> Polishing mold using different grits of paper, stones, or hand tools, mold cavities, cores, pins to SPI finishes.	950
H.	<u>Design and Layout</u> Take specifications, use of drawing tools, make design and layouts (program and operate CAD/CAM machines if applicable).	1,000
I.	<u>Heating Treating</u>	100
J.	<u>Miscellaneous Machines</u> Machine repair and other such work as may be considered adequate to complete the experience necessary to attain the skills and versatility required of journey person.	800
K.	<u>EDM</u> Set up and operation of Wire EDM, fabrication of electrodes 3R systems.	200
L.	<u>CNC Mills</u> Proper set up of machines, selection of cutting tools and inputting tool length of sets, use of correct programming methods and sequences, use of desktop computer to write programs, machine maintenance, safety.	250
M.	<u>Repair Welding – TIG</u> Safety, proper set up and selection of gas pressures tungsten diameters and filler materials, matching filler materials to steel being welded for hardness and machinability.	100

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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

MOLD MAKER

RELATED INSTRUCTION

Safety (16 hours)

Fundamentals (4 hours first year)  
Trade Safety (12 hours second year)

Industrial and Labor Relations (20 hours)

History and Background (6 hours first year)  
Current Laws and Practices (14 hours second year)

Blueprint Reading, Sketching and Drawing

Elementary Blueprint Reading and Sketching  
Advanced Blueprint Reading and Sketching  
Specifications, Scales, etc.

Mathematics

Elementary Fundamentals  
Elementary Foundry Mathematics  
Advanced Foundry Mathematics  
Estimating Quantities and Costs  
Introduction to Trigonometry

Trade Theory

Tools, Machines and Equipment – Care and Maintenance  
Materials of the Trade  
Terminology  
Technology of Jobs and Processes  
Basic NC and CNC Programming

Inspection, Layout and Assembly Practices

Trade Science

Principles of Patterns  
Properties of Materials  
Principles of Punch and Die Design

Mold Maker Related Instruction – continued

Trade Science – continued

Principles of Jig & Fixture Design  
Principles of Gauge Design  
Principles of Cutting Tool Design

Other Related Courses as Necessary

First Aid – minimum 6.5 hours every 3 years

Sexual Harassment Prevention Training – minimum 3 hours

A Minimum of 144 Hours of Related Instruction are Required for Each Apprentice for Each  
Year