



EXPLORE CAREER PATHWAYS MANUFACTURING

Live, Work & Stay in the Upper Peninsula



www.jobforce.org

January 15, 2011

Dear Students,

Thank you for taking the time to investigate manufacturing as a potential career opportunity. As you will see, there are many job options available in the manufacturing field requiring different levels of education, skills and training. The only obstacle is finding the one that is right for you!

Why choose manufacturing? First, advanced manufacturing applies cutting edge concepts in electronics, computers, software and automation to improve production. Second, manufacturing encourages creativity and analytical thinking; it is an area where one person's idea can lead to a major breakthrough in product design. Whether your interest lies in production, engineering, design, robotics or automation, there is an opportunity for qualified people in manufacturing right here in the Upper Peninsula!

(Pat Toensmeier, *InDemand Magazine*).

According to the U.S. Department of Labor, the manufacturing sector is growing in the UP and needs additional, qualified employees to sustain and ensure the growth of our economy. The skilled trades, including manufacturing, are looking at a serious labor shortage that is expected to get worse in the near future. With increased demand to fill these positions, manufacturing can offer you many opportunities for successful employment here in the Upper Peninsula.

On behalf of myself and the Manufacturing Regional Skills Alliance, I would like to extend our best wishes on determining your career path. I hope that this booklet will be helpful as you investigate your options. If you find something that sounds right for you, we look forward to seeing *you* in *our* future.

Sincerely,



Mark Massicotte
President, L'Anse Manufacturing
Chair, Western UP-RIMSA



Steve Pontbriand
Executive Vice President,
Director of Operations, Northern
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Chair, Central UP-RIMSA



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January, 15 2011

Dear Students:

This booklet was developed as a tool that you, your guidance counselors, parents and teachers could use to increase awareness of occupations within the manufacturing industry.

Because of the need to meet the manufacturing industry's worker shortages, the Job Force Board formed an alliance with manufacturers across the Upper Peninsula. This group of individuals, called the Upper Peninsula Regional Industrial Manufacturing Skills Alliance, or UP-RIMSA, is working to develop resources to meet the demands of the industry. Michigan Works! and UP-RIMSA are focused on educating youth and the community about employment opportunities in manufacturing. We want youth to remain in the Upper Peninsula to live and to work.

On behalf of the Job Force Board, I invite you to imagine the possibilities of living and working in the Upper Peninsula while exploring opportunities in manufacturing.

Sincerely,

Willard Carne
President
Michigan Works!
The Job Force Board

Jill Hazel
President
Eastern Upper Peninsula
Michigan Works!

Phil Kolehmainen
President
Western Upper Peninsula
Michigan Works!



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Welders, Cutters, Solderers, and Brazers

Occupation Description

Use hand-welding, flame-cutting, hand soldering, or brazing equipment to weld or join metal components or to fill holes, indentations, or seams of fabricated metal products.

Includes: Welders, Cutters, Welder Fitters, Solderers, Brazers

Related Occupations:

Assemblers and fabricators
Boilermakers
Computer control programmers and operators
Jewelers and precious stone and metal workers
Machine setters, operators, and tenders – metal and plastic
Machinists
Plumbers, pipelayers, pipefitters, and steamfitters
Sheet metal workers
Tool and die makers

Overall Experience:

Some previous work-related skill, knowledge, or experience is usually needed. For example, a teller would benefit from experience working directly with the public.

Employees in these occupations need anywhere from a few months to one year of working with experienced employees. A recognized apprenticeship program may be associated with these occupations.

Education:

These occupations usually require a high school diploma.

Wages and Employment Trends:

Alger, Delta, Dickinson, Marquette, Menominee, Schoolcraft Counties

Median Wage: \$15.61

Projected Growth Average 2010-2016: 9 Jobs Annually

Projected Need 2010-2016: 54 Employees

Location	2010				
	10 Percentile	25 Percentile	Median	75 Percentile	90 Percentile
6-County	\$11.49	\$13.35	\$15.61	\$20.89	\$27.82
Michigan	\$11.61	\$13.82	\$17.14	\$21.77	\$28.41

Machinists

Occupation Description

Set up and operate a variety of machine tools to produce precision parts and instruments. This includes precision instrument makers who fabricate, modify, or repair mechanical instruments. One may also fabricate and modify parts to make or repair machine tools or maintain industrial machines by applying knowledge of mechanics, shop mathematics, metal properties, layout, and machining procedures.

Includes: Machinist, Machine Operator, Machinist Tool and Die, Maintenance Specialist, Set-Up Machinist, Utility Operator, Maintenance Machinist, Production Machinist, Maintenance Technician, Mold Tooling Designer (MTD)

Related Occupations

Mechanical Engineering Technicians

Millwrights

Aircraft Structure, Surfaces, Rigging, and Systems Assemblers

Engine and Other Machine Assemblers

Model Makers, Metal and Plastic

Welders, Cutters, and Welder Fitters

Inspectors, Testers, Sorters, Samplers, and Weighers

Overall Experience

Previous work-related skill, knowledge, or experience is required for these occupations. Employees in these occupations usually need one or two years of training involving both on-the-job experience and informal training with experienced workers. These occupations usually involve using communication and organizational skills to coordinate, supervise, manage, or train others to accomplish goals

Education

Most occupations in this zone require training in vocational schools, related on-the-job experience, or an associate's degree. Some may require a bachelor's degree.

Wages and Employment Trends

Alger, Delta, Dickinson, Marquette, Menominee, Schoolcraft Counties

Median Wage: \$15.22

Projected Growth Average 2010-2016: 7 Jobs Annually

Projected Need 2010-2016: 44 Employees

Location	2010				
	10 Percentile	25 Percentile	Median	75 Percentile	90 Percentile
6-County	\$11.76	\$13.36	\$15.22	\$17.83	\$22.47
Michigan	\$12.61	\$14.86	\$18.72	\$24.46	\$30.42

Water and Liquid Waste Treatment Plant and System Operators

Occupation Description:

Set up, operate, or tend continuous flow or vat-type equipment; filter presses; shaker screens; centrifuges; condenser tubes; precipitating, fermenting, or evaporating tanks; scrubbing towers; or batch stills. These machines extract, sort, or separate liquids, gases, or solids from other materials to recover a refined product. Includes dairy processing equipment operators.

Related Occupations:

Chemical Operator
Cellar Worker
Cheese Maker
Refinery Operator
Blender / Cook
Brewer
Digester Cook
Paper Machine Tender
Plant Operator
Dryer Operator

Overall Experience:

Some previous work-related skill, knowledge, or experience is usually needed. For example, a teller would benefit from experience working directly with the public. Employees in these occupations need anywhere from a few months to one year of working with experienced employees. A recognized apprenticeship program may be associated with these occupations.

Education Required:

These occupations usually require a high school diploma.

Wages and Employment Trends:

Alger, Delta, Dickinson, Marquette, Menominee, Schoolcraft Counties

Median Wage: \$20.01

Projected Growth Average 2010-2016: 3 Jobs Annually

Projected Need 2010-2016: 18 Employees

Location	2010				
	10 Percentile	25 Percentile	Median	75 Percentile	90 Percentile
6-County	\$16.73	\$18.03	\$20.01	\$22.95	\$26.47
Michigan	\$14.32	\$16.86	\$20.07	\$23.91	\$27.54

Power Plant Operators

Occupation Description:

Control, operate, or maintain machinery to generate electric power. Includes auxiliary equipment operators

Related Occupations:

- Auxiliary Operator
- Control Operator
- Operations and Maintenance Technician (O & M Technician)
- Unit Operator
- Power Plant Operator
- Boiler Operator
- Control Center Operator
- Control Room Operator
- Operations and Maintenance Gas Turbine Technician
- Plant Control Operator

Overall Experience:

Previous work-related skill, knowledge, or experience is required for these occupations. For example, an electrician must have completed three or four years of apprenticeship or several years of vocational training, and often must have passed a licensing exam, in order to perform the job. Employees in these occupations usually need one or two years of training involving both on-the-job experience and informal training with experienced workers. A recognized apprenticeship program may be associated with these occupations.

Education Required:

Most occupations in this zone require training in vocational schools, related on-the-job experience, or an associate's degree.

Wages and Employment Trends:

Alger, Delta, Dickinson, Marquette, Menominee, Schoolcraft Counties

Median Wage: \$21.36

Projected Growth Average 2010-2016: 2 Jobs Annually

Projected Need 2010-2016: 12 Employees

Location	2010				
	10 Percentile	25 Percentile	Median	75 Percentile	90 Percentile
6-County	\$12.50	\$14.04	\$21.36	\$26.87	\$32.07
Michigan	\$20.13	\$24.33	\$28.10	\$31.26	\$34.41

Stationary Engineers and Boiler Operators

Occupation Description:

Operate or maintain stationary engines, boilers, or other mechanical equipment to provide utilities for buildings or industrial processes. Operate equipment, such as steam engines, generators, motors, turbines, and steam boilers.

Related Occupations:

Boiler Operator
Stationary Engineer
Operating Engineer
Plant Utilities Engineer
Utility Operator
Fireman
Plant Operator
Stationary Steam Engineer
Boiler Engineer
Boiler Tender

Overall Experience:

Previous work-related skill, knowledge, or experience is required for these occupations. For example, an electrician must have completed three or four years of apprenticeship or several years of vocational training, and often must have passed a licensing exam, in order to perform the job. Employees in these occupations usually need one or two years of training involving both on-the-job experience and informal training with experienced workers. A recognized apprenticeship program may be associated with these occupations.

Education Required:

Most occupations in this zone require training in vocational schools, related on-the-job experience, or an associate's degree.

Wages and Employment Trends:

Alger, Delta, Dickinson, Marquette, Menominee, Schoolcraft Counties

Median Wage: \$24.16

Projected Growth Average 2010-2016: 2 Jobs Annually

Projected Need 2010-2016: 12 Employees

Location	2010				
	10 Percentile	25 Percentile	Median	75 Percentile	90 Percentile
6-County	\$19.37	\$22.10	\$24.16	\$26.11	\$27.49
Michigan	\$17.20	\$21.13	\$25.08	\$31.23	\$36.58

Cabinetmakers and Bench Carpenters

Occupation Description:

Cut, shape, and assemble wooden articles or set up and operate a variety of woodworking machines, such as power saws, jointers, and mortisers to surface, cut, or shape lumber or to fabricate parts for wood products.

Related Occupations:

Cabinet Maker
Cabinet Assembler
Frame Builder
Machine Operator
Cabinet Builder
Cabinet Installer
Cutter
Double End Tenon Operator
Framer
Router Operator

Overall Experience:

Previous work-related skill, knowledge, or experience is required for these occupations. For example, an electrician must have completed three or four years of apprenticeship or several years of vocational training, and often must have passed a licensing exam, in order to perform the job. Employees in these occupations usually need one or two years of training involving both on-the-job experience and informal training with experienced workers. A recognized apprenticeship program may be associated with these occupations.

Education Required:

Most occupations in this zone require training in vocational schools, related on-the-job experience, or an associate's degree.

Wages and Employment Trends:

Alger, Delta, Dickinson, Marquette, Menominee, Schoolcraft Counties

Median Wage: \$11.25

Projected Growth Average 2010-2016: 1 Job Annually

Projected Need 2010-2016: 6 Employees

Location	2010				
	10 Percentile	25 Percentile	Median	75 Percentile	90 Percentile
6-County	\$7.98	\$8.95	\$11.25	\$14.76	\$19.03
Michigan	\$9.38	\$11.08	\$14.28	\$18.25	\$22.68

Team Assemblers

Occupation Description:

Work as part of a team having responsibility for assembling an entire product or component of a product. Team assemblers can perform all tasks conducted by the team in the assembly process and rotate through all or most of them rather than being assigned to a specific task on a permanent basis. May participate in making management decisions affecting the work. Team leaders who work as part of the team should be included.

Related Occupations:

Assembler
Assembly Line Machine Operator
Assembly Operator
Assembly Line Worker
Assembly Associate
Certified Composites Technician (CCT)
Operator Technician
Production Line Worker
Assembly Inspector
Assembly Technician

Overall Experience:

Some previous work-related skill, knowledge, or experience is usually needed. For example, a teller would benefit from experience working directly with the public. Employees in these occupations need anywhere from a few months to one year of working with experienced employees. A recognized apprenticeship program may be associated with these occupations.

Education Required:

These occupations usually require a high school diploma.

Wages and Employment Trends:

Alger, Delta, Dickinson, Marquette, Menominee, Schoolcraft Counties

Median Wage: \$15.49

Projected Growth Average 2010-2016: 15 Jobs Annually

Projected Need 2010-2016: 90 Employees

Location	2010				
	10 Percentile	25 Percentile	Median	75 Percentile	90 Percentile
6-County	\$10.17	\$12.66	\$15.49	\$19.03	\$21.89
Michigan	\$9.20	\$11.27	\$14.32	\$17.85	\$23.86

Production Workers

Occupation Description:

Prepare and sort materials or products for recycling. Identify and remove hazardous substances. Dismantle components of products such as appliances.

Related Occupations:

- Machine Operator
- Press Helper
- Service Person
- Support Team Member
- Utility Worker
- Assistant Operator
- Backup Operator
- Clean Up Person
- Factory Laborer
- Factory Worker

Overall Experience:

Little or no previous work-related skill, knowledge, or experience is needed for these occupations. For example, a person can become a waiter or waitress even if he/she has never worked before. Employees in these occupations need anywhere from a few days to a few months of training. Usually, an experienced worker could show you how to do the job.

Education Required:

Some of these occupations may require a high school diploma or GED certificate.

Wages and Employment Trends:

Alger, Delta, Dickinson, Marquette, Menominee, Schoolcraft Counties

Median Wage: \$16.53

Projected Growth Average 2010-2016: 13 Jobs Annually

Projected Need 2010-2016: 78 Employees

Location	2010				
	10 Percentile	25 Percentile	Median	75 Percentile	90 Percentile
6-County	\$10.61	\$12.52	\$16.53	\$21.56	\$24.80
Michigan	\$9.26	\$11.77	\$17.18	\$25.64	\$30.11

Woodworking Machine Setters, Operators, and Tenders

Occupation Description:

Set up, operate, or tend woodworking machines, such as drill presses, lathes, shapers, routers, sanders, planers, and wood nailing machines.

Related Occupations:

- Machine Operator
- Sander Operator
- Computer Numerical Control Operator (CNC Operator)
- Machinist
- Knot Saw Operator
- Lathe Operator
- Molder Operator
- Boring Machine Operator
- Cabinet Maker
- Custom Shop Worker

Overall Experience:

Some previous work-related skill, knowledge, or experience is usually needed. For example, a teller would benefit from experience working directly with the public. Employees in these occupations need anywhere from a few months to one year of working with experienced employees. A recognized apprenticeship program may be associated with these occupations.

Education Required:

These occupations usually require a high school diploma.

Wages and Employment Trends:

Alger, Delta, Dickinson, Marquette, Menominee, Schoolcraft Counties

Median Wage: \$12.56

Projected Growth Average 2010-2016: 10 Jobs Annually

Projected Need 2010-2016: 60 Employees

Location	2010				
	10 Percentile	25 Percentile	Median	75 Percentile	90 Percentile
6-County	\$10.61	\$12.52	\$16.53	\$21.56	\$24.80
Michigan	\$9.26	\$11.77	\$17.18	\$25.64	\$30.11

Sawing Machine Setters, Operators, and Tenders, Wood

Occupation Description:

Set up, operate, or tend wood sawing machines. Includes head sawyers

Related Occupations:

- Sawyer Rip Saw Operator
- Machine Operator
- Saw Operator
- Resaw Operator
- Edgerman
- Bandmill Operator
- Knot Saw Operator
- Planer
- Backup Sawyer

Overall Experience:

Some previous work-related skill, knowledge, or experience is usually needed. For example, a teller would benefit from experience working directly with the public. Employees in these occupations need anywhere from a few months to one year of working with experienced employees. A recognized apprenticeship program may be associated with these occupations.

Education Required:

These occupations usually require a high school diploma

Wages and Employment Trends:

Alger, Delta, Dickinson, Marquette, Menominee, Schoolcraft Counties

Median Wage: \$13.65

Projected Growth Average 2010-2016: 8 Jobs Annually

Projected Need 2010-2016: 64 Employees

Location	2010				
	10 Percentile	25 Percentile	Median	75 Percentile	90 Percentile
6-County	\$9.62	\$11.26	\$13.65	\$16.28	\$19.50
Michigan	\$8.86	\$10.53	\$12.89	\$16.17	\$20.39

Assemblers and Fabricators

Occupation Description:

Fabricate, lay out, position, align, and fit parts of structural metal products.

Related Occupations:

- Sheet Metal Workers
- Aircraft Mechanics and Service Technicians
- Aircraft Structure, Surfaces, Rigging, and Systems Assemblers
- Drilling and Boring Machine Tool Setters, Operators, and Tenders, Metal and Plastic
- Foundry Mold and Coremakers
- Tool and Die Makers
- Welders, Cutters, and Welder Fitters
- Bright Outlook Cabinetmakers and Bench Carpenters
- Molding and Casting Workers

Overall Experience:

Previous work-related skill, knowledge, or experience is required for these occupations. For example, an electrician must have completed three or four years of apprenticeship or several years of vocational training, and often must have passed a licensing exam, in order to perform the job. Employees in these occupations usually need one or two years of training involving both on-the-job experience and informal training with experienced workers. A recognized apprenticeship program may be associated with these occupations.

Education Required:

Most occupations in this zone require training in vocational schools, related on-the-job experience, or an associate's degree.

Wages and Employment Trends:

- Alger, Delta, Dickinson, Marquette, Menominee, Schoolcraft Counties
- Median Wage: \$13.09
- Projected Growth Average 2010-2016: 7 Jobs Annually
- Projected Need 2010-2016: 42 Employees

Location	2010				
	10 Percentile	25 Percentile	Median	75 Percentile	90 Percentile
6-County	\$8.87	\$10.33	\$13.09	\$17.10	\$21.12
Michigan	\$9.60	\$13.27	\$21.20	\$28.97	\$31.38

Inspectors, Testers, Sorters, Samplers, Weighers

Occupation Description:

Inspect, test, sort, sample, or weigh nonagricultural raw materials or processed, machined, fabricated, or assembled parts or products for defects, wear, and deviations from specifications. May use precision measuring instruments and complex test equipment.

Related Occupations:

- Aircraft Structure, Surfaces, Rigging, and Systems Assemblers
- Computer-Controlled Machine Tool Operators
- Metal and Plastic Machinists
- Model Makers, Metal and Plastic
- Multiple Machine Tool Setters, Operators, and Tenders,
- Plastic Printing Machine Operators
- Sewing Machine Operators
- Textile Bleaching and Dyeing Machine Operators and Tenders
- Packaging and Filling Machine Operators and Tenders
- Photographic Processing Machine Operators

Overall Experience:

Some previous work-related skill, knowledge, or experience is usually needed. For example, a teller would benefit from experience working directly with the public. Employees in these occupations need anywhere from a few months to one year of working with experienced employees. A recognized apprenticeship program may be associated with these occupations.

Education Required:

These occupations usually require a high school diploma.

Wages and Employment Trends:

- Alger, Delta, Dickinson, Marquette, Menominee, Schoolcraft Counties
- Median Wage: \$17.14
- Projected Growth Average 2010-2016: 6 Jobs Annually
- Projected Need 2010-2016: 36 Employees

Location	2010				
	10 Percentile	25 Percentile	Median	75 Percentile	90 Percentile
6-County	\$9.95	\$12.50	\$17.14	\$21.77	\$25.39
Michigan	\$9.21	\$12.20	\$16.23	\$23.30	\$30.15

Coating, Painting, and Spraying Machine Setters, Operators

Occupation Description:

Set up, operate, or tend machines to coat or paint any of a wide variety of products including food, glassware, cloth, ceramics, metal, plastic, paper, or wood, with lacquer, silver, copper, rubber, varnish, glaze, enamel, oil, or rust-proofing materials.

Related Occupations:

Coil Winders, Tapers, and Finishers

Grinding, Lapping, Polishing, and Buffing Machine Tool Setters, Operators, and Tenders

Metal and Plastic Molding, Coremaking, and Casting Machine Setters, Operators, and Tenders

Metal and Plastic Welding, Soldering, and Brazing Machine Setters, Operators, and Tenders

Plating and Coating Machine Setters, Operators, and Tenders, Metal and Plastic Bindery Workers

Printing Machine Operators

Extruding and Forming Machine Setters, Operators, and Tenders

Synthetic and Glass Fibers Separating, Filtering, Clarifying, Precipitating, and Still Machine Setters, Operators, and Tenders

Photographic Processing Machine Operators

Overall Experience:

Some previous work-related skill, knowledge, or experience is usually needed. For example, a teller would benefit from experience working directly with the public. Employees in these occupations need anywhere from a few months to one year of working with experienced employees. A recognized apprenticeship program may be associated with these occupations.

Education Required:

These occupations usually require a high school diploma.

Wages and Employment Trends:

Alger, Delta, Dickinson, Marquette, Menominee, Schoolcraft Counties

Median Wage: \$19.54

Projected Growth Average 2010-2016: 6 Jobs Annually

Projected Need 2010-2016: 36 Employees

Location	2010				
	10 Percentile	25 Percentile	Median	75 Percentile	90 Percentile
6-County	\$12.86	\$15.30	\$19.54	\$23.17	\$25.29
Michigan	\$9.01	\$11.14	\$14.48	\$17.86	\$21.10

Paper Goods Machine Setters, Operators, and Tenders

Occupation Description:

Set up, operate, or tend paper goods machines that perform a variety of functions, such as converting, sawing, corrugating, banding, wrapping, boxing, stitching, forming, or sealing paper or paperboard sheets into products.

Related Occupations:

Paper Machine Operator
Folder Machine Operator
Winder Operator
Paper Machine Backtender
Stitching Machine Operator
Paper Cutter Operator
Corrugator Operator
Winderman
Gluer Machine Setup Operator
Knife Operator

Overall Experience:

Some previous work-related skill, knowledge, or experience is usually needed. For example, a teller would benefit from experience working directly with the public. Employees in these occupations need anywhere from a few months to one year of working with experienced employees. A recognized apprenticeship program may be associated with these occupations.

Education Required:

These occupations usually require a high school diploma.

Wages and Employment Trends:

Alger, Delta, Dickinson, Marquette, Menominee, Schoolcraft Counties

Median Wage: \$23.55

Projected Growth Average 2010-2016: 5 Jobs Annually

Projected Need 2010-2016: 30 Employees

Location	2010				
	10 Percentile	25 Percentile	Median	75 Percentile	90 Percentile
6-County	\$20.84	\$21.85	\$23.55	\$25.36	\$27.36
Michigan	\$9.48	\$14.47	\$17.76	\$21.35	\$25.28

Mixing and Blending Machine Setters, Operators, Tenders

Occupation Description:

Set up, operate, or tend machines to mix or blend materials, such as chemicals, tobacco, liquids, color pigments, or explosive ingredients

Related Occupations:

- Ink Blender
- Issuing Operator
- Mixer Operator
- Coater Operator
- Mixer
- Stock Preparation Operator
- Ink Maker
- Machine Operator
- Coater Associate
- Compound Specialist

Overall Experience:

Some previous work-related skill, knowledge, or experience is usually needed. For example, a teller would benefit from experience working directly with the public. Employees in these occupations need anywhere from a few months to one year of working with experienced employees. A recognized apprenticeship program may be associated with these occupations.

Education Required:

These occupations usually require a high school diploma.

Wages and Employment Trends:

Alger, Delta, Dickinson, Marquette, Menominee, Schoolcraft Counties

Median Wage: \$20.29

Projected Growth Average 2010-2016: 5 Jobs Annually

Projected Need 2010-2016: 30 Employees

Location	2010				
	10 Percentile	25 Percentile	Median	75 Percentile	90 Percentile
6-County	\$12.11	\$17.73	\$20.29	\$23.41	\$25.85
Michigan	\$10.41	\$12.37	\$15.59	\$19.00	\$22.48

Molding, Coremaking, and Casting Machine Setters, Operators Tenders

Occupation Description:

Set up, operate, or tend metal or plastic molding, casting, or coremaking machines to mold or cast metal or thermoplastic parts or products.

Related Occupations:

Machine Operator
Production Technician
Process Technician
Injection Press Operator
Die Cast Technician
Press Operator
Core Machine Operator
Eight Arm Operator
Cup Fabricating Machine Operator
Cup Operator

Overall Experience:

Some previous work-related skill, knowledge, or experience is usually needed. For example, a teller would benefit from experience working directly with the public. Employees in these occupations need anywhere from a few months to one year of working with experienced employees. A recognized apprenticeship program may be associated with these occupations.

Education Required:

These occupations usually require a high school diploma.

Wages and Employment Trends:

Alger, Delta, Dickinson, Marquette, Menominee, Schoolcraft Counties

Median Wage: \$14.22

Projected Growth Average 2010-2016: 4 Jobs Annually

Projected Need 2010-2016: 24 Employees

Location	2010				
	10 Percentile	25 Percentile	Median	75 Percentile	90 Percentile
6-County	\$10.36	\$11.71	\$14.22	\$17.10	\$18.94
Michigan	\$8.49	\$10.45	\$13.14	\$17.17	\$21.71

Computer-Controlled Machine Tool Operators, Metal and Plastic

Occupation Description:

Operate computer-controlled machines or robots to perform one or more machine functions on metal or plastic work pieces.

Related Occupations:

Computer Numerical Control Operator (CNC Operator)
Computer Numerical Control Machinist (CNC Machinist)
Machine Operator
Computer Numerical Control Lathe Operator (CNC Lathe Operator)
Computer Numerical Control Machine Operator (CNC Machine Operator)
Computer Numerical Control Mill Operator (CNC Mill Operator)
Production Worker
Brake Press Operator
Computer Numerical Control Set Up Technician (CNC Set Up Technician)
Computer Numerical Control Set-Up Operator (CNC Set-Up Operator)

Overall Experience:

Some previous work-related skill, knowledge, or experience is usually needed. For example, a teller would benefit from experience working directly with the public. Employees in these occupations need anywhere from a few months to one year of working with experienced employees. A recognized apprenticeship program may be associated with these occupations.

Education Required:

These occupations usually require a high school diploma.

Wages and Employment Trends:

Alger, Delta, Dickinson, Marquette, Menominee, Schoolcraft Counties

Median Wage: \$15.39

Projected Growth Average 2010-2016: 4 Jobs Annually

Projected Need 2010-2016: 24 Employees

Location	2010				
	10 Percentile	25 Percentile	Median	75 Percentile	90 Percentile
6-County	\$9.34	\$11.58	\$15.39	\$19.67	\$24.17
Michigan	\$10.84	\$13.07	\$16.68	\$21.40	\$26.32

Printing Machine Operators

Occupation Description:

Set up or operate various types of printing machines, such as offset, letterset, intaglio, or gravure presses or screen printers to produce print on paper or other materials.

Related Occupations:

Pressman
Press Operator
2nd Pressman
Printing Press Operator
Printer
Offset Pressman
1st Pressman
Printing Pressman
Press Helper
Feeder

Overall Experience:

Some previous work-related skill, knowledge, or experience is usually needed. For example, a teller would benefit from experience working directly with the public. Employees in these occupations need anywhere from a few months to one year of working with experienced employees. A recognized apprenticeship program may be associated with these occupations.

Education Required:

These occupations usually require a high school diploma.

Wages and Employment Trends:

Alger, Delta, Dickinson, Marquette, Menominee, Schoolcraft Counties

Median Wage: \$13.75

Projected Growth Average 2010-2016: 3 Jobs Annually

Projected Need 2010-2016: 18 Employees

Location	2010				
	10 Percentile	25 Percentile	Median	75 Percentile	90 Percentile
6-County	\$10.77	\$12.01	\$13.75	\$15.57	\$21.65
Michigan	\$9.54	\$12.34	\$15.34	\$19.44	\$23.62

Welding, Soldering, and Brazing Machine Setters, Operators

Occupation Description:

Set up, operate, or tend welding, soldering, or brazing machines or robots that weld, braze, solder, or heat treat metal products, components, or assemblies.

Related Occupations:

Welder
Fabricator
Finishing Technician
Fitter-Welder
Mig Welder
Robot Operator
Braze Operator
Machine Operator
Spot Welder
Technical Associate (TA)

Overall Experience:

Some previous work-related skill, knowledge, or experience is usually needed. For example, a teller would benefit from experience working directly with the public. Employees in these occupations need anywhere from a few months to one year of working with experienced employees. A recognized apprenticeship program may be associated with these occupations.

Education Required:

These occupations usually require a high school diploma.

Wages and Employment Trends:

Alger, Delta, Dickinson, Marquette, Menominee, Schoolcraft Counties

Median Wage: \$15.10

Projected Growth Average 2010-2016: 2 Jobs Annually

Projected Need 2010-2016: 12 Employees

Location	2010				
	10 Percentile	25 Percentile	Median	75 Percentile	90 Percentile
6-County	\$9.61	\$11.45	\$15.10	\$19.62	\$24.89
Michigan	\$11.42	\$14.21	\$17.90	\$23.86	\$32.01

Cutting, Punching, and Press Machine Setters, Operators

Occupation Description:

Set up, operate, or tend machines to saw, cut, shear, slit, punch, crimp, notch, bend, or straighten metal or plastic material.

Related Occupations:

- Machine Operator
- Press Operator
- Set-Up Operator
- Saw Operator
- Slitter Operator
- Punch Press Operator
- Die Setter
- Adjuster
- Die Cutter
- Machine Setter

Overall Experience:

Some previous work-related skill, knowledge, or experience is usually needed. For example, a teller would benefit from experience working directly with the public. Employees in these occupations need anywhere from a few months to one year of working with experienced employees. A recognized apprenticeship program may be associated with these occupations.

Education Required:

These occupations usually require a diploma.

Wages and Employment Trends:

Alger, Delta, Dickinson, Marquette, Menominee, Schoolcraft Counties

Median Wage: \$13.79

Projected Growth Average 2010-2016: 2 Jobs Annually

Projected Need 2010-2016: 12 Employees

Location	2010				
	10 Percentile	25 Percentile	Median	75 Percentile	90 Percentile
6-County	\$8.75	\$9.80	\$13.79	\$18.13	\$20.15
Michigan	\$10.01	\$11.96	\$15.02	\$19.08	\$30.60

Molders, Shapers, and Casters, Except Metal and Plastic

Occupation Description:

Mold, shape, form, cast, or carve products such as food products, figurines, tile, pipes, and candles consisting of clay, glass, plaster, concrete, stone, or combinations of materials.

Related Occupations:

Stone Cutters and Carvers, Manufacturing
Glass Blowers, Molders, Benders, and Finishers
Potters, Manufacturing
Molding and Casting Workers

Overall Experience:

Some previous work-related skill, knowledge, or experience is usually needed. For example, a teller would benefit from experience working directly with the public. Employees in these occupations need anywhere from a few months to one year of working with experienced employees. A recognized apprenticeship program may be associated with these occupations.

Education Required:

These occupations usually require a high school diploma.

Wages and Employment Trends:

Alger, Delta, Dickinson, Marquette, Menominee, Schoolcraft Counties
Median Wage: \$11.56
Projected Growth Average 2010-2016: 1 Job Annually
Projected Need 2010-2016: 6 Employees

Location	2010				
	10 Percentile	25 Percentile	Median	75 Percentile	90 Percentile
6-County	\$7.96	\$9.10	\$11.56	\$15.02	\$19.58
Michigan	\$10.30	\$12.20	\$14.33	\$17.80	\$23.89

Cementing and Gluing Machine Operators and Tenders

Occupation Description:

Operate or tend cementing and gluing machines to join items for further processing or to form a completed product. Processes include joining veneer sheets into plywood; gluing paper; joining rubber and rubberized fabric parts, plastic, simulated leather, or other materials.

Related Occupations:

Machine Operator
Glue Line Operator
Process Assistant
Utility Worker
Bindery Worker
Coater Operator
Glue Reel Operator
Gluer Machine Operator
Gluing Pressman
Perfect Bind Machine Operator

Overall Experience:

Some previous work-related skill, knowledge, or experience is usually needed. For example, a teller would benefit from experience working directly with the public. Employees in these occupations need anywhere from a few months to one year of working with experienced employees. A recognized apprenticeship program may be associated with these occupations.

Education Required:

These occupations usually require a high school diploma.

Wages and Employment Trends:

Alger, Delta, Dickinson, Marquette, Menominee, Schoolcraft Counties

Median Wage: \$12.28

Projected Growth Average 2010-2016: 1 Job Annually

Projected Need 2010-2016: 6 Employees

Location	2010				
	10 Percentile	25 Percentile	Median	75 Percentile	90 Percentile
6-County	\$7.95	\$9.35	\$12.28	\$15.70	\$19.29
Michigan	\$9.70	\$12.20	\$13.83	\$15.22	\$16.26

Pourers and Casters, Metal

Occupation Description:

Operate hand-controlled mechanisms to pour and regulate the flow of molten metal into molds to produce castings or ingots.

Related Occupations:

Iron Pourer
Metal Handler
Direct Chill Caster (DC Caster)
Casting Machine Operator
Furnace Operator
Melter – Caster
Caster
Caster Operator
Die Cast Operator (DCO)
General Foundry Worker

Overall Experience:

Some previous work-related skill, knowledge, or experience is usually needed. For example, a teller would benefit from experience working directly with the public. Employees in these occupations need anywhere from a few months to one year of working with experienced employees. A recognized apprenticeship program may be associated with these occupations.

Education Required:

These occupations usually require a high school diploma.

Wages and Employment Trends:

Alger, Delta, Dickinson, Marquette, Menominee, Schoolcraft Counties

Median Wage: \$15.89

Projected Growth Average 2010-2016: 1 Job Annually

Projected Need 2010-2016: 6 Employees

Location	2010				
	10 Percentile	25 Percentile	Median	75 Percentile	90 Percentile
6-County	\$9.65	\$11.96	\$15.89	\$20.32	\$24.96
Michigan	\$12.42	\$14.13	\$18.33	\$24.31	\$26.80

Helpers-Production Workers

Occupation Description:

Help production workers by performing duties of lesser skill. Duties include supplying or holding materials or tools, and cleaning work area and equipment.

Related Occupations:

Machine Operator
Press Helper
Service Person
Support Team Member
Utility Worker
Assistant Operator
Backup Operator
Clean Up Person
Factory Laborer
Factory Worker

Overall Experience:

Little or no previous work-related skill, knowledge, or experience is needed for these occupations. For example, a person can become a waiter or waitress even if he/she has never worked before. Employees in these occupations need anywhere from a few days to a few months of training. Usually, an experienced worker could show you how to do the job.

Education Required:

These occupations usually require a high school diploma.

Wages and Employment Trends:

Alger, Delta, Dickinson, Marquette, Menominee, Schoolcraft Counties

Median Wage: \$16.68

Projected Growth Average 2010-2016: 7 Jobs Annually

Projected Need 2010-2016: 42 Employees

Location	2010				
	10 Percentile	25 Percentile	Median	75 Percentile	90 Percentile
6-County	\$9.15	\$11.12	\$16.68	\$19.29	\$21.24
Michigan	\$8.25	\$9.56	\$11.69	\$14.33	\$16.77

First-Line Supervisors/Managers of Production and Operating Workers

Occupation Description:

Supervise and coordinate the activities of production and operating workers, such as inspectors, precision workers, machine setters and operators, assemblers, fabricators, and plant and system operators.

Related Occupations:

Production Supervisor
Manufacturing Supervisor
Shift Supervisor
Team Leader
Production Manager
Plant Manager
Assembly Supervisor
Department Manager
Converting Supervisor
Molding Supervisor

Overall Experience:

Previous work-related skill, knowledge, or experience is required for these occupations. For example, an electrician must have completed three or four years of apprenticeship or several years of vocational training, and often must have passed a licensing exam, in order to perform the job. Employees in these occupations usually need one or two years of training involving both on-the-job experience and informal training with experienced workers. A recognized apprenticeship program may be associated with these occupations.

Education Required:

Most occupations in this zone require training in vocational schools, related on-the-job experience, or an associate's degree.

Wages and Employment Trends:

Alger, Delta, Dickinson, Marquette, Menominee, Schoolcraft Counties

Median Wage: \$25.11

Projected Growth Average 2010-2016: 6 Jobs Annually

Projected Need 2010-2016: 36 Employees

Location	2010				
	10 Percentile	25 Percentile	Median	75 Percentile	90 Percentile
6-County	\$16.58	\$19.30	\$25.11	\$31.47	\$39.19
Michigan	\$15.89	\$20.41	\$26.93	\$35.56	\$43.78