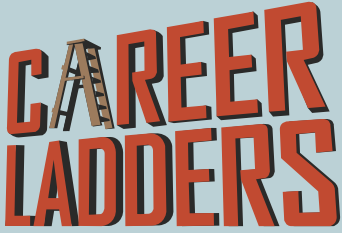


MACHINING SPECIALIST

Machining specialists demonstrate the ability to operate and program a wide variety of machining equipment and produce products that meet the highest quality standards.



JOB TITLES COMMON TO THIS CAREER OCCUPATION INCLUDE:

| | | |
|--|--|---|
| Computer Numeric Control Turning Center Operator | Milling Machine Operator | Outside Diameter/Inside Diameter Grinder Operator |
| Computer Numeric Control Lathe Operator | Boring Mill Operator | Surface Grinder Operator |
| Engine Lathe Operator | Computer Numeric Control Machinist | Centerless Grinder Operator |
| Computer Numeric Control Machining Center Operator | Wire Electrical Discharge Machine Operator | Press Operator |
| | Ram Electrical Discharge Machine Operator | Computer Numeric Control Programmer |

SAGINAW VALLEY

Each ladder depicts a series of work experiences that leads to more challenging and higher paying opportunities. While every level of the ladder can provide a satisfying job, some employees will choose to gain even more skills and responsibilities that will advance them in their careers. To do so, they will need more education, training, and work experiences. Some jobs will require a certificate, a license, or an advanced degree.

CLIMBING THE CAREER LADDER

ADVANCED LEVEL

Bachelor's degree or proven technical skills that can be demonstrated through industry experience

Manufacturing Engineer

\$19.50-\$26.75/hour

Supervisor

\$19.00-\$27.00/hour

MID LEVEL

Associate's degree or equivalent training and experience

Assembly Specialist

\$12.50-\$22.10/hour

Machining Specialist

\$16.00-\$23.50/hour

Fabricating Specialist

\$14.50-\$19.75/hour

ENTRY LEVEL

High school diploma and completion of the Engineering/Manufacturing and Industrial Technology Career Pathway requirements and/or appropriate career and technical education classes

Co-op/Internship Student

\$6.00-\$8.00/hour

Machinist Trainee

\$8.10-\$12.00/hour

Welding Trainee

\$8.10-\$12.00/hour

Wages will vary within this occupation based on the ability of the employee to program and set up the machines. The ability to operate more than one type of machine will also increase the wage and the employee's value to the company.

JOB DESCRIPTION

Each occupation is described in terms of specific tasks and typical job duties.

A MACHINING SPECIALIST MUST BE ABLE TO:

- Read and understand blueprints and other job specifications
- Use precision measuring methods and equipment
- Apply mathematics and perform calculations to determine machine speeds and cutting rates
- Program and set up machinery to produce quality parts
- Communicate with coworkers and supervisors to give and receive instructions and coordinate activities

WAGES

Wage information was obtained from the Michigan Department of Labor and Economic Growth and from local employers to give a general idea of the wages and salaries for this occupation.

WAGE RANGE

\$16.00-\$23.50/hour

WORKING CONDITIONS

Most machine shops are relatively clean. Working around machine tools presents certain dangers. Therefore, employees must wear personal protection equipment such as safety glasses, hearing protection and safety shoes.

EDUCATION AND TRAINING

Courses, programs, and certificates that are needed for employment are offered by local education and training providers.



HIGH SCHOOL

- Completion of high school's Engineering/Manufacturing and Industrial Technology Career Pathway and/or appropriate career and technical education classes
- Algebra
- Geometry
- Trigonometry
- Physics
- Career studies, such as machine tool technology and machine trades programs
- Co-op work experience
- Saginaw/Midland/Bay Michigan Works! automation certificate

COMMUNITY COLLEGE

- Machining certificate
- On-the-job training
- Corporate training
- Transfer credits for associate's degree
- Delta College: individual classes; associate's degree in applied science, skilled trades; bachelor of science transfer programs

UNIVERSITY

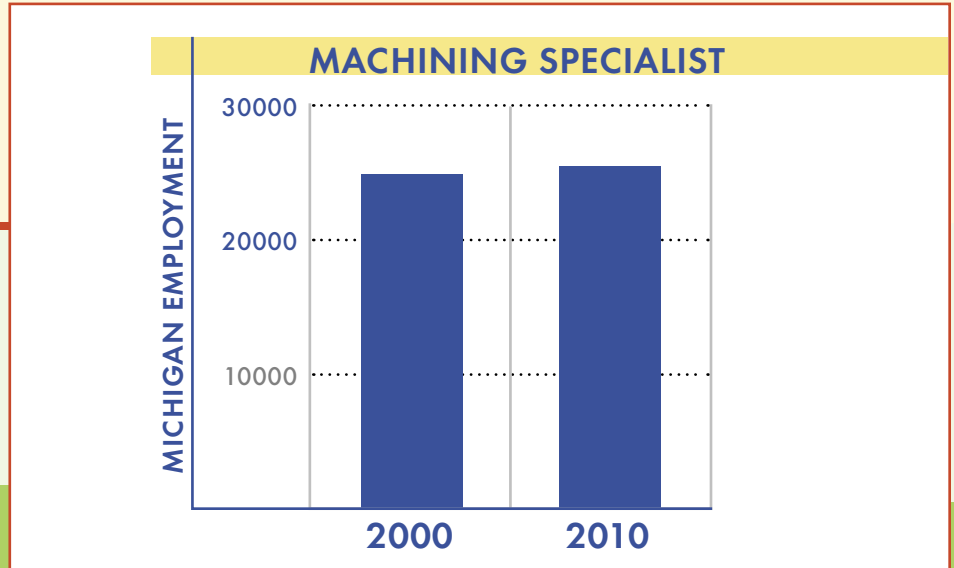
- Saginaw Valley State University: bachelor of science, engineering technology, and management; master of science, technological processes

LOCAL EDUCATION AND TRAINING PROVIDERS

- Local school districts
- Bay-Arenac ISD Career Center
- Saginaw Career Complex
- Saginaw/Midland/Bay Michigan Works!
- Delta College
- Delta Corporate Services
- Davenport University
- Davenport Corporate Services
- Saginaw Valley State University
- Saginaw Valley State University Center for Manufacturing Improvement

JOB OUTLOOK

The rate of growth within this occupation is projected by data from local employers and the Michigan Department of Labor and Economic Growth.



ADVANCEMENT

Machining specialists are responsible for the operation and programming of the newest and most expensive technology in many manufacturing companies. Because of their knowledge and experience they are assigned the more difficult tasks and they are able to train other employees so that they also can increase their skill levels. Other advancement opportunities include team leadership and supervision. As computer-controlled machinery replaces older and less productive equipment, qualified machining specialists will be in high demand.

WHAT THE EMPLOYER SAID



WHAT DO YOU LOOK FOR IN A POTENTIAL EMPLOYEE FOR THIS POSITION?

"The only competitive advantage that a company has is in the people they employ. A potential employee must have the technical skills required for this position, or have proven skill and know-how that can be demonstrated through industry experience. This person must also have a willingness to learn and teach others what he or she knows, work well with people, have good verbal communication skills, be a team player, and a problem solver."

Charles Lange, president and CEO
CIGNYS

STAR PROFILE

This interview is intended to show you what is needed to be a star employee.



EMPLOYEE:
KEVIN LITTLE

OCCUPATION:
GROUP LEADER:
SPECIAL MACHINES

COMPANY:
CIGNYS

TELL US HOW YOU ATTAINED YOUR CURRENT POSITION.

I was looking for a trade and apparently when I interviewed, my boss could see that I really meant it. I have always had a positive attitude and I think that is what got me hired. I started out in an entry-level position at the Shields site and moved up to be a die maker here in Bridgeport. I finished my apprenticeship course at Delta and then became a group leader.

DESCRIBE YOUR TYPICAL DAY.

A typical day includes a lot of problem solving. I must make sure projects are progressing on schedule and see that all of the components are here for assembly. I interact with customers on a regular basis and communicate daily with coworkers and supervisors to make sure that we build the machines and parts right. Sometimes I even travel to deliver an order and make sure the equipment runs the way the customer wants.

WHAT TRAINING AND EDUCATION DID YOU NEED TO ENTER THIS POSITION?

A strong math background is a must. Classes in tool design, metallurgy, and physics are also needed. A great start for someone who is interested in this profession would be to attend the Saginaw Career Complex and then go on to Delta College for their education.

WHAT QUALITIES MAKE SOMEONE A "STAR" IN THIS OCCUPATION?

Star employees are hard working, have a willingness to learn, must be able to work with people, and are not afraid of a challenge. In addition, star employees keep advancing and are not afraid to step out of their comfort zone.

WHAT DO YOU LIKE MOST/LEAST ABOUT YOUR JOB?

There are several things I like most about my job. I like the challenge. I like working with customers and the fact that there is always something different to do. I also like that I am constantly pushing my abilities. As a group leader, the thing I like least is when other people make mistakes and I have to take the responsibility for them.

WHAT ADVICE CAN YOU GIVE SOMEONE SEEKING A JOB IN YOUR FIELD?

Start your schooling early so that way when you enter the job market you are prepared. It is important that you get your education. Completion of classes at the Saginaw Career Complex and earning a certificate from Delta College in machine tool technology are great ways to start.

ARE THERE ANY LICENSES OR CERTIFICATIONS NEEDED FOR YOUR POSITION?

No licenses or certifications are required but they are helpful.

ACKNOWLEDGMENTS

The Career Ladders project began as a Saginaw County Vision 2020 initiative. To date, more than 300 individuals have been involved in the project. It is impossible to list them all, but the Comprehensive Education and Workforce Development Committee appreciates each one and the incredible participation by our major employers and educational institutions, as well as the support from the Arnold and Gertrude Boutell Memorial Fund, The Dow Chemical Company, The Dow Corning Foundation, the Fordney Club, the Hospital Council of East Central Michigan, the Michigan Department of Labor and Economic Growth, the National Tooling and Machining Association – Saginaw Valley Chapter, the Saginaw Community Foundation, the Saginaw County Business and Education Partnership, the Saginaw County Chamber of Commerce Foundation, Saginaw County's local school districts, Saginaw County's Promise, the Saginaw County Vision 2020, the Saginaw Future Inc., the Saginaw/Midland/Bay Michigan Works!, the Saginaw Township Business Association, the Saginaw Valley Manufacturers' Association, and the Saginaw Valley Tech Prep Partnership. We also want to thank NOVA for their guidance.

EQUAL OPPORTUNITY EMPLOYER/PROGRAM. AUXILIARY AIDS AND SERVICES ARE AVAILABLE UPON REQUEST TO INDIVIDUALS WITH DISABILITIES.