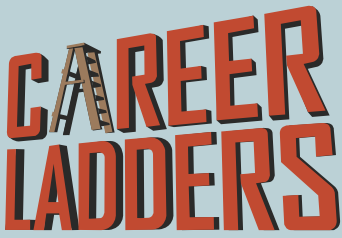


DESIGN SPECIALIST

Design specialists are responsible for providing the services that support and coordinate the engineering efforts with purchasing, manufacturing, and the customer.



JOB TITLES COMMON TO THIS CAREER OCCUPATION INCLUDE:

Computer-Aided Drafting Operator	Project Coordinator	Service Technician
Computer-Aided Drafting Detailer	Rapid Prototype Technician	Expediter
Computer-Aided Drafting Designer	Process/Machine Integrator	

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

Design Engineer

\$20.00-\$30.50/hour

Manager

\$19.00-\$32.00/hour

MID LEVEL

Associate's degree or equivalent training and experience

Design Specialist

\$15.00-\$23.50/hour

Skilled Trades

\$17.85-\$24.00/hour

Manufacturing Support Specialist

\$15.00-\$23.50/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

CAD and Design Trainee

\$8.10-\$12.00/hour

Apprentice

\$8.00-\$15.00/hour

Machinist Trainee

\$8.10-\$12.00/hour

Wages will vary within this occupation based on complexity of the job and the employee's ability to perform them at a high level of accuracy. The extent to which continuing education is pursued 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 DESIGN SPECIALIST MUST BE ABLE TO:

- Produce blueprints from engineering and customer specifications
- Use computer-aided drafting programs and equipment
- Apply mathematics and perform calculations to determine the location of various features on a designed product
- Use writing skills to communicate written thoughts to others, both inside and outside the company
- Work as part of a team, as both a leader and a follower
- 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

\$15.00-\$23.50/hour

WORKING CONDITIONS

A design specialist works in an office and spends most of the time at a computer designing blueprints from engineering and customer specifications. Design specialists may work day, evening, or night shifts in manufacturing companies. They usually work 40-hour weeks but may work overtime when trying to meet a deadline.

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 engineering/computer-aided drafting and pre-engineering
- Co-op work experience
- Saginaw/Midland/Bay Michigan Works! automation certificate

COMMUNITY COLLEGE

- Delta College: individual classes; advanced certificate, computer-aided drafting; associate's in applied science, manufacturing technology; bachelor of science transfer programs
- On-the-job training
- Corporate training

UNIVERSITY

- Saginaw Valley State University: 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

Design specialists are the employees responsible for providing the services that coordinate the engineering efforts with purchasing, manufacturing and the customer. With additional experience and training, they may advance further by increasing their skills and by training other employees. Some design specialists continue their education and become engineers.

WHAT THE EMPLOYER SAID



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

"We look for computer skills, mechanical skills, drafting, and machine shop knowledge in a potential employee."

Tim Weldon, general manager
Miller Mold Company

STAR PROFILE

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



EMPLOYEE:
JIM ALTSCHEFFEL

OCCUPATION:
MOLD DESIGNER

COMPANY:
**MILLER MOLD
COMPANY**

TELL US HOW YOU ATTAINED YOUR CURRENT POSITION.

I started my career early by attending the Bay Arenac Intermediate School District Career Center. My training on lathes, mills, and grinders really paid off when I studied for my apprenticeship. I believe that I obtained my current position because of my skills in computer-aided design and machining. I am thankful for a company that has spent time and money on me and shows that they have the confidence in me that I can fill this position.

DESCRIBE YOUR TYPICAL DAY.

My typical day consists of designing complex components and assemblies to work together to form plastic parts.

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

The training that I needed to enter this position was computer-aided drafting and a knowledge of mechanics. Both are critical for this position. I feel that training in solid molding has been very important for me. In addition, I am still taking classes at Delta College to earn a certification in computer-aided design.

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

To me, the qualities that make someone a "star" in this occupation is anyone who strives for knowledge and excellence and is willing to try to make that "better mousetrap."

WHAT DO YOU LIKE MOST/LEAST ABOUT YOUR JOB?

What I like the most about my job is the challenge and problem solving. However, this also is what I like least about the job, especially when we are up against a deadline, as the stress can be a challenge at times. I do know that with more experience and knowledge the stress will become less with time.

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

The advice I would give to someone starting in this field would be to stress the idea that it is more important to know how to find information and figure out problems than to try to lock all of the pertinent information in their memory.

ARE THERE ANY LICENSES OR CERTIFICATIONS NEEDED FOR YOUR POSITION?

No licenses or certifications are needed for my position, but they certainly would not hurt. I myself am a journeyman tool and die maker with an associate's degree in applied science. My training in skilled trades definitely helps me in design work, not only in a mechanical sense, but also being able to design components that are easier to manufacture from a machinist's perspective.

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.