

Career Focus on...

# Manufacturing Technology

## Introduction

- Do you want to be involved in cutting-edge technology providing a wide range of goods and services?
- Do you like to keep yourself current with the latest technological advances? Do you enjoy problem solving?
- Do you have some computer literacy and basic math skills?

If you have answered yes to these questions, you may want to consider a career in the Manufacturing industry.

## Did You Know... ?

- Manufacturing has some of the most highly skilled – and highly paid – jobs in Massachusetts. The average salary across all employment sectors in Massachusetts is \$55,262; the manufacturing sector in Massachusetts pays an average salary of more than \$69,000.
- Worcester-area manufacturing companies make a variety of products such as aerospace parts, chemicals and pharmaceuticals, machinery, computer and electronics, medical devices, plastics and rubber products, nonmetallic mineral products, paper, printing, and food production.
- United States manufacturing is a rapidly changing industry that continues to evolve in order for companies to remain competitive. Most manufacturing companies now utilize robotics, automation, computers, and programmable equipment to lower costs, increase productivity, and improve quality. Quinsigamond Community College is committed to keeping pace with these industry changes!
- Up and coming industries, such as the renewable energy industry that produces solar panels and wind turbines, rely on manufacturing workers to assemble their products (American Solar Energy Society: [www.ases.org](http://www.ases.org)).

## QCC Alumni Success Story

Matt Copeland is a May 2006 graduate of the Manufacturing Technology Program at Quinsigamond Community College. His interest in the program began while he was working on a job in manufacturing. He liked working in the machine tool industry, so he decided to attend college for a degree in the field. He looked at Quinsigamond Community College initially because of its location and price, but it was also easy to enroll in the program. He was not interested in attending a four-year college, so it appeared to be the perfect fit.

Matt obtained employment at Service Network Inc. after completing a co-op program through Quinsigamond Community College. He is currently employed as a Rebuild Technician at Mass. Rebuilt Sales & Export (MRSE) in West Brookfield, Massachusetts. He enjoys his job because “it’s always changing.” He didn’t want to be stuck pushing a button behind a machine or working on an assembly line. Matt’s position is mostly hands-on using a variety of tools and machinery, but he also reads blueprints and uses micrometers. He remembers studying metrology at QCC which has proved very useful in his current position. He must utilize the blueprints and measuring tools to rebuild the parts to their former specifications. He believes that QCC prepared him fairly well for his field, but there has been a lot of on-the-job training as well. Matt is up to the challenge because he likes doing something different all the time.

## Career Options

### SEMICONDUCTOR PROCESSORS

Median Annual Salary: \$32,230

Recommended Education: High School (H.S.) or Graduate Equivalency Diploma (G.E.D.) plus vocational training, Associate’s Degree (A.S.)  
[www.bls.gov/oco/cg/cgs010.htm](http://www.bls.gov/oco/cg/cgs010.htm)

### PROCESS CONTROL PROGRAMMERS

Median Annual Salary: \$46,010

Recommended Education: H.S. or G.E.D. plus vocational training, Associate’s Degree (A.S.)  
[www.bls.gov/oes/current/oes514012.htm](http://www.bls.gov/oes/current/oes514012.htm)

### ENGINEERING TECHNICIANS

Median Annual Salary: \$53,240

Recommended Education: Associate’s Degree  
[www.bls.gov/oco/ocos112.htm](http://www.bls.gov/oco/ocos112.htm)

### COMMERCIAL AND INDUSTRIAL DESIGNERS

Median Annual Salary: \$57,350

Recommended Education: Bachelor’s Degree  
[www.bls.gov/oco/ocos290.htm](http://www.bls.gov/oco/ocos290.htm)

### INDUSTRIAL PRODUCTION MANAGERS

Median Annual Salary: \$83,290

Recommended Education: Bachelor’s Degree, Master’s Degree  
[www.bls.gov/oco/ocos016.htm](http://www.bls.gov/oco/ocos016.htm)

## Worcester Area Employers

- Intel Corporation
- IPG Photonics
- Wright Line
- FIBA Technology
- Saint-Gobain
- EMC Corporation
- Hyde Tools
- Dexter-Russell
- Seagate Technology
- David Clark Co, Inc.
- Metso Automation, Inc.
- Nypro, Inc.
- Lampin Corporation
- Phillips Precision
- Flexcon Corporation
- JP Mfg, Inc.
- Raytheon
- Slideways, Inc.
- Waters Corp
- Allegro Microsystems

## Other Professionals in the Field

Valerie Knupp, Production Manager at Haas Automation, is responsible for several sub-assembly departments, including tool changers, gearboxes, spindles and, until recently, rotary products. Her background was in managing a trucking company and running the shipping department at Haas before being asked to take over the rotary department. Valerie did not let the fear of learning new equipment on the job stop her from accepting this opportunity. She says, "I'm never quite satisfied with where I am. I'm always looking at what's next."

## Next Steps

Wondering if the field of Manufacturing Technology is right for you?

- Take a Career Assessment to match your interests with potential careers: [www.qcc.mass.edu/t3/ort/sites.html#careerassess](http://www.qcc.mass.edu/t3/ort/sites.html#careerassess)
- Research the web links on this page and more: [www.qcc.mass.edu/t3/ort/sites.html#careerinfo](http://www.qcc.mass.edu/t3/ort/sites.html#careerinfo)
- Conduct an Informational Interview. Speak with a live person employed in this field: [www.qcc.mass.edu/t3/ort/sites.html#infointerview](http://www.qcc.mass.edu/t3/ort/sites.html#infointerview)
- Attend a Career Planning Session: [www.QCC.edu/images/capsession.pdf](http://www.QCC.edu/images/capsession.pdf)
- Speak with an Advisor: [www2.qcc.mass.edu/advising/advCalladvCall.asp](http://www2.qcc.mass.edu/advising/advCalladvCall.asp)
- Speak with QCC Faculty who teach Manufacturing Technology courses.

## Sources Used

Bureau of Labor Statistics, U.S. Department of Labor, *Career Guide to Industries, 2010-11 Edition*

- Machinery Manufacturing: [www.bls.gov/ocol/cg/cgs052.htm](http://www.bls.gov/ocol/cg/cgs052.htm)

Bureau of Labor Statistics, U.S. Department of Labor, *Occupational Outlook Handbook, 2010-2011 Edition*:

- Machinists: [www.bls.gov/ocol/ocos223.htm](http://www.bls.gov/ocol/ocos223.htm)
- Tool and Die Makers: [www.bls.gov/ocol/ocos225.htm](http://www.bls.gov/ocol/ocos225.htm)
- Commercial and Industrial Designers: [www.bls.gov/ocol/ocos290.htm](http://www.bls.gov/ocol/ocos290.htm)

Bureau of Labor Statistics, U.S. Department of Labor, *Occupational Employment Statistics, May 2009*:

- Numerical Tool and Process Control Programmers: [www.bls.gov/oes/current/oes514012.htm](http://www.bls.gov/oes/current/oes514012.htm)

Executive Office of Labor and Workforce Development, Commonwealth Corporation. Massachusetts Manufacturing Chartbook. April 2008. [www.commcorp.org/researchandevaluation/pdf/Manufacturing\\_Chartbook\\_web.pdf](http://www.commcorp.org/researchandevaluation/pdf/Manufacturing_Chartbook_web.pdf)

Massachusetts Career Information System. (2008-2018). Bureau of Labor Statistics Employment Series. [masscis.intocareers.org/default.aspx](http://masscis.intocareers.org/default.aspx)

## Professional Associations

- National Association of Manufacturers: [www.dreamit-doit.org](http://www.dreamit-doit.org)
- Precision Machine Products Association: [www.pmpa.org](http://www.pmpa.org)
- National Tooling and Machining Association: [www.ntma.org](http://www.ntma.org)
- International Association of Machinists and Aerospace Workers – Women's Department: [www.iamaw.org/content.cfm?cID=388](http://www.iamaw.org/content.cfm?cID=388)
- Society of Manufacturing Engineers: [www.sme.org](http://www.sme.org)
- Society of Manufacturing Engineers, Worcester chapter 25: [chapters.sme.org/c025/](http://chapters.sme.org/c025/)

## Positions Entered by QCC Graduates

- Electrical and Electronic Engineering Technicians
- Electromechanical Technicians
- Environmental Engineering Technicians
- Industrial Engineering Technicians
- Mechanical Engineering Technicians
- Mechanical Drafters (w/ QCC CAD certificate)

## Looking for employment, co-op, internship, or service learning opportunities?

Contact the Career Placement Office: [www.QCC.edu/pages/Career\\_Placement.html](http://www.QCC.edu/pages/Career_Placement.html)

## Possible Transfer Schools

Assumption College  
Fitchburg State University

## Looking for Specific Transfer Information?

- Start at the QCC Transfer web site: [www.qcc.mass.edu/transfer](http://www.qcc.mass.edu/transfer)
- Make an appointment online with the Transfer Advisor: [www.qcc.mass.edu/transfer/calendar](http://www.qcc.mass.edu/transfer/calendar)
- Email questions to: [transfer@qcc.mass.edu](mailto:transfer@qcc.mass.edu)