



# MANUFACTURING TECHNOLOGY

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Step into the future at College of DuPage.

Jobs in the manufacturing industry have changed considerably. Gone are the low-skilled, low-pay manufacturing jobs of previous generations. Due to quickly developing and ever-evolving technologies, today's jobs in manufacturing demand much higher skills than ever before. Consequently, these jobs also offer higher pay, better working conditions, and greater opportunity for advancement than ever before. Today's manufacturing companies have been experiencing a skills gap and are scrambling to fill jobs with qualified employees. In addition, about half of the current manufacturing workforce is expected to retire in the next decade, and many who are left are struggling to keep up with the skills necessary to operate today's technologically advanced machines.

The Manufacturing Technology program provides fundamental and advanced education and practice in basic engineering principles, technical skills, and identification and resolution of production problems in product manufacturing. Depending on the chosen discipline, students develop skills in machine operations, production line operations, engineering analysis, systems analysis, instrumentation, physical controls, automation, computer numerical controls (CNC), computer-aided manufacturing (CAM), computer-aided design (CAD), manufacturing planning, materials and quality control.

**For a complete list of courses in this program visit:**

[cod.edu/catalog](http://cod.edu/catalog)

**“Now is a great time to be in manufacturing. In addition to exciting technological developments in the industry, there are also many people retiring, which ensures a growing need for qualified workers.”**

**Tessa Bergmans,  
Human Resources Manager  
Dynomax, Inc.**



## WHY COLLEGE OF DuPAGE IS RIGHT FOR YOU

Whether you are preparing for a career in manufacturing, planning to transfer to a four-year baccalaureate-granting institution, or updating your skills, College of DuPage has the right program for you. We offer:

- Dedicated instructors with years of practical industry experience, certification, and licensing.
- Instruction in top-notch facilities and on cutting-edge equipment.
- Flexible schedules with day, evening, weekend and online learning.
- Practical, hands-on experience as well as classroom-based studies.
- Affordable programs that get you on the fast track to success without breaking the bank.
- Partnerships with more than a dozen local manufacturing firms prepare students and workers for employment and advancement through apprenticeship programs, grants and tuition reimbursement for employees.
- An Advisory Committee made up of industry professionals ensures that College of DuPage's Manufacturing program offers up-to-date training on equipment and in skills that are relevant and in demand by today's employers.

## **ASSOCIATE IN APPLIED SCIENCE (A.A.S.) DEGREES IN MANUFACTURING**

The Manufacturing Technology program provides training in a wide variety of skill areas of product manufacturing and services. The four degree options in the program are Automated Manufacturing Systems, Drafting/ Design, Manufacturing Technology, and Manufacturing Engineering Technology.

### **Automated Manufacturing Systems**

The Automated Manufacturing Systems A.A.S. degree program is designed to prepare the student for careers in computer-aided manufacturing, robotics and numerical control. Students in this program are required to complete 66 credits of coursework, which includes 40 credits in required occupational manufacturing classes, 6 credits in approved manufacturing electives, and 20 credits in required general education classes.

### **Drafting/Design**

The Drafting/Design A.A.S. degree program prepares the student for careers in the drafting and computer-aided design areas. Students in this program are required to complete 65 credits of coursework, which includes 32 credits in required occupational manufacturing classes, 13 credits in approved manufacturing electives, and 20 credits in required general education classes.

### **Manufacturing Technology**

The Manufacturing Technology A.A.S. degree program provides the student with a broad background in the areas of machining, drafting and fluid systems so as to prepare them for entry-level positions as machine operators, machine maintenance personnel and quality control personnel. Students in this program are required to complete 65 credits of coursework, which includes 29 credits in required occupational manufacturing classes, 16 credits in approved manufacturing electives, and 20 credits in required general education classes.

### **Manufacturing Engineering Technology**

The Manufacturing Engineering Technology A.A.S. degree program prepares students for entry-level engineering technician positions in manufacturing. Students in this program are required to complete 65 credits of coursework, which includes 36 credits in required occupational manufacturing classes, 17 credits in math and science classes, and 12 credits in required general education classes.



JAMES FILIPEK

COLLEGE OF DUPAGE  
COORDINATOR  
M & MANUFACTURING

## **CERTIFICATES IN MANUFACTURING TECHNOLOGY**

The Manufacturing Technology department at College of DuPage currently offers five certificate programs designed to enable students to train for entry-level positions and working professionals to upgrade skills.

Additional manufacturing elective courses are highly suggested as a way to gain additional exposure to advanced and emerging technologies, learn about systems not included in the required classes, and gain advantages over stiff competition in the job market.

### **Automated Manufacturing Systems Certificate**

The Automated Manufacturing Systems certificate program prepares students for jobs or advancement in computer-aided manufacturing, robotics and numerical control. Students in this program are required to complete 35 credit hours of coursework in occupational manufacturing classes.

### **Computer-Aided Design Certificate**

The Computer-Aided Design certificate program prepares students for jobs or advancement in industrial design, civil drafting, and computer-aided design technicians. Students in this program are required to complete 24 credits of coursework, which includes 18 credits in required computer-aided design and design classes, and 6 credits in approved elective classes.

### **Computer Numeric Controlled (CNC) Operations Certificate**

The Computer Numeric Controlled Operations certificate program prepares students to work in the manufacturing industry as CNC operators. Students learn operations of (CNC) controlled machining and turning centers.

### **Drafting/Design Certificate**

The Drafting/Design certificate program prepares students for jobs or advancement in the drafting and computer-aided design areas. Students in this program are required to complete 38 credits of design, mechanical and manufacturing-related coursework.

### **Manufacturing Skills Standards Certificate**

The Manufacturing Skills Standards certificate program mirrors the skills and knowledge, as recognized by the Manufacturing Skills Standard Council (MSSC), for core competencies in front-line production and material handling work in the manufacturing industry. Students in this program are required to complete 7 credits in technical mechanics, quality control, and industrial safety.

### **Manufacturing Technology Certificate**

The Manufacturing Technology certificate program prepares students for positions as machine operators, machine maintenance personnel and quality control personnel. Students in this program are required to complete 35 credits of coursework, which includes 29 credits in required manufacturing-related classes, and 6 credits in approved elective classes.



**“The Manufacturing program at College of DuPage gave me the opportunity to move into the future.”**

**—John Moyolt, Manufacturing program alumnus**



## STATE-OF-THE-ART FACILITIES

Facilities for the manufacturing program are housed in the Technical Education Center and feature the newest equipment in industry today. There are five HAAS CNC machining centers, a Milltronics machining center, four HAAS turning centers, a five-axis Machining Center, and a Mitutoyo Coordinate Measuring Machine. In addition, there is a full complement of quality, metrology, design/drafting and metallurgical equipment to provide students with the skills to be successful in the manufacturing industry.

## AVAILABLE SCHOLARSHIPS

Students who are planning to enroll in the Manufacturing Technology program may be qualified to receive a financial award through a variety of supported scholarships.

- Edward R. Valintis Technology Scholarship
- College of DuPage Foundation Returning Adult Scholarship
- Magnetrol/Judy G. Stevenson Scholarship

Visit [cod.edu/scholarships](https://www.cod.edu/scholarships) for requirements and a full list of available scholarships.

## TRANSFER OPPORTUNITIES

The Illinois Articulation Initiative (IAI) facilitates the transfer of students from one Illinois institution to another. Both a general education core curriculum and a lower-division major recommendation course listing have been developed.

For more information on transfer opportunities at College of DuPage, visit [cod.edu/academics/transfer\\_programs](http://cod.edu/academics/transfer_programs).

## EMPLOYMENT OUTLOOK

According to the Occupational Overview, EMSI Q2 2015 Data Set, metal and plastic worker positions will grow in DuPage County by 33.7 percent from 2015-2025. The Occupational Overview also states that the starting wage for workers is \$10.72 per hour with a median wage of \$16.42. The top 25 percent average \$27.84 per hour.

Local industries that recruit from College of DuPage provide higher wages than stated by the Occupational Overview. The starting wage for our students is between \$14-15 per hour. This can be influenced by a student's skill level and experience.

The best indicator for an occupational study is the contact between local industry and College of DuPage. Since the last program review we have averaged 60 inquires per year from companies looking for our students. This not only demonstrates the need for skilled people, but validates the quality of the program here at College of DuPage.



## COMMON CAREERS FOR GRADUATES OF THE MANUFACTURING TECHNOLOGY PROGRAM

- **Computer-Aided Drafter:** Prepares detailed drawings of architectural designs and plans for buildings and structures according to specifications provided by an architect.
- **Industrial Engineering Technician:** Applies engineering theory and principles to problems of industrial layout or manufacturing production, usually under the direction of engineering staff.
- **Machine Operator:** Sets up and operates a variety of machine tools to fabricate, modify, or repair precision parts and instruments.
- **Precision Equipment Repairer/Service Technician:** Repairs, maintains, or installs computers, automated teller machines, and electronic office machines, such as duplicating and fax machines.



“We’re thrilled with the manufacturing program at College of DuPage. The hands-on training the students receive allows them to immediately apply what they’ve learned on the job.”

— Sarah Schindlbeck,  
Training Specialist, Flexco



## GETTING STARTED

If you are considering this program as an area of study:

- Visit our website at [cod.edu/manufacturing](https://cod.edu/manufacturing)
- Consult with a program coordinator, advisor, instructor or specialist:

**Jim Tumavich**, Program Coordinator

Technical Education Center (TEC), (630) 942-2532, [tumavich@cod.edu](mailto:tumavich@cod.edu)

**Tom Lanagan**, Program Faculty

Technical Education Center (TEC), (630) 942-2038, [lanagant@cod.edu](mailto:lanagant@cod.edu)

**Peter Deeman**, Program Advisor

(630) 942-2259

**Bridget McFarland**, Program Support Specialist

Technical Education Center (TEC), (630) 942-8419, [mcfarl@cod.edu](mailto:mcfarl@cod.edu)

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For ADA accommodations, call (630) 942-2141 (voice) or (630) 858-9692 (TDD).

Please call two weeks in advance.

For individuals who need language assistance, please contact Campus Central at (630) 942-2380.



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