



Wayne  
County  
Community  
College  
District

# Manufacturing Technology

## PAY

The median annual wage for industrial machinery mechanics, maintenance workers and millwrights was \$45,750 in May 2019.

## JOB OUTLOOK

Employment of industrial machinery mechanics, maintenance workers, and millwrights is projected to grow 1 percent from 2018 to 2028, with little or no change for all occupations. The need to keep increasingly sophisticated machinery functioning and efficient will drive demand for these workers. Job prospects for qualified applicants should be very good.

*Bureau of Labor Statistics, U.S. Department of Labor, Occupational Outlook Handbook, April 2020, Machinists and Tool and Die Makers, on the Internet at <https://www.bls.gov/ooh/production/machinists-and-tool-and-die-makers.htm>*

## ABOUT THE PROGRAM

The Manufacturing Technology College Certificate and Metrology Short-Term Certificate provide instruction that allows students to become familiar with and use the tools, materials, and processes needed in the manufacturing phase of industry.



Students are also exposed to occupations in the manufacturing field. Certificate courses cover structure of industry, elements of manufacturing, mass production and automation, primary metals industry, casting metal, forging and forming metal, measuring and layout (English and/or metric), machining and finishing metal, fastening and finishing metal, cutting and shaping, assembling and finishing, and opportunities in manufacturing. Each unit includes specific objectives, student competencies and related student activities.

## WHAT DO MANUFACTURING TECHNOLOGISTS AND TECHNICIANS DO?

Machinists typically use blueprints, sketches, or computer-aided design (CAD) and computer-aided manufacturing (CAM) files. Machinists and tool and die makers set up and operate a variety of computer-controlled and mechanically controlled machine tools to produce precision metal parts, instruments, and tools.

**Machinists** use machine tools, such as lathes, milling machines, and grinders, to produce precision metal parts. Many machinists must be able to use both manual and CNC machinery.

**Tool and die makers** construct precision tools or metal forms, called dies, that are used to cut, shape, and form metal and other materials. They produce jigs and fixtures—devices that hold metal while it is bored, stamped, or drilled—and gauges and other measuring devices.

## WHERE DO THEY WORK?

Manufacturing technicians work in factories, businesses with assembly lines, utility companies, print shops, steel mills, oil refineries, automobile plants, and within other industries using fixed machinery.

**Wayne County Community College District....  
Jobs for Today, Jobs for the Future!**

**FOR MORE INFORMATION, CALL 313-496-2600  
OR VISIT OUR WEBSITE AT WWW.WCCCD.EDU**



## Recommended Sequence of Courses

### Manufacturing Technology: College Certificate (CERT-MANT)

CR. No.	COURSE TITLE	CREDITS
<b><u>SEMESTER 1</u></b>		
CNC 111	Introduction to Computer Numerical Control . . . . .	.3
CNC 122	CNC Machine Controls . . . . .	.3
MAN 101	Manufacturing Process I . . . . .	.3
MAN 105	Basic Metrology . . . . .	.3
<b>SEMESTER TOTAL . . . . .</b>		<b>12</b>

### **SEMESTER 2**

CNC 230	CNC Design I . . . . .	.3
CNC 231	CNC Programming and Machining I . . . . .	.3
MAN 115	Manufacturing Processes II . . . . .	.3
MAN 205	Advanced Metrology . . . . .	.3
<b>SEMESTER TOTAL . . . . .</b>		<b>12</b>

### **SEMESTER 3**

CNC 234	CNC Design II . . . . .	.3
CNC 235	CNC Programming and Machining II . . . . .	.3
<b>SEMESTER TOTAL . . . . .</b>		<b>6</b>

### **SEMESTER 4**

MAN 215	Quality and Inspection . . . . .	.3
MAN 225	Introduction to Hard Machining . . . . .	.3
<b>SEMESTER TOTAL . . . . .</b>		<b>6</b>
<b>CERTIFICATE TOTAL . . . . .</b>		<b>36</b>

*Note: Certificate total hours may not include prerequisites.*

### Metrology: Short-Term Certificate (SCERT-MANT)

CR. No.	COURSE TITLE	CREDITS
<b><u>SEMESTER 1</u></b>		
CNC 111	Introduction to Computer Numerical Control . . . . .	.3
MAN 101	Manufacturing Process I . . . . .	.3
MAN 105	Basic Metrology . . . . .	.3
<b>SEMESTER TOTAL . . . . .</b>		<b>9</b>

### **SEMESTER 2**

MAN 115	Manufacturing Processes II . . . . .	.3
MAN 205	Advanced Metrology . . . . .	.3
MAN 215	Quality and Inspection . . . . .	.3
<b>SEMESTER TOTAL . . . . .</b>		<b>9</b>
<b>CERTIFICATE TOTAL . . . . .</b>		<b>18</b>

*Note: Certificate total hours may not include prerequisites.*

