



Wayne  
County  
Community  
College  
District

# Computer Numerical Control

## PAY

The median annual wage for machinists and tool and die makers was \$53,920 in May 2019.

## JOB OUTLOOK

Employment of machinists and tool and die makers is projected to show little or no change from 2018 to 2028. Employment will be affected by advances in technology, changing demand for the goods these workers produce, foreign competition, and the reorganization of the production process. Workers with computer skills who can perform multiple tasks in a machine shop will have the best job opportunities.

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



## ABOUT THE PROGRAM

The Computer Numerical Control Associate of Applied Science Degree and Short-Term Certificate programs prepare students for entry-level positions as CNC operators or programmers. Progressive, technologically modern companies need well-trained operators and programmers. Students learn modern technological methods of computer numerical control (CNC) machine tool operation, as well as writing and editing of CNC machine programs. They also learn practical skills such as: machine setup, cutter diameter and length compensation setting, and on-site modification of existing programs. This program offers extensive hands-on machine shop training demanded by industry.



## WHAT DO COMPUTER NUMERICAL CONTROL PROFESSIONALS DO?

Metal and plastic machine workers set up and operate machines that cut, shape, and form metal and plastic materials or pieces. The switch to computer-controlled machinery requires computer programmers instead of machine setters, operators, and tenders. Computer numerically controlled machine tool programmers develop programs to control the machining or processing of metal or plastic parts by automatic machine tools, equipment, or systems.

## WHERE DO THEY WORK?

Metal and plastic machine workers are employed mainly in factories. Although the work is generally not dangerous, hazards exist and workers must adhere to safety standards. Most work full time, and schedules may include evenings and weekends.

**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

### Computer Numerical Control: Associate of Applied Science Degree (A.A.S.)

CR. No.	COURSE TITLE	CREDITS
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#### **SEMESTER 1**

CNC 111	Introduction to Computer Numerical Control . . . . .	3
CNC 122	CNC Machine Controls . . . . .	3
MAN 101	Manufacturing Processes 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**

Elective	Humanities . . . . .	3
ENG 119	English I . . . . .	3
MAT 113	Intermediate Algebra . . . . .	3
PS 101	American Government . . . . .	3
<b>SEMESTER TOTAL . . . . .</b>		<b>12</b>

#### **SEMESTER 4**

Elective	Natural or Social Science . . . . .	3
ENG 134	Technical Communications . . . . .	3
CNC 234	CNC Design II . . . . .	3
CNC 235	CNC Programming and Machining II . . . . .	3
<b>SEMESTER TOTAL . . . . .</b>		<b>12</b>

#### **SEMESTER 5**

CNC 240	CNC Programming and Machining III . . . . .	3
CNC 245	CNC Intuitive Programming . . . . .	3
MAN 220	Fixture Design and Construction . . . . .	3
MAN 225	Introduction to Hard Machining . . . . .	3
<b>SEMESTER TOTAL . . . . .</b>		<b>12</b>
<b>PROGRAM TOTAL . . . . .</b>		<b>60</b>

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

### Computer Numerical Control Programming and Operation: Short-Term Certificate

CR. No.	COURSE TITLE	CREDITS
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#### **SEMESTER 1**

CNC 111	Introduction to Computer Numerical Control . . . . .	3
CNC 122	CNC Machine Controls . . . . .	3
MAN 101	Manufacturing Processes 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
MAT 113	Intermediate Algebra . . . . .	3
<b>SEMESTER TOTAL . . . . .</b>		<b>12</b>

**CERTIFICATE TOTAL . . . . .24**

*Note: Certificate total hours may not include prerequisites*