

# CNC ENGINEERING TECHNOLOGY, ADVANCED CERTIFICATE



College(s): DA, WR

Program Code: 0448

This program builds on the skills attained in the Manufacturing Technology BC. #Students learn more advanced CNC operational skills, CNC G code programming and Computer Aided Drafting. #Students will have extensive hands on time operating the CNC lathes, mills other CNC machine tools including CNC fabrication equipment to gain confidence in their operation and programming skills. #CNC machining is utilized extensively in industry and operators of this equipment are highly sought after.

## Program Requirements

Code	Title	Hours
<b>Required Program Core</b>		
340MFGT 105	Introduction to Advanced Manufacturing I	3
340MFGT 106	Introduction to Advanced Manufacturing II	3
340MFGT 107	Introduction to Advanced Manufacturing III	3
340MFGT 108	Robotics I	3
340MFGT 109	Introduction to Manual Machining	3
340MFGT 110	CNC I Operations	3
340MFGT 153 or 340MFGT 19	Welding I GMAW Manual Machining II	3
340MFGT 160	CNC II Operations and Programming	3
340MFGT 170	CAD I	3
340MFGT 210	Automated Fabrication I	3
<b>Total Hours</b>		<b>30</b>

## Pathway

This is an **example course sequence** for students interested in pursuing CNC Engineering Technology. This does not represent a contract,

nor does it guarantee course availability. If this pathway is followed as outlined, you will earn Basic Certificates (BC) in Manufacturing Technology and CNC Technology and an Advanced Certificate (AC) in CNC Engineering Technology.

## Semester-by-Semester Program Plan for Full-Time Students

All plans can be modified to fit the needs of part-time students by adding more semesters.

Semester 1		Hours
340MFGT 105	Introduction to Advanced Manufacturing I	3
340MFGT 106	Introduction to Advanced Manufacturing II	3
340MFGT 107	Introduction to Advanced Manufacturing III	3
340MFGT 108	Robotics I	3
340MFGT 110	CNC I Operations	3
<b>Hours</b>		<b>15</b>
Semester 2		
340MFGT 109	Introduction to Manual Machining	3
340MFGT 153 or 340MFGT 195	Welding I GMAW or Manual Machining II	3
340MFGT 160	CNC II Operations and Programming	3
340MFGT 170	CAD I	3
<b>Hours</b>		<b>12</b>
Semester 3		
340MFGT 210	Automated Fabrication I	3
<b>Hours</b>		<b>3</b>
<b>Total Hours</b>		<b>30</b>

## Careers

This program can prepare students for the jobs listed below. Click on each one to learn more, including average earnings, annual job openings, and how much education people in that field have. For additional guidance and resources on career options, current City Colleges students and alumni can contact the Career Services Office (<https://www.ccc.edu/departments/Pages/Career-Services.aspx>).

## Machinists

### Job Description

Set up and operate a variety of machine tools to produce precision parts and instruments out of metal. Includes precision instrument makers who fabricate, modify, or repair mechanical instruments. May also fabricate and modify parts to make or repair machine tools or maintain industrial machines, applying knowledge of mechanics, mathematics, metal properties, layout, and machining procedures.

### Salary Based on Experience Level

Take a look at the average hourly/annual earnings for this career in Cook County

Lightcast earnings figures are based on OES data from the BLS and include base rate, cost of living allowances, guaranteed pay, hazardous-duty pay, incentive pay (including commissions and bonuses), on-call pay, and tips.

#### Annual Wages

Entry-Level 10 <sup>th</sup> Percentile	\$35,890
Median 50 <sup>th</sup> Percentile	\$51,130
Senior-Level 90 <sup>th</sup> Percentile	\$82,160

#### Hourly Wages

Entry-Level 10 <sup>th</sup> Percentile	\$17
Median 50 <sup>th</sup> Percentile	\$25
Senior-Level 90 <sup>th</sup> Percentile	\$39

### Annual Job Openings

482 annual openings in Cook County

### National Education Attainment

Here, you can see the level of education that people in this career complete.

Degree Program	% of Jobs
A high school diploma or less	49.54%
A certificate	33.12%
Some college	17.34%
An Associate degree	0.00%
A Bachelor's degree	0.00%
A Master's or Professional degree	0.00%
A Doctoral degree or more	0.00%

0.00% continue their education beyond an associate degree

## Milling and Planing Machine Setters, Operators, and Tenders, Metal and Plastic

### Job Description

Set up, operate, or tend milling or planing machines to mill, plane, shape, groove, or profile metal or plastic work pieces.

### Salary Based on Experience Level

Take a look at the average hourly/annual earnings for this career in Cook County

Lightcast earnings figures are based on OES data from the BLS and include base rate, cost of living allowances, guaranteed pay, hazardous-duty pay, incentive pay (including commissions and bonuses), on-call pay, and tips.

#### Annual Wages

Entry-Level 10 <sup>th</sup> Percentile	\$50,786
Median 50 <sup>th</sup> Percentile	\$70,086
Senior-Level 90 <sup>th</sup> Percentile	\$77,633

#### Hourly Wages

Entry-Level 10 <sup>th</sup> Percentile	\$24
Median 50 <sup>th</sup> Percentile	\$34
Senior-Level 90 <sup>th</sup> Percentile	\$37

### Annual Job Openings

20 annual openings in Cook County

### National Education Attainment

Here, you can see the level of education that people in this career complete.

Degree Program	% of Jobs
A high school diploma or less	57.00%
A certificate	15.03%
Some college	9.13%
An Associate degree	0.00%
A Bachelor's degree	18.83%
A Master's or Professional degree	0.00%
A Doctoral degree or more	0.00%

18.83% continue their education beyond an associate degree

## Lathe and Turning Machine Tool Setters, Operators, and Tenders, Metal and Plastic

### Job Description

Set up, operate, or tend lathe and turning machines to turn, bore, thread, form, or face metal or plastic materials, such as wire, rod, or bar stock.

### Salary Based on Experience Level

Take a look at the average hourly/annual earnings for this career in Cook County

Lightcast earnings figures are based on OES data from the BLS and include base rate, cost of living allowances, guaranteed pay, hazardous-duty pay, incentive pay (including commissions and bonuses), on-call pay, and tips.

**Annual Wages**

Entry-Level 10 <sup>th</sup> Percentile	\$34,617
Median 50 <sup>th</sup> Percentile	\$46,822
Senior-Level 90 <sup>th</sup> Percentile	\$56,279

**Hourly Wages**

Entry-Level 10 <sup>th</sup> Percentile	\$17
Median 50 <sup>th</sup> Percentile	\$23
Senior-Level 90 <sup>th</sup> Percentile	\$27

**Annual Job Openings**

23 annual openings in Cook County

**National Education Attainment**

Here, you can see the level of education that people in this career complete.

Degree Program	% of Jobs
A high school diploma or less	49.83%
A certificate	11.58%
Some college	28.86%
An Associate degree	0.00%
A Bachelor's degree	0.00%
A Master's or Professional degree	9.62%
A Doctoral degree or more	0.10%

9.72% continue their education beyond an associate degree

**Drilling and Boring Machine Tool Setters, Operators, and Tenders, Metal and Plastic**  
**Job Description**

Set up, operate, or tend drilling machines to drill, bore, ream, mill, or countersink metal or plastic work pieces.

**Salary Based on Experience Level**

Take a look at the average hourly/annual earnings for this career in Cook County

Lightcast earnings figures are based on OES data from the BLS and include base rate, cost of living allowances, guaranteed pay, hazardous-duty pay, incentive pay (including commissions and bonuses), on-call pay, and tips.

**Annual Wages**

Entry-Level 10 <sup>th</sup> Percentile	\$36,136
Median 50 <sup>th</sup> Percentile	\$44,488
Senior-Level 90 <sup>th</sup> Percentile	\$54,129

**Hourly Wages**

Entry-Level 10 <sup>th</sup> Percentile	\$17
Median 50 <sup>th</sup> Percentile	\$21
Senior-Level 90 <sup>th</sup> Percentile	\$26

**Annual Job Openings**

5 annual openings in Cook County

**National Education Attainment**

Here, you can see the level of education that people in this career complete.

Degree Program	% of Jobs
A high school diploma or less	66.64%
A certificate	1.94%
Some college	12.19%
An Associate degree	12.11%
A Bachelor's degree	7.12%
A Master's or Professional degree	0.00%
A Doctoral degree or more	0.00%

7.12% continue their education beyond an associate degree

**Cutting, Punching, and Press Machine Setters, Operators, and Tenders, Metal and Plastic**  
**Job Description**

Set up, operate, or tend machines to saw, cut, shear, slit, punch, crimp, notch, bend, or straighten metal or plastic material.

**Salary Based on Experience Level**

Take a look at the average hourly/annual earnings for this career in Cook County

Lightcast earnings figures are based on OES data from the BLS and include base rate, cost of living allowances, guaranteed pay, hazardous-duty pay, incentive pay (including commissions and bonuses), on-call pay, and tips.

**Annual Wages**

Entry-Level 10 <sup>th</sup> Percentile	\$31,914
Median 50 <sup>th</sup> Percentile	\$40,720
Senior-Level 90 <sup>th</sup> Percentile	\$57,890

**Hourly Wages**

Entry-Level 10 <sup>th</sup> Percentile	\$15
Median 50 <sup>th</sup> Percentile	\$20
Senior-Level 90 <sup>th</sup> Percentile	\$28

**Annual Job Openings**

359 annual openings in Cook County

**National Education Attainment**

Here, you can see the level of education that people in this career complete.

Degree Program	% of Jobs
A high school diploma or less	76.09%
A certificate	16.42%
Some college	7.49%
An Associate degree	0.00%
A Bachelor's degree	0.00%
A Master's or Professional degree	0.00%
A Doctoral degree or more	0.00%

0.00% continue their education beyond an associate degree