

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
Required Program Core		
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
Total Hours		30

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
Hours		15
Semester 2	Hours	
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
Hours		12
Semester 3	Hours	
340MFGT 210	Automated Fabrication I	3
Hours		3
Total Hours		30

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 th Percentile	\$32,256
Median 50 th Percentile	\$49,374
Senior-Level 90 th Percentile	\$77,826

Hourly Wages

Entry-Level 10 th Percentile	\$16
Median 50 th Percentile	\$24
Senior-Level 90 th Percentile	\$37

Annual Job Openings

558 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 th Percentile	\$39,664
Median 50 th Percentile	\$63,480
Senior-Level 90 th Percentile	\$69,071

Hourly Wages

Entry-Level 10 th Percentile	\$19
Median 50 th Percentile	\$31
Senior-Level 90 th Percentile	\$33

Annual Job Openings

39 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 th Percentile	\$36,060
Median 50 th Percentile	\$51,021
Senior-Level 90 th Percentile	\$68,282

Hourly Wages

Entry-Level 10 th Percentile	\$17
Median 50 th Percentile	\$25
Senior-Level 90 th Percentile	\$33

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	70.38%
A certificate	19.58%
Some college	0.60%
An Associate degree	9.43%
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

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 th Percentile	\$28,264
Median 50 th Percentile	\$38,411
Senior-Level 90 th Percentile	\$53,731

Hourly Wages

Entry-Level 10 th Percentile	\$14
Median 50 th Percentile	\$18
Senior-Level 90 th Percentile	\$26

Annual Job Openings

4 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 th Percentile	\$28,394
Median 50 th Percentile	\$35,894
Senior-Level 90 th Percentile	\$54,642

Hourly Wages

Entry-Level 10 th Percentile	\$14
Median 50 th Percentile	\$17
Senior-Level 90 th Percentile	\$26

Annual Job Openings

424 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