

COMPUTER NUMERIC CONTROL MACHINING, ADVANCED CERTIFICATE



College(s): DA*, WR

Program Code: 0725

**This program is no longer accepting new students at Daley College. Please see the CNC Engineering Technology AC (<https://catalog.ccc.edu/academic-program-requirements/CNC-engineering-technology-advanced-certificate/>) program.*

The Advanced Certificate program in Computerized Numerical Control is designed for the study of the basic principles of machine tool technology incorporating basic computer applications to the manufacturing industry, including CNC programming and computer integrated manufacturing (CAD/CAM). The Advanced Certificate program prepares students for roles as CNC tool programmers, operators, setters, as well as tool and die setters. The program is appropriate for career changers, high school graduates, general education diploma holders, and machining workers with a need to enhance their careers.

Program Requirements

Code	Title	Hours
Required Program Core		
ENGLISH 101	Composition	3
MATH 125	Introductory Statistics	4
340MFGT 111	Machining Processes I	3
340MFGT 112	Machining Processes II	3
340MFGT 123	CNC Milling Operations & Programming	3
340MFGT 137	CNC Turning Operations & Programming	3
340MFGT 138	Intro to Solidworks	3
340MFGT 139	Print Requirements-Quality Assurance	3
340MFGT 140	CNC Fundamentals	3
340MFGT 143	Advanced Metrology	3
340MFGT 144	Wire Electrical Discharge Machining	3

340MFGT 207	Introduction to MASTERCAM	3
Total Hours		37

Pathway

This is an **example** course sequence for students interested in earning a certificate in Computerized Numerical Control (CNC) Machining. It does not represent a contract, nor does it guarantee course availability. If this pathway is followed as outlined, you will earn a Basic Certificate and an Advanced Certificate (AC) in Computerized Numerical Control (CNC) Machining.

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.

Course	Title	Hours
Semester 1		
340MFGT 111	Machining Processes I	3
340MFGT 112	Machining Processes II	3
340MFGT 139	Print Requirements-Quality Assurance	3
Hours		9
Semester 2		
340MFGT 138	Intro to Solidworks	3
340MFGT 140	CNC Fundamentals	3
340MFGT 143	Advanced Metrology	3
MATH 125	Introductory Statistics	4
Hours		13
Semester 3		
340MFGT 123	CNC Milling Operations & Programming	3
340MFGT 137	CNC Turning Operations & Programming	3
340MFGT 144	Wire Electrical Discharge Machining	3
340MFGT 207	Introduction to MASTERCAM	3
Hours		12

Semester 4		
ENGLISH 101	Composition	3
	Hours	3
Total Hours		37

Choose your courses with your College Advisor.

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>).

Tool and Die Makers

Job Description

Analyze specifications, lay out metal stock, set up and operate machine tools, and fit and assemble parts to make and repair dies, cutting tools, jigs, fixtures, gauges, and machinists' hand tools.

Salary Based on Experience Level

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

Emsi 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	\$35,575
Median 50 th Percentile	\$54,584
Senior-Level 90 th Percentile	\$80,887

Hourly Wages

Entry-Level 10 th Percentile	\$17
Median 50 th Percentile	\$26
Senior-Level 90 th Percentile	\$39

Annual Job Openings

123 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	49.28%
A certificate	40.85%
Some college	0.00%
An Associate degree	9.87%
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

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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

Emsi 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	\$26,941
Median 50 th Percentile	\$43,998
Senior-Level 90 th Percentile	\$69,198

Hourly Wages

Entry-Level 10 th Percentile	\$13
Median 50 th Percentile	\$21
Senior-Level 90 th Percentile	\$33

Annual Job Openings

913 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

Multiple Machine Tool Setters, Operators, and Tenders, Metal and Plastic

Job Description

Set up, operate, or tend more than one type of cutting or forming machine tool or robot.

Salary Based on Experience Level

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

Emsi 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	\$23,705
Median 50 th Percentile	\$36,453
Senior-Level 90 th Percentile	\$55,428

Hourly Wages

Entry-Level 10 th Percentile	\$11
Median 50 th Percentile	\$18
Senior-Level 90 th Percentile	\$27

Annual Job Openings

440 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	82.78%
A certificate	7.64%
Some college	5.64%
An Associate degree	3.94%
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

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

Emsi 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	\$24,273
Median 50 th Percentile	\$36,046
Senior-Level 90 th Percentile	\$53,692

Hourly Wages

Entry-Level 10 th Percentile	\$12
Median 50 th Percentile	\$17
Senior-Level 90 th Percentile	\$26

Annual Job Openings

349 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