

# MECHATRONICS ENGINEERING TECHNOLOGY, ADVANCED CERTIFICATE



College(s): DA

Program Code: 0452

This Advanced Certificate is for those students looking to work within industrial maintenance, the field of automation and with robotics and PLCs (Programmable Logic Controls). Students will study mechanical skills necessary for repairing, installing and modifying industrial mechatronic systems and practice these skills in the hands on labs for PLCs, robotics, mechanisms and automation. Mechatronic skills are desired by manufacturers for roles in automating and maintaining production systems. Companies are looking for employees with these skills in the automated warehouse, automotive assembly and various automated manufacturing industries.

## 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 195	Welding I GMAW or Manual Machining II	3
340MFGT 188	Industrial Electricity I	3
340MFGT 189	Industrial Electricity II - Motors	3
340MFGT 288	Industrial Electricity III - PLC's I	3
<b>Total Hours</b>		<b>30</b>

## Pathway

This is an **example course sequence** for students interested in pursuing Mechatronics 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 Mechatronics 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 153 or 340MFGT 195	3
Welding I GMAW or Manual Machining II	
<b>Hours</b>	<b>15</b>
Semester 2	Hours
340MFGT 109 Introduction to Manual Machining	3
340MFGT 110 CNC I Operations	3
340MFGT 188 Industrial Electricity I	3
340MFGT 189 Industrial Electricity II - Motors	3
340MFGT 288 Industrial Electricity III - PLC's I	3
<b>Hours</b>	<b>15</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>).

## Industrial Machinery Mechanics

### Job Description

Repair, install, adjust, or maintain industrial production and processing machinery or refinery and pipeline distribution systems. May also install, dismantle, or move machinery and heavy equipment according to plans.

### 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	\$41,837
Median 50 <sup>th</sup> Percentile	\$63,229
Senior-Level 90 <sup>th</sup> Percentile	\$83,705

#### Hourly Wages

Entry-Level 10 <sup>th</sup> Percentile	\$20
Median 50 <sup>th</sup> Percentile	\$30
Senior-Level 90 <sup>th</sup> Percentile	\$40

### Annual Job Openings

295 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	39.09%
A certificate	47.22%
Some college	0.00%
An Associate degree	13.70%
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

## Electro-Mechanical and Mechatronics Technologists and Technicians

### Job Description

Operate, test, maintain, or adjust unmanned, automated, servomechanical, or electromechanical equipment. May operate unmanned submarines, aircraft, or other equipment to observe or record visual information at sites such as oil rigs, crop fields, buildings,

or for similar infrastructure, deep ocean exploration, or hazardous waste removal. May assist engineers in testing and designing robotics equipment.

### 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	\$71,386
Median 50 <sup>th</sup> Percentile	\$123,531
Senior-Level 90 <sup>th</sup> Percentile	\$134,327

#### Hourly Wages

Entry-Level 10 <sup>th</sup> Percentile	\$34
Median 50 <sup>th</sup> Percentile	\$59
Senior-Level 90 <sup>th</sup> Percentile	\$65

### Annual Job Openings

6 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	10.83%
A certificate	31.72%
Some college	7.33%
An Associate degree	29.83%
A Bachelor's degree	10.97%
A Master's or Professional degree	5.59%
A Doctoral degree or more	3.72%

20.28% continue their education beyond an associate degree

## Robotics Technicians

### Job Description

Build, install, test, or maintain robotic equipment or related automated production systems.

### 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	\$71,386
Median 50 <sup>th</sup> Percentile	\$123,531
Senior-Level 90 <sup>th</sup> Percentile	\$134,327

### Hourly Wages

Entry-Level 10 <sup>th</sup> Percentile	\$34
Median 50 <sup>th</sup> Percentile	\$59
Senior-Level 90 <sup>th</sup> Percentile	\$65

### Annual Job Openings

6 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	9.09%
A certificate	22.73%
Some college	0.00%
An Associate degree	45.45%
A Bachelor's degree	22.73%
A Master's or Professional degree	0.00%
A Doctoral degree or more	0.00%

22.73% continue their education beyond an associate degree

## Electrical and Electronics Repairers, Commercial and Industrial Equipment

### Job Description

Repair, test, adjust, or install electronic equipment, such as industrial controls, transmitters, and antennas.

### 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	\$48,424
Median 50 <sup>th</sup> Percentile	\$64,807
Senior-Level 90 <sup>th</sup> Percentile	\$97,345

### Hourly Wages

Entry-Level 10 <sup>th</sup> Percentile	\$23
Median 50 <sup>th</sup> Percentile	\$31
Senior-Level 90 <sup>th</sup> Percentile	\$47

### Annual Job Openings

34 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	22.02%
A certificate	32.27%
Some college	0.00%
An Associate degree	45.71%
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