MECHATRONICS ENGINEERING TECHNOLOGY, ASSOCIATE IN APPLIED SCIENCE

College(s): DA

Program Code: 0453

The Mechatronics Engineering Technology Associate in Applied Science degree 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. Industrial Maintenance technicians are needed in every manufacturing production facility to maintain, repair and install the equipment utilized in the production processes manufacturing companies utilize. In addition to careers in industry, students are able to continue their studies in Bachelor's degree programs if desired.

Program Requirements

Code	Title	Hours
General Education Requirements [1]		
MATH 140	College Algebra	4
ENGLISH 101	Composition	3
Social and Behavioral Sciences		3
Fine Arts/Humanities		3
Physical Sciences/Life Sciences		3
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	Welding I GMAW	3
or 340MFGT 19	Manual Machining II	
340MFGT 188	Industrial Electricity I	3
340MFGT 189	Industrial Electricity II - Motors	3
340MFGT 208	ROBOTICS II - ROBOTC INTEGRATION	3
340MFGT 209	Computer Aided Manufacturing (CAM) I	3
340MFGT 287	Maintenance Technologies I	3
340MFGT 288	Industrial Electricity III - PLC's I	3
340MFGT 289	INDUSTRIAL ELECTRICITY IV - PLC'S II	3
340MFGT 290	Process Technology I	3
Total Hours		**61**

[1] At least one course must meet the Human Diversity (HD) (https://catalog.ccc.edu/hd/) requirement.

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) and Associate in Applied Science (AAS) 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 188	Industrial Electricity I	3
	Hours	**15**
Semester 2		
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 189	Industrial Electricity II - Motors	3
ENGLISH 101	Composition [1]	3
	Hours	**15**
Semester 3		
340MFGT 209	Computer Aided Manufacturing (CAM) I	3
340MFGT 288	Industrial Electricity III - PLC's I	3
340MFGT 290	Process Technology I	3
Social and Behavioral Sciences course (HD) [1]		3
MATH 140	College Algebra [1]	4
	Hours	**16**
Semester 4		
340MFGT 208	ROBOTICS II - ROBOTC INTEGRATION	3
340MFGT 287	Maintenance Technologies I	3
340MFGT 289	INDUSTRIAL ELECTRICITY IV - PLC'S II	3
Fine Arts/Humanities course (HD) [1]		3
Physical Sciences/Life Sciences course [1]		3
	Hours	**15**
	Total Hours	**61**

[1] General Education course

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).

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 10th Percentile	$46,265
Median 50th Percentile	$66,742
Senior-Level 90th Percentile	$88,122

Hourly Wages

Entry-Level 10th Percentile	$22
Median 50th Percentile	$32
Senior-Level 90th Percentile	$42

Annual Job Openings

338 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 10th Percentile	$50,984
Median 50th Percentile	$126,467
Senior-Level 90th Percentile	$138,166

Hourly Wages

Entry-Level 10th Percentile	$25
Median 50th Percentile	$61
Senior-Level 90th Percentile	$66

Annual Job Openings

8 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 10th Percentile	$50,984
Median 50th Percentile	$126,467
Senior-Level 90th Percentile	$138,166

Hourly Wages

Entry-Level 10th Percentile	$25
Median 50th Percentile	$61
Senior-Level 90th Percentile	$66

Annual Job Openings

8 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 10th Percentile	$57,261
Median 50th Percentile	$74,778
Senior-Level 90th Percentile	$116,944

Hourly Wages

Entry-Level 10th Percentile	$28
Median 50th Percentile	$36
Senior-Level 90th Percentile	$56

Annual Job Openings

28 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

Industrial Engineering Technologists and Technicians

Job Description

Apply engineering theory and principles to problems of industrial layout or manufacturing production, usually under the direction of engineering staff. May perform time and motion studies on worker operations in a variety of industries for purposes such as establishing standard production rates or improving efficiency.

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 10th Percentile	$45,617
Median 50th Percentile	$67,519
Senior-Level 90th Percentile	$97,365

Hourly Wages

Entry-Level 10th Percentile	$22
Median 50th Percentile	$32
Senior-Level 90th Percentile	$47

Annual Job Openings

70 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	21.64%
A certificate	1.25%
Some college	36.92%
An Associate degree	25.54%
A Bachelor's degree	14.65%
A Master's or Professional degree	0.00%
A Doctoral degree or more	0.00%

14.65% continue their education beyond an associate degree