

# ENGINEERING, MANUFACTURING AND INDUSTRIAL TECHNOLOGY MECHATRONICS & ROBOTICS



## **PROGRAM LOCATION**

LCC West Campus

## **SESSION OFFERED**

AM

## **AVERAGE LECTURE DAYS/WEEK**

2-3 days

## **AVERAGE LAB DAYS/WEEK**

2-3 days

## **HOMEWORK**

Rarely

## **REQUIRED READING**

College level textbooks & manuals



**EXPLORE THE POSSIBILITIES.  
FAST TRACK YOUR FUTURE.**

After an introduction to industrial workplace safety, including the ability to earn First Aid and CPR/AED certifications, students will focus on the installation and repair of electrical, hydraulic, pneumatic and digital controls that operate Automated Mechanical and Robotic Systems.

## EXPECTED STUDENT OUTCOMES

- Describe the scope and application of Local, State and Federal safety regulations as they apply to both industrial and construction worksites
- Describe appropriate safety procedures
- Explain the basics of fire, building and facility safety
- Demonstrate knowledge of basic first aid
- Describe the basic physical properties of hydraulic and pneumatic systems
- Trace and describe the flow of energy in a given hydraulic or pneumatic system
- Correct malfunctions in hydraulic or pneumatic circuits
- Apply safety rules while working on a robotic system
- Perform robot start up; control coordinate systems and motion systems
- Copy, delete and edit programs
- Program instructions
- Define and spell electric vocabulary
- Solve series, parallel and combination DC circuit problems
- Construct basic circuits and measure electrical quantities using multimeters, ammeters, ohmmeters and wattmeters

## CAREERS

Manufacturing Production Technician  
Robotics Technician  
Mechanical Engineering Technician  
Electronics Engineering Technician

## MEDIAN WAGE

Manufacturing Production Technician: \$29.96 hourly, \$62,330 annually  
Robotics Technician: \$26.74 hourly, \$55,610 annually  
Mechanical Engineering Technician: \$26.19 hourly, \$54,480 annually  
Electronics Engineering Technician: \$29.90 hourly, \$62,190 annually

## EMPLOYMENT OUTLOOK

Average, 5-9%

## CERTIFICATIONS

CPR/First Aid  
OSHA 10 Certification

## SUCCESS INDICATORS

Mechanically inclined, detail oriented, focused, good at troubleshooting, have strong hand/eye coordination, able to read and understand service manuals, and have strong communication skills.

## STUDENT LEADERSHIP

Students have the opportunity for leadership, competition, and community service through membership in SkillsUSA.

## 13 COLLEGE CREDITS

METS 102 - Industrial Safety  
ELTE 108 - Practical Electricity I  
ELTE 109 - Practical Electricity II  
METS 125 - Intro to Hydraulics/Pneumatics  
METS 160 - Introduction to Robotics

## ACADEMIC RIGOR

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## CAPITAL REGION TECHNICAL EARLY COLLEGE

Students enrolled in this program may choose to participate in the Capital Region Technical Early College (CRTEC). Capital Region Technical Early College is a high school-to-college program where students start in grade 11 and leave in grade 13 with a college degree or certification. The program gives students relevant career-related experience.



**ENROLL NOW!**

CONTACT YOUR COUNSELOR OR CALL 517.483.9966

**[WWW.EATONRESA.ORG/CPC](http://WWW.EATONRESA.ORG/CPC)**