

ENGINEERING, MANUFACTURING AND INDUSTRIAL TECHNOLOGY ROBOTICS & AUTOMATION



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.

