

TECHNOLOGY STUDIES: MECHATRONICS AUTOMATION TECHNICIAN CERTIFICATE

Program code: MATC-CC-COT

Location: Quinebaug Valley

Program Description

The Mechatronics Automation Technician certificate provides students with the opportunity to train in a hands-on manufacturing lab environment. Throughout the duration of their training, students will develop an advanced level of skillsets in electrical, electronic, and mechanical principles as applied to the design and operation of modern, high-speed manufacturing and assemble equipment. Completing this certificate will provide the student requisite skills necessary to troubleshoot any electronic or mechanical problems associated with in the manufacturing environment, health industry, distribution systems, machining industry, wholesale, retail, warehouse, and engineering. These skills will lead directly into a career in the field of automation, CNC/Machine maintenance & repair, and/or robotics in manufacturing companies throughout the state and nation. This program was developed in response to Connecticut manufacturers' needs for a highly skilled workforce to match the needs of the regional industry sector partnerships around the state of Connecticut that graduates of the program are placed with. The student who completes the Mechatronics Automation Technician certificate program has a choice to pursue employment and/or to matriculate in an associate degree program. Many students work in the field while coming through this program through an apprenticeship program or fulltime employment. This allows students to apply what they have learned directly to the needs of their employer.

Learning Outcomes

1. Apply knowledge of theory and principles related to mechanics, electronics, computer science, and process control.
2. Apply critical thinking and problem-solving skills to troubleshoot electromechanical, hydraulic, and pneumatic automation systems.
3. Apply logical reasoning and mathematics to analysis of automation systems and their components.
4. Communicate technical information clearly.
5. Apply soft skills effectively to help gain employment and be successful in the workplace.
6. Understand and follow basic shop safety guidelines and protocol.

Certificate Requirements

Code	Title	Credits
Required Courses		
MFG 1330	Mathematics for Electricity and Electronics	3
MFG 1337 or MFG 1362	Circuit Theory CNC Maintenance and Repair	3
MFG 1338	Digital Fundamentals	3
MFG 1340	Robotics	3
MFG 1342	Electronic Circuits and Devices	3
MFG 1343	Industrial Motor Controls	3

MFG 1344	Hydraulics and Pneumatics	3
MFG 1345	Electronic Variable Speed Drive	3
MFG 1346	Programmable Logic Controllers	3
MFG 1359	Industrial Maintenance	3
MFG 1415	Safety in the Workplace	1
MFG 1479	Career Awareness for Manufacturing	1
Total Credits		32

- Technology Studies: Mechatronics Automation Technician, AS