

TECHNOLOGY STUDIES: ROBOTICS AND MECHATRONICS TECHNICIAN, AS

Program code: RMTH-AS-COT

Location: Asnuntuck

Program Description

As part of the Connecticut College of Technology (COT), the Technology Studies A.S. degree provides the knowledge and skills within specific high-demand technology fields. The program consists of lecture and lab course work in engineering, technology, industrial technology, mathematics, sciences, and foundational requirements that provide a solid comprehensive background for continuation in a four-year technology degree program or entry into the workforce. Upon completion of a Technology Studies A.S. degree, students can transfer to Central CT State University or the University of Hartford to complete designated B.S. degrees.

This program has an embedded Robotics and Mechatronics Technician Certificate.

Learning Outcomes

1. Apply mathematical, scientific and technological principles and concepts to identify and formulate solutions to technical problems.
2. Apply critical thinking and problem-solving skills to solve technical problems.
3. Demonstrate the ability to function on teams.
4. Recognize the need to engage in life-long learning.

Robotics and Mechatronics Learning Outcomes

1. Technical knowledge of the electrical sciences vital to automated electric power systems, control systems, communication systems, and sensing systems.
2. Technical knowledge of hydraulic and pneumatic fluid power generation, transmission, control, and maintenance.
3. Technical knowledge of mechanical control systems, timing systems, and power transmission systems from a maintenance and repair perspective.
4. Technical knowledge of the generation, logic, and application of digital signals as applied in automated mechatronic systems.
5. Practical knowledge of robotic systems that would include function, operation, programming, and maintenance of multiple industry leading robot vendors.
6. Skill in the maintenance of mechatronic systems, the diagnosis of root causes of points of failure in those systems, and the strategies of troubleshooting solutions.
7. Extensive on campus maintenance and repair practicum with state-of-the-art educational systems constructed of components from industry leading vendors including Fanuc, Festo, Siemens, Rockwell Automation, Allen Bradley, ABB, Bridgeport, Microsoft, et al.

Degree Requirements

Code	Title	Credits
Technology Studies General Education Core		
ENG 1010	Composition	3
MATH 1610	Precalculus	4
ART Elective (course vetted for ARHX)		3
CHEM 1110	Concepts of Chemistry	4
or CHEM 1210		General Chemistry I
Elective HISX - Historical Knowledge Course or Elective SBSX course in ECON		3
ENG 1080	Composition II: Technical Writing	3
or COMM 1301		Public Speaking
CCS 1001	College and Career Success	3
Technology Studies Program Core		
PHYS 1201	General Physics I	4
or PHYS 2201		Calculus-Based Physics I
Elective BHEL - Behavioral Science Elective - choose an ANTH, PSY or SOC course		3
MATH 1200	Statistics I	3-4
or MATH 1201		Statistics I with Computer Applications
Robotics and Mechatronics Tech Courses		
MFG 1330	Mathematics for Electricity and Electronics	3
MFG 1220	Digital Concepts	3
MFG 1250	Robotic Automation	3
MFG 1210	Circuit Design and Diagnostics	4
MFG 1240	Motor Controls for Automation	3
MFG 1245	Programmable Logic Controllers Applications	3
MFG 1230	Industrial Fluid Power	3
MFG 1235	Industrial Maintenance, Service and Repair	3
MFG 1225	Digital Controls	3
MFG 1200	Automation Fundamentals	3
MFG 1415	Safety in the Workplace	1
Total Credits		65-66

- Technology Studies: Robotics and Mechatronics Technician Certificate