



MECHATRONICS CERTIFICATE

Offered at these campuses:
N North Campus (Williamsville)

Mechatronics is a new and emerging career that trains technicians with “multi-craft” skills and applies them within a manufacturing environment. Skills taught include electrical, mechanical, hydraulics, pneumatics, robotics, and computer technologies. Mechatronics Technicians who support Advanced Manufacturing will usually assist the design, development and engineering staff, as well as work closely with others to install, maintain, modify and repair mechatronic systems, equipment and component parts.

The goal of the Mechatronics Certificate Program at Erie Community College is to prepare students for employment as production technicians in manufacturing locations throughout the Buffalo-Niagara Region. It is a two-semester program comprising 32 credit hours of training and development in electrical/pneumatic/hydraulic motors, controls, and actuators; mechanical drives and controls; blueprint/schematic interpretation; robotics; and other competencies necessary for employment in the field of Advanced Manufacturing. This certificate program leads to a pathway for achieving an AOS degree in Industrial Technology.

CAREER PATHS

Industrial machinery mechanics; machinery maintenance workers; automation repair technician; millwrights.

PROGRAM COMPETENCIES

Upon completion of a certificate in Mechatronics, students will be able to:

- identify common safety and personal protective equipment as well as safe job practices associated with electrical, mechanical, hydraulic, and pneumatic systems;
- demonstrate an understanding of the specific applications of various electrical components within a given system;
- recognize and identify electrical components from diagrams, physical representations, or other symbolic information;
- read and interpret pneumatic and hydraulic diagrams;
- demonstrate proficiency in the assembly and troubleshooting of basic mechatronic systems;
- demonstrate proficiency in programming Programmable Logic Controllers to perform basic relay, timer and counter instructions and perform basic troubleshooting on electro-mechanical and PLC systems; and
- demonstrate the correct use of hand tools and electrical diagnostic equipment including digital multi-meters, oscilloscopes, and related instruments.

CURRICULUM

Total Degree Credits: **32.0**

FALL SEMESTER

MH 100 Fundamentals of Electronics	3 cr
MH 102 Commercial and Industrial Wiring	4 cr
MH 104 Industrial Print Fundamentals	3 cr
MH 106 Pneumatics and Hydraulics	3 cr

SPRING SEMESTER

MH 140 Motor Control	3 cr
MH 142 Industrial Robotics and Automation	3 cr
MH 144 Industrial Programmable Logic Controllers	3 cr
MH 146 Mechanical Systems	3 cr

CONTACT

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