# ROBOTICS AND MANUFACTURING ENGINEERING TECHNOLOGY

# (Previous program name: Manufacturing Engineering Technology)

# Program Objectives

Graduates from RIT's Robotics & Manufacturing Engineering Technology Program will be:

* Leaders in an industrial workplace with strong ethics and communications skills; able to participate on and lead teams with diverse technical and personal backgrounds.
* Able to apply statistically based quality principles as well as automation, robotics, and controls to produce successful products while minimizing production costs.
* Able to understand the economics of the entire manufacturing cycle, including domestic and international supply chain management.
* Able to integrate a broad practical manufacturing engineering technology background with current advances in materials, manufacturing, electronics, controls, and data analysis to produce cutting edge sustainable products.
* Life-long-learners who are able to grow professionally by seeking out opportunities for training and certifications.

# Student Outcomes

Graduates will be able to:

1. apply knowledge, techniques, skills and modern tools of mathematics, science, engineering, and technology to solve broadly-defined engineering problems appropriate to the discipline;
2. design systems, components, or processes meeting specified needs for broadly-defined engineering problems appropriate to the discipline;
3. apply written, oral, and graphical communication in broadly-defined technical and non-technical environments; and an ability to identify and use appropriate technical literature;
4. conduct standard tests, measurements, and experiments and to analyze and interpret the results to improve processes; and
5. function effectively as a member as well as a leader on technical teams.

# Program Specific Content

Graduates will have a background in

* automatic control, including measurement, feedback and feedforward regulation;
* design and implementation of systems utilizing analog and/or digital control devices;
* programmable logic controllers (PLC), distributed control systems (DCS) and supervisory control systems;
* development of robotic systems;
* chemistry, physics, and electricity/electronics;
* digital and microprocessor systems and functionality of system components/devices;
* measurements and sensor selection;
* mechanics, fluid mechanics, and heat transfer
* materials and manufacturing processes;
* product design process, tooling, and assembly;
* manufacturing systems, automation, and operations;
* statistics, quality and continuous improvement;
* industrial organization and management.