

Robotics, Certificate

TECHNICIAN I

School of Technology

A Robotics Technician I will function as a skilled technician who can analyze and assess complex manufacturing systems as well as work with modules and components in these systems. This technician can manage, investigate, repair and troubleshoot advanced manufacturing systems with the aim of operational efficiency and cost control. Topics covered include both theory and hands-on experience with process control systems, advanced programmable controller functions and operation, microcontrollers and industrial electromechanical control systems. An emphasis is placed on safe work habits and procedures, systematic preventive maintenance, localization and correction of malfunctions, and troubleshooting techniques. Students must complete the Basic Systems before enrolling in the Robotics I certificate.

Career Opportunities

Manufacturing systems is a blend of mechanical, electrical, electronics and computerized technologies that together form complex automated systems. The need for skilled individuals to support these systems is ongoing. Graduates of the Robotics Technician I Certificate will be able to configure and troubleshoot manufacturing systems.

Program Learning Outcomes

Upon successful completion of this program, students will be able to:

- Describe and apply safety rules while working on manufacturing systems.
- Analyze the technical specifications of manufacturing systems, modules and components.
- Derive and determine parameters for manufacturing systems and components.
- Tune proportional, integral and derivative (PID) control loops.
- Connect regulating components to PID control systems.
- Measure, interpret and analyze electrical, microcontroller and PLC values.
- Operate and program industrial robotic systems.
- Apply understanding of electronic systems and devices to manufacturing systems.
- Perform scheduled and preventive maintenance.
- Perform as part of a team to complete a complex automated systems project.

Sugg. Term	Seq #	Course ID	Course Title	Cr.	Term Offered	Prereq/Coreq(Co)	Options Available
1st Spring	1	PDV 101	First Year Seminar	1	F, Sp, Su		
	2	RBT 130	Electro-Pneumatic & Hydraulic Control Circuits	4	Sp		
	3	RBT 225	Industrial Electronics for Advanced Manufacturing	4	Sp	RBT 111	
	4	RBT 235	Industrial Robotics II	4	Sp	RBT 135	
	5	RBT 245	Robotic Control Systems	4	Sp	RBT 135 & RBT 140	

Total Program Credits

17

ROBT1