Industrial Automation Certificate (INRC)

The program is designed to prepare the student for employment as a technician in an industrial environment that uses automated assembly or processing equipment. Students are provided with knowledge and experiences in the areas of analog and digital electronics, fluid power, and robotics. The program also provides individuals currently employed as maintenance personnel an opportunity to update their technical knowledge and skills with training and experiences using state-of-the-art high-technology equipment. All courses in the program may be applied to the Associate in Applied Science degree in Industrial Automation.

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

- connect components into basic electrical circuits and use multimeters to verify circuit operation.
- connect digital circuits common to computers, such as logic gates, flip flops, counters, and arithmetic circuits, into functioning circuits.
- use a microcomputer instruction set to write assembly language programs to control the operation of the microprocessor.
- use a programmable logic controller to control specific process control operations.
- interpret hydraulic, pneumatic, and electromechanical schematic diagrams.
- write programs to control robot functions.
- demonstrate effective communication skills by writing technical reports based on laboratory experiences.
- demonstrate an ability to use and apply mathematical quantitative reasoning to design basic functional electronic circuits.
- demonstrate critical thinking and problem-solving abilities by analyzing a nonfunctioning electrical circuit, determining the problem, and restoring circuit operation.
- demonstrate interpersonal relations, teamwork, and work ethics through group laboratory projects.
- demonstrate an ability to use and work with computers by writing laboratory reports using a word processing package.
- demonstrate use of computer software packages to simulate circuit operation and measurements.

First Semester		Credits
BGT 110	Fundamentals of Technology	3
ELE 120	DC Circuits	4
		7

Second Semester		
BGT 103	Fluid Power	3
ELE 130	Digital Fundamentals	4
MAT 130*	Industrial Mathematics	3
		10

Third Semester		
BGT 240	Industrial Automation	3
ELE 235	Programmable Controllers	2
MET 104	Manufacturing	3
		8

Fourth Semester		
ELE 165	AC Circuits	4
ELE 175	Introduction to Microprocessors	4
MET 115	Computer Aided Manufacturing	3
		11
	Credit Total	**36**

*MAT 160 or higher level course will also satisfy the mathematics requirement.