

Industrial Automation

Manufacturing Technology • 23-24 unit certificate

Within the apprenticeship program, students can learn industrial controls that automatically monitor and direct production processes on the factory floor. The program prepares students to use Electronics, Microprocessors, Microcontrollers, Programmable Logic Control and Fluid Power systems to program new industry machinery.

Required Course:

APP-450 Apprenticeship Work Experience plus

Additional 23-24 units of Required Courses:

ELE-10 Survey of Electronics (4 units)

Basic electronic theory featuring electron-flow, Ohm's, Watt's, and Kirchoff's Laws, analog DC and AC devices, circuits, parameters and equations, diodes, transistors, thyristors, digital logic, integrated circuits, power supplies, amplifiers, oscillators, with laboratory test and measurement equipment.

ELE/ENE-27 Technical Communications (3 units)

Procedures for organizing and presenting data through informal and formal documents and presentations.

ELE/MAN-74 Industrial Wiring and Controls (4 units)

Industrial controls and electrical wiring of modern facilities, manufacturing or warehousing.

ELE/MAN-64 Programmable Logic Controllers (3 units)*

Fundamentals of programmable logic controllers, with an emphasis on introductory programming of PLCs.

OR

ELE/MAN-67 Programmable Logic Controllers Using Siemens (3 units)

DFT/ENE-51 Print reading (2 units)

A beginning course in the study of blueprints and their interpretation, types of projection, symbols, abbreviations.

ELE/MAN-55 Occupational Safety & Health Admin. [OSHA] Standards for General Industry (1 unit)

MAN-60 Hydraulic & Pneumatic Systems (3 units)

Basics of hydraulic and pneumatic systems including physical properties of liquids under pressure.

ENE-62 Math for Automated Systems (3 units)

Course concepts from arithmetic, algebra, geometry and scientific notation, extended and applied to problems in automation technology from electrical and mechanical engineering including metal work, welding, and building energy systems.

OR

MAT-36 Trigonometry (4 units)

Prerequisite: MAT-35 and 53 or qualifying placement level

The study of trigonometric functions, their inverses and their graphs; identities and proofs related to trigonometric expressions.

Professional development courses recommended in the beginning of your program to help students get ready for their career:

*PDS-818 The Successful Job Search (0 units)

*GUI-47 Career Exploration and Life Planning

Industrial Automation

Tuition FREE

An AS Degree in Manufacturing Technology: Industrial Automation in addition to the certificate can be awarded upon completion of the required courses (23-24 units) plus the General Education requirements. Please refer to the Norco College Catalog.

Job & Wage Information

- Robotics Technician/Electro-Magnetic Tech
Wage Range*: \$23.93-38.52
4% increase expected in CA 2020-2030; 220 openings annually
More information: <http://bit.ly/RoboticTechNC>
- Electrical and Electronics Drafter
Wage Range*: \$23.64- 37.68
2% increase expected in CA 2020-2030; 520 openings annually
More information: <http://bit.ly/ElectronicDrafterNC>
- Industrial Engineering Technician
Wage Range*: \$28.49-40.95
4% increase expected in CA 2019-2029; 830 openings annually
More information: <http://bit.ly/EngineeringTechnicianNC>

*2020, Riverside/Ontario/San Bernardino Metro Area

For current wage and labor data, visit O*NET at :

<https://www.onetonline.org>

What's Your School?

SCHOOL OF
Science, Technology,
Engineering & Mathematics

Visit www.norcollege.edu/sd/apprenticeship for more information about this program.

What type of interests might be a good fit for this career choice?



Realistic

People who have athletic or mechanical ability and prefer to work with objects, machines and tools. Preference for working with things over people.

For more information on careers that fit this category of interests, visit the Career Center in the Center for Student Success.