

Electronics

Degree Type

Certificate of Completion

Associate of Technical Science Degree

The industrial technology - electronics program provides training for maintenance electricians and electronics technicians within industrial facilities such as wood processing plants, agricultural food storage and processing warehouses, manufacturing plants and hydroelectric power facilities. It also provides advanced-level training and skill improvement for plant electricians and other employees seeking to improve their work classification within their company on modern electronic circuits, programmable logic controllers (PLCs) and control systems.

Before entering the industrial technology - electronics program, students are strongly advised to complete one year of high school algebra or its equivalent. Prior to entry into the program, documentation of computer literacy, or BCT 105 or instructor permission is required. A current first aid card with CPR is required upon graduation. Coursework in computers and basic electricity/electronics is also beneficial prior to entering the program. If students are planning additional education beyond the WVC associate of technical science (ATS) degree, work closely with the program adviser as some electronics coursework may be transferable, and students may want to consider taking ENGL& 101 and college-level transfer math as part of the ATS degree.

To be eligible for the degree, students must earn at least a cumulative 2.0 grade point average. Core program courses may have prerequisite requirements. English and mathematics courses require qualifying placement scores or acceptable preparatory coursework in those subjects. See course descriptions for details. If students complete the industrial technology - electronics ATS degree, they can earn electrical hours toward the Washington State Labor and Industry (07) Nonresidential Maintenance Specialty Electrical License.

For more information about graduation rates, the median debt of students who completed the program and other information, visit wvc.edu/Industrial.

Suggested Course Sequence:

Associate of Technical Science Degree (requires all first- and second-year courses)

Electronics Technician Certificate of Completion (entire first year)

Offered at Wenatchee campus

Total Credits		115-117
Course Sequencing		

First Year - Fall Quarter

Course ID	Title	Credits
ELTRO 101	Basic DC-1	5.0
ENGR 102	Interpreting Engineering Graphics	2.0
	BCT 116 or CMST& 101	3.0-5
ELEC 125	Wiring Diagrams and Schematics	5.0

First Year - Winter Quarter

Course ID	Title	Credits
ENGR 105	Computer-Aided Design (CAD)	5.0
ELEC 115	Applied Electricity	5.0
ELTRO 121	Digital Electronics	5.0
	MATH 100 or higher	5.0

First Year - Spring Quarter

Course ID	Title	Credits
	OCED 102 or higher or ENGL& 101	5.0
OCED 130	Industrial Safety	5.0
ELTRO 132	Introduction to Computerized Controls and PLCs	5.0
ELEC 135	Control Fundamentals	5.0

Total Credits for Electronics Technician Certificate of Completion: 55-57

Second Year - Fall Quarter

Course ID	Title	Credits
	CTS 110 or CTS 120	5.0
ELTRO 202	Intro to National Electric Code (NEC)	2.0
ELTRO 210	Introduction to Programming TAG Based Software for PLC's	5.0
WELD 128	Basic Welding	3.0
ELTRO 213	Introduction to Graphic Interfacing PLCs	5.0

Second Year - Winter Quarter

Course ID	Title	Credits
ELTRO 220	Control Devices and Robotics	5.0
ELTRO 221	Graphic Interface Programs for PLCs	5.0
ELEC 225	Industrial Electricity & Controls	5.0
ELTRO 223	Programming Software for Tag-Based PLCs	5.0

Spring Quarter

Course ID	Title	Credits
INDT 164	Plant Maintenance	5.0
ELTRO 230	Programmable Logic Controller Networks	5.0
ELTRO 231	Troubleshooting Electronic PLC Control Systems	5.0
ELTRO 240	Industrial Hydraulics & Pneumatics	5.0

[MATH 100](#), [OCED 102](#), [ENGL& 101](#): Placement score required.

Program outcomes

Students should be able to:

- Correctly and safely use a variety of electrical testing equipment.
- Comprehend printed installation and service literature for complex electrical equipment.
- Effectively use standardized automation software such as Rockwell Software or Siemens.
- Communicate with other professions and the general public using terminology appropriate for the electrical service industry.
- Establish or critique an existing electrical maintenance program.
- Recognize different computer network strategies used with electronic control systems.
- Accrue hours toward a Washington state electrical license.
- Acquire training and education to seek employment or advance in current employment.
- Develop a foundation to continue their studies.

BCT 116 or CMST& 101

Elective Credits 3-5

Course ID	Title	Credits
BCT 116	Professional Work Relations	3.0
CMST& 101	Introduction to Communication	5.0

MATH 100 or higher

Elective Credits 5

Course ID	Title	Credits
MATH 100	Tech Math for Industrial Field	5.0

OCED 102 or higher or ENGL& 101

Elective Credits 5

Course ID	Title	Credits
OCED 102	Writing In The Workplace	5.0
ENGL& 101	Composition: General	5.0

CTS 110 or CTS 120

Elective Credits 5

Course ID	Title	Credits
CTS 110	Computer Hardware	5.0
CTS 120	Introduction to Networking	5.0