



**2009-2010  
Career and Technical  
Programs**

**Advanced  
Technology Division  
(541) 463-5380**

**Two-Year Associate  
of Applied Science  
Degree**

# Electronic Technology

**Purpose** To provide graduates with the basic principles of electronic theory and the associated lab skills needed for successful work in the electronics industry. A graduate qualifies for entry-level employment as an electronic engineering technician, electronic production technician, electronic instrument technician, industrial electronic technician, or for employment in the military.

**Learning Outcomes** The graduate will:

- learn the systematic methods of problem solving
- demonstrate the ability to operate electronic test equipment such as digital oscilloscopes, DMM, power supplies and function generators
- demonstrate the ability to generate and read schematic drawings and apply that knowledge to understand the operation of a physical circuit.
- construct, modify, and test operational multistage digital or analog circuits.
- examine defective circuits, investigate possible causes of the defect, and determine how to troubleshoot and repair the circuit.
- follow the flow of an automated manufacturing process, recognize the transducers used to monitor a process and, using programmable controllers (PLCs), ladder logic, and robotics, create, test and troubleshoot an automated process.
- demonstrate the ability to use a microcontroller and PBASIC software to control electronic circuits
- assemble and troubleshoot a personal computer.
- access library, computing, and communications services and obtain information and data from regional, national, and international networks.

**Employment Trends** Statewide, 82 annual openings for electronic technicians are projected in Oregon and 3 openings are projected annually in Lane County. Workers must have postsecondary training to gain the necessary skills for this occupation. Those with an associate degree have a competitive advantage in this labor market.

**Wages** Statewide average, \$23 hourly, \$47,500 annually (\$50,000+ with experience). Lane County, \$26 hourly, \$53,500 annually.

## Costs in Addition to Tuition and Registration Fees (estimate)\*

|             |         |
|-------------|---------|
| Books ..... | \$2,250 |
| Tools.....  | \$ 200  |
| Fees.....   | \$ 350  |
| Total ..... | \$1,650 |

See the online class schedule for program fees.

\* Subject to change without notice.

**Prerequisites** Minimum placement score of 68 in Reading OR completion of RD 080 OR prior college. A high school diploma or equivalent is recommended for all applicants to this program. Recommend MTH 060 Beginning Algebra skills prior to entry into the program.

**Criteria Used for Admission** The courses are offered in sequence beginning with fall term. For those that cannot begin fall term, many of the first year courses are offered as computer based training night courses throughout the school year. A program orientation is held for new students for fall term (dates available in Counseling or Enrollment and Student Financial Services). Contact advisor/counselor for assistance for winter and spring term entry.

**Cooperative Education (Co-op)** Co-op offers students college credit and a grade for on-the-job work experience related to their educational and career goals. Through Co-op, students connect theory and practice, develop skills, expand career knowledge, and make contacts for the future. Work schedules and work sites vary. Contact Marv Clemons, Electronics Co-op Coordinator, Bldg. 8, Rm. 111, (541) 463-3158.

**Program Advisor** Betty Svarverud, Bldg. 12, Rm. 203, (541) 463-5378, svarverudb@lanecc.edu

**Program Counselor** Carolyn Litty, Bldg. 12, Rm. 202, (541) 463-5236, littyc@lanecc.edu

**Want to know about courses and credits? See other side.**

# Electronic Technology

| First Year   | Fall |
|--|------|
| DRF 167 CAD 1 .....  | 4    |
| ET 129 Electrical Theory 1 <sup>*,D,G</sup> .....                                  | 4    |
| MTH 065 Elementary Algebra <sup>*,D,G,M</sup> or higher<br>level mathematics ..... | 4    |
| Choice of:.....  | 4    |
| CS 120 Concepts of Computing: Info Processing <sup>S</sup>                         |      |
| CS 133 Beginning Programming <sup>*,S</sup> or higher computer<br>science          |      |

Total Credits 16

| Winter   |   |
|--|---|
| ET 130 Electrical Theory 2 <sup>*,D,G</sup> .....                                  | 4 |
| ET 145 Semiconductor Devices 1 <sup>*,D,G</sup> .....                              | 4 |
| ET 151 Digital Electronics 1 <sup>*,D,G</sup> .....                                | 4 |
| MTH 095 Intermediate Algebra <sup>*,D,S</sup> or higher<br>level mathematics ..... | 5 |

Total Credits 17

| Spring  |   |
|---|---|
| DS 155 Heavy Equipment Hydraulics <sup>*,D,G</sup> .....                                      | 2 |
| ET 121 Shop Practices <sup>*,D,G</sup> .....  | 2 |
| ET 146 Semiconductor Devices 2 <sup>*,D,G</sup> .....   | 4 |
| ET 152 Digital Electronics 2 <sup>*,D,G</sup> .....   | 4 |
| WR 121 English Composition: Exposition and<br>Introduction to Argument <sup>*,D,W</sup> ..... | 4 |

Total Credits 16

| Second Year   | Fall |
|---|------|
| ET 229 Motors <sup>*,D,G</sup> .....                      | 4    |
| ET 234 Programmable Controllers <sup>*,D,G</sup> .....    | 4    |
| ET 239 Microprocessor Applications <sup>*,D,G</sup> ..... | 4    |
| WR 227 Technical Writing <sup>*,A</sup> .....             | 4    |

Total Credits 16

| Winter   |   |
|--|---|
| ET 232 Process Control Systems <sup>*,D,G</sup> .....                          | 4 |
| ET 241 Electro-Mechanical Troubleshooting <sup>*,D,G</sup> .....               | 4 |
| ENGR 280E Cooperative Education:<br>Electronic Technology <sup>D,G</sup> ..... | 3 |
| Human Relations requirement <sup>R</sup> .....                                 | 3 |

Total Credits 14

| Spring   |   |
|--|---|
| ET 201 Industrial Instrumentation <sup>*,D,G</sup> .....                     | 4 |
| ET 281 Radiotelephone and Communications<br>Equipment <sup>*,D,G</sup> ..... | 4 |
| ET 287 Microcomputer Hardware <sup>*,D,G</sup> .....                         | 4 |
| PE/Health requirement <sup>D,R</sup> .....                                   | 3 |

Total Credits 15

Standard footnotes:

- \* Prerequisite required
- A Meets Arts/Letters requirement
- B Must be passed with grade of "B-" or better to use as a prerequisite
- D Degree or certificate requirement; must be passed with grade of "C-" or better
- G Must be taken for a grade, not P/NP; major requirement

- H Meets Human Relations/Social Science requirement
- M Meets Mathematics requirement
- P Meets PE/Health requirement
- R Required for AAS degree
- S Meets Science/Math/Computer Science requirement
- W Meets Written Communications or English Composition requirement