

ELECTRICIAN APPRENTICESHIP TECHNOLOGIES

ASSOCIATE OF APPLIED SCIENCE: ELECTRICIAN APPRENTICESHIP TECHNOLOGIES – 91 CREDITS

CAREER DESCRIPTION

Apprenticeship training is based on BOLI-ATD and local JATC trade-specific standards and is restricted to BOLI-ATD registered apprentices. Therefore, this is a closed enrollment program and not available to the general student population.

Apprenticeship training is a two-fold process. The apprentice, as an employee, earns a wage while receiving on-the-job training and also attends related training classes. Local JATCs of both labor and management work with the College to implement the apprenticeship programs. Progress of each apprentice is reviewed and evaluated every six months.

The Certificates and AAS Degrees provide additional access to related training courses across the state for registered apprentices and aligned program outcomes, assessments, and courses. The apprenticeship model provides statewide transfer opportunities, ladder-type Certificates of Completion, Associate of Applied Science degrees and an optional transfer path into a Bachelor of Science degree in Technology and Management at Oregon Institute of Technology.

Opportunities statewide and more information about apprenticeship can be obtained at the Oregon Bureau of Labor and Industries Apprenticeship Training Division (BOLI-ATD) website www.oregon.gov/boli/atd/.

The following 8000-hour BOLI-ATD registered apprenticeship and Oregon Building Codes licensed trades are offered:

- Manufacturing Plant Electrician
- Inside Electrician

NOTE: Students who transfer to UCC with BOLI-ATD issued Certificates of Completion and/or journey cards seeking a UCC Certificate or degree should contact the Apprenticeship Coordinator at 541-440-4675 for advising.

APPLICATION & ACCEPTANCE

State and federal laws determine entry requirements for all apprenticeship programs. General minimum requirements for entrance are:

- 18 years of age
- High school graduation preferred; GED accepted
- One year of high school math with a passing grade of C or better

Candidate selection varies by occupation. Manufacturing Plant Electricians are selected while employed by an approved training agent; Inside Electricians apply when the trade opens for application. Upon being selected as an apprentice and acceptance after interview by the local JATC, a contractual agreement is secured between the apprentice, the JATC, the sponsoring employer, and BOLI-ATD.

Enrollment into this closed-enrollment program requires sponsorship by an approved training agent (employer) and successful completion of MTH 052 or MTH 060 with a grade of C or better, or equivalent placement scores. CPR/First Aid certification is also required for entry. Additional information can be obtained from the Apprenticeship Coordinator at 541-440-4675.

PROGRAM OUTCOMES

This apprenticeship program is designed to provide specialized training for students who are registered with BOLI-ATD as Manufacturing Plant Electricians or General Journey Inside Electricians. This course of study is aligned with the Oregon State Standards for Manufacturing Plant Electricians and General Journey Inside Electricians.

All required courses must be successfully completed with a grade of “C” or better. Upon completion of the Electrician Apprenticeship Technologies Program, students will be ready to test for the Manufacturing Plant Electrician License or the General Journeyman Electrician License. Students will:

1. Demonstrate knowledge of electrical fundamentals and safety
 - a. Describe and apply basic theory of electrical sources
 - b. Demonstrate safe working practices in accordance with state and federal regulation
2. Demonstrate accurate measurements, calculations and use of equipment
 - a. Solve electrical equations using trade-specific mathematical formulas
 - b. Calculate voltage drop
 - c. Demonstrate appropriate use and care of trade-specific equipment
 - d. Use test equipment to make electrical measurements
3. Assess and troubleshoot various electrical situations
 - a. Draw and interpret blueprints and schematics
 - b. Describe various troubleshooting techniques of trade-specific equipment
 - c. Operate PLCs according to trade-specific applications and methodology
4. Electrical Code and Exam Prep
 - a. Demonstrate knowledge of industry terminology
 - b. Interpret the National Electrical Code (NEC) and Oregon Specialty Code (OSC)
 - c. Utilize the Oregon Administrative Rules (OARs) in relation to the NEC and OSC
 - d. Use the NEC Articles and Tables to perform various calculations
 - e. Complete and pass timed NEC practice exams with a 75% or higher to prepare for the State Journey level exam

ASSOCIATE OF APPLIED SCIENCE — Electrician Apprenticeship Technologies

91 Credits — Required Sequence (Students should see an adviser to customize their educational plans)

SEQUENCE

Beginning Welding for Apprentices <i>(*Manufacturing Plant Electrician only)</i> *APR 140 1 CR	Commercial Wiring APR 163 3 CR	High Voltage Applications APR 257 2 CR	Elementary Algebra MTH 065 (OR HIGHER) 4 CR
Basic Electronics and Electricity APR 151 4 CR	AC Electronics and Electricity APR 165 4 CR	Solid State and Digital Applications APR 259 4 CR	English Composition: Intro to Argument WR 121 3 CR
Electrical Applications and Techniques APR 153 3 CR	Electric Motors and Transformers APR 167 3 CR	Electrical Code Study IV APR 261 2 CR	Human Relations <i>from Approved List, p. 76</i> 3 CR
Electrical Best Practices APR 155 2 CR	Electrical Code Study II APR 169 2 CR	Communications, Alarms and Controls APR 263 2 CR	6 credits of Related Instruction from the list below: Intermediate Algebra MTH 095 (OR HIGHER) 4 CR AND/OR English Composition: Style and Argument WR 122 (OR HIGHER) 3 CR AND/OR Human Relations <i>from Approved List, p. 76</i> 3 CR
Introduction to the NEC APR 157 2 CR	Electrical Sensors and Control APR 251 3 CR	Motor Controls II APR 265 2 CR	
Electrical Blueprint Reading APR 159 2 CR	Electrical Code Study III APR 253 2 CR	Advance Code Study APR 267 3 CR	
Residential Wiring <i>(*Inside Electrician only)</i> APR 160 3 CR	Motor Controls I APR 255 2 CR	Journeyman's Exam Prep APR 269 3 CR	Credit for Prior Certification (Journeyman Card) 22 CR
			**Electives (*Manufacturing Plant Electrician Only) 2 CR <i>as needed to complete 91 CR</i>

NOTES

Scheduling requirements may prevent all courses from being offered every term. Consultation with an adviser is critical to student's selection of courses.

Please see an adviser for a degree planning worksheet for this program.

*Course requirements vary slightly based on specific electrical trade.

**Contact Apprenticeship Coordinator for approved list of electives.