ELECTRICIAN APPRENTICESHIP TECHNOLOGIES, CERTIFICATE

Program Code: CC.ELECTRICIANLE, CC.ELECTRICIANIE

Trades: Limited Energy (LE), Inside Electrician (IE)

6000-8000 BOLI-ATD Trades

Registered Apprenticeship in the electrician trades or occupations is a method of career and technical related training leading to certification and journey-level status.

This is a limited-entry program for registered apprentices who are sponsored by individual employers, accepted by a Joint Apprenticeship and Training Committee (JATC) and registered with the State of Oregon Bureau of Labor & Industries (BOLI).

Clackamas Community College offers three state-wide Apprenticeship degrees and their stackable Certificates of Completion and Career Pathway Certificates of Completion. These parent degrees are: Electrician Apprenticeship Technologies AAS, Construction Trades General Apprenticeship AAS, and Industrial Mechanics and Maintenance Technology Apprenticeship AAS. These degrees do not guarantee licensure.

This program is articulated with Oregon Institute of Technology (OIT), which requires a higher-level math course than is required for the program. Contact an Apprenticeship Advisor at CCC for help with transfer to OIT.

Electricians and plumbers require state licensure. Related training courses meet industry standards and are offered through a partnership between the Oregon State Apprenticeship & Training Council and the local Joint Apprenticeship & Training Committee.

For more information on CCC's apprenticeship programs, visit the Apprenticeship webpage, or contact an Apprenticeship Advisor at 503-594-0959, or apprenticeship.advising@clackamas.edu.

Outcomes

Related Instruction Outcomes

Computation

- 3-5 credits - See Related Instruction for course list
- Use appropriate mathematics to solve problems.

Communication

- 3-4 credits - See Related Instruction for course list
- Read actively, think critically, and write purposefully and capably for professional audiences.

Human Relations

- 3-4 credits - See Related Instruction for course list
- Engage in ethical communication processes that accomplish goals.

Program Outcomes

Upon successful completion of this program, students should be able to:

Electrical Fundamentals/Safety

- solve mathematical formulas and equations of theory;
- describe and apply basic theory of electrical sources;
- demonstrate safe working practices in accordance with state and federal regulations.

Mathematics/Measurement/Calculations and Equipment

- calculate voltage drop;
- solve electrical equations using trade specific mathematical formulas;
- use test equipment to make electrical measurements;
- use and care of trade specific equipment appropriately.

Assessment and Troubleshooting

- operate PLC's according to trade specific applications and methodology;
- describe various troubleshooting techniques of trade specific equipment;
- draw and interpret blueprints and schematics.

Electrical Code and Exam Preparation

- interpret NEC and Oregon Specialty Codes;
- prepare for state exam;
- complete and pass timed practice exams;
- demonstrate knowledge of industry terminology;
- use the NEC articles and tables to perform various calculations;
- utilize the Oregon Administrative Rules (OAEs) in relation to the NEC and Oregon Specialty Codes (OSC);
- complete the NEC code preparation exams with a 75% and higher.

Requirements

Limited Energy

Code	Title	Credits
Computation requirement		3.00-5.00
Communication requirement		3.00-4.00
Human Relations requirement		3.00-4.00
APR-111LE	Residential Technologies	4.00
APR-112LE	Basic Trade, Code & Safety	4.00
APR-113LE	Specialized Control Systems	4.00
APR-114LE	Data Communications	4.00
APR-115LE	Amplified Systems	4.00
APR-116LE	Security Systems	4.00
APR-217LE	Integrated Systems	4.00
APR-218LE	Fire Alarm Systems	4.00
APR-219LE	ADA & Code	4.00
Total Credits		**45-49**

Inside Electrician

Code	Title	Credits
Computation requirement		3.00-5.00
Communication requirement		3.00-4.00
Human Relations requirement		3.00-4.00
APR-102IE	Inside Electrical Residential Installations	6.00
APR-103IE	Inside Electrical Intro to Theory	6.00
APR-151IE	Inside Electrical Intro to National Electrical Code (NEC)	6.00
APR-152IE	Inside Electrical Advanced Theory and Blueprints	6.00
APR-201IE	Inside Electrical Grounding, Bonding, and Motors	6.00
APR-202IE	Inside Electrical Controls and Automation	6.00
APR-250IE	Inside Electrical NEC Code Analysis I	6.00
APR-251IE	Inside Electrical NEC Code Analysis II	6.00
Total Credits		**57-61**

Careers

6000 Hours BOLI-ATD Trades:

- Limited Energy Technician[1]
- Sign Maker/Fabricator

8000 Hours BOLI-ATD Trades:

- Inside Electrician[1]
- Manufacturing Plant Electrician
- Sign Assembler/Fabricator
- Sign Maker/Erector
- Stationary Engineer

[1] Programs offered at Clackamas Community College through partnership with local JATC or IEC.