INDUSTRIAL ELECTRICIAN APPRENTICESHIP

Overview

Industrial Electrician Apprenticeship

Program Code: 50-413-1

For more information: wctc.edu/industrial-elec *(*http://www.wctc.edu/industrial-elec/*)*

Industrial electricians work to install, test, troubleshoot, maintain and repair electrical equipment in industrial/commercial settings. They ensure electrical systems run safely and efficiently, as the systems they work on power large, complex facilities. Receive high-quality, hands-on classroom instruction that complements on-the-job apprenticeship training critical for success in the industrial trades.

The minimum required course grades and program grade point average (GPA) for students under this catalog are:

Core Courses = C
Program GPA = 2.0

Build your degree along a career pathway. Start with a couple of courses or an entry-level credential to enter the job market in your area of interest, then continue with higher credentials on your educational path for job advancement and higher wages.

Career Pathway

1. Industrial Electrician Apprenticeship
2. Technical Studies - Journeyworker

Additional details regarding apprenticeship:

- Obtain further information about apprenticeship programs by visiting the State's Department of Workforce Development website: https://dwd.wisconsin.gov/apprenticeship (https://dwd.wisconsin.gov/apprenticeship/)
- Secure employment as a State of Wisconsin Indentured Apprentice.
- WCTC will send the schedule to the student; application to WCTC is not necessary by the student.

This WCTC program prepares students to obtain the required licensure to be employed/practice in the state of Wisconsin. The College does not guarantee its curriculum matches the requirements for preparation, examinations, or licensure for other states.

Learning Outcomes

Program Outcomes

1. Apply AC and DC theory to an industrial setting.
2. Apply the National Electric Code requirements to industrial equipment and facilities.
3. Apply operational and troubleshooting principles to a transformer installation.
4. Maintain electric motors and motor controls Industrial Electrician.
5. Test solid state electronic system components.
6. Apply operational and troubleshooting principles to power systems and variable drives.
7. Apply operational and troubleshooting principles to programmable logic controllers and automation equipment.
8. Apply operational and troubleshooting principles to fluid power systems.
9. Interpret industrial equipment drawings and electrical prints.
10. Communicate trade and occupational related information correctly.

Critical Life Skills

To help our students prepare for success in a workplace and society that is **increasingly global, multi-cultural, and collaborative,** all students are given opportunities to develop and demonstrate Critical Life Skills, both in and out of the classroom. The following Critical Life Skills are learning outcomes for WCTC students.

- **Communication:** Demonstrate appropriate communication.
- **Critical Thinking/Problem Solving:** Demonstrate critical thinking skills to analyze situations and solve problems.
- **Relationships:** Demonstrate effective interpersonal skills.
- **Self-management:** Demonstrate responsible and respectful behavior.

Required Courses

Code	Title	Credits
Core Courses		
413-510	IE Apprentice Code Review	1
413-523	Industrial Data Communication	2
413-524	IE DC Circuit Analysis	1.5
413-525	IE AC Circuit Analysis	1.5
413-526	NEC Overview	1
413-527	IE Transformers	1.5
413-528	IE Motors and Generators	1.5
413-529	NEC In Depth	1
413-535	NEC NFPA 70 and 79	1
413-536	IE Electromechanical Control 1	2
413-537	IE Electromechanical Control 2	2
413-538	IE Variable Speed Drives 1	2
413-539	IE Variable Speed Drives 2	2
413-542	Ind Elec PLC 1	2
413-543	Ind Elec PLC 2	2
413-551	IE Raceways & Ctrl Drawings	1
413-552	Ind Elec Electronics	1
419-501	Apprentice Hydraulics	1
Approved Substitute: 612-310		
419-502	Pneumatics for Apprentices	1
Approved Substitute: 612-315 OR 419-104		
Total Credits		**28**

Full-time Plan

First Year

Fall Term 1		**Credits**
413-524	IE DC Circuit Analysis	1.5
413-525	IE AC Circuit Analysis	1.5

413-526	NEC Overview	1
	Credits	**4**
Spring Term 1		
413-527	IE Transformers	1.5
413-528	IE Motors and Generators	1.5
413-529	NEC In Depth	1
	Credits	**4**
Second Year		
Fall Term 1		
413-536	IE Electromechanical Control 1	2
413-551	IE Raceways & Ctrl Drawings	1
413-552	Ind Elec Electronics	1
	Credits	**4**
Spring Term 1		
413-538	IE Variable Speed Drives 1	2
413-542	Ind Elec PLC 1	2
	Credits	**4**
Third Year		
Fall Term 1		
413-539	IE Variable Speed Drives 2	2
413-543	Ind Elec PLC 2	2
	Credits	**4**
Spring Term 1		
413-535	NEC NFPA 70 and 79	1
413-537	IE Electromechanical Control 2	2
419-501	Apprentice Hydraulics	1
	Credits	**4**
Fourth Year		
Fall Term 1		
413-510	IE Apprentice Code Review	1
413-523	Industrial Data Communication	2
419-502	Pneumatics for Apprentices	1
	Credits	**4**
	Total Credits	**28**