Construction Electrical Apprentice (50-413-2)
Effective 2022/2023

Program Description

This program helps prepare apprentices to become electricians. Related instruction is intended to support on-the-job learning through an employer or trade, and the learning outcomes listed for this program align with identified work processes and external standards. Electricians plan, diagram, install, and repair electrical fixtures, apparatus, and control equipment such as switches, relays, and circuit breaker panels. They measure, cut, bend, thread, assemble, and install electrical conduit (pipe or tubing), and pull wire through conduit. They test continuity of circuits to ensure compatibility and safety of components, using instruments; such as the ohmmeter, megger, and other testing equipment. Electricians assemble, install, and wire electrical systems that operate heating, lighting, power, air conditioning, and refrigeration components; electrical machinery; electronic equipment and controls; and signal and communication systems. For safety, electricians must also become familiar with the National Electrical Code, designed to protect persons and property from hazards arising from the use of electricity.

Program Learning Outcomes

Graduates will be able to:
1. Apply AC and DC theory.
2. Apply electrical code requirements.
3. Apply operational principles to transformer installations.
4. Examine electric motor theory and applications.
5. Apply electric motor control theory and applications.
6. Analyze variable speed drives.
7. Interpret electrical and equipment drawings.
8. Communicate trade and occupational related information effectively.

Essential Career Competencies

Gateway's six essential career competencies are the general attitudes and skills promoted and assessed by all programs. All Gateway graduates will develop skills in:

- Communication Competence
- Professionalism and Career Management
- Cultural Competence
- Critical Thinking and Problem Solving
- Teamwork and Collaboration
- Technology Competence

Get Started as an Apprentice

1. Go to your local Joint Apprenticeship Committee and fill out an application (you do not need to be a resident of the county you apply to).
2. Send your high school transcripts to your local Union Hall. Transcript request forms are available at the Union Hall. A one-year high school algebra equivalent is available, and if coursework is needed, register for Gateway's Algebra/Pre-technical course (854-761).
3. Pass the basic reading, writing and math test required per application. Testing information is available at Union Hall.
4. The Joint Apprenticeship Committee will set up interviews for candidates that have passed the test and have high school transcripts on file. Interviews are scheduled twice a year in Racine and Kenosha.
5. After being interviewed, your name will be ranked with the other eligible candidates. Apprenticeships are offered by the Union in order to the highest-ranked candidates on the list.
6. Once hired by a contractor, Gateway's Apprenticeship Department will be notified that you are an apprentice and will communicate with you regarding registration, classes and books.
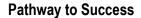
Graduation Requirements

- *Minimum of 2.0 ("C") or above for all required courses.
- Meet minimum hourly paid related instruction requirements per WI Registered Apprenticeship Contract.

Notes

1. Students must be physically able to perform the job in hot or cold weather, differing heights and cramped spaces.
2. Students must be 18 years of age and submit official high school, GED, or HSED transcript including a graduation or passing date.
3. Students must complete all courses with a grade of "C" or better.
4. Students must have a valid driver's license.

Gateway Technical College reserves the right to modify curriculum requirements for students who interrupt enrollment for one year or take over seven years to complete. Tuition and material fees are determined by the board of the Wisconsin Technical College System. Consult My Gateway for exact fee amounts. Occasionally, the District may offer a particular course out of published sequence. By doing so, the District does not obligate itself to offer succeeding courses out of published sequence.

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The course sequence shown on this sheet is the recommended path to completion. Courses will be scheduled in the terms indicated here.
Taking courses in the order shown will help you stay on track and graduate according to your academic plan.
Courses in this program may be offered in a variety or combination of formats (for example: in-person, video conferencing, online, etc.).

Pathway to Success

Course	Course Name	Credits	Hours
*413-506	Electrical Theory I/Construction	4.00	144
*413-516	Electrical Theory II/Construction	4.00	144
*413-526	Electrical Theory III/Construction	4.00	144
*413-536	Electrical Theory IV/Construction	4.00	144
*413-546	Electrical Theory V/Construction	4.00	144

Training at a Glance

- Time to complete – Approximately 4 years
- On the job time – 8000 Hours
- Related Instruction Time – 720 Hours
- Additional training – Valid credential issued by WI Dept of Safety and Professional Services; First Aid and CPR certifications; Complete unpaid related instruction; Transition to Trainer; OSHA 10-hr safety certification; pass the State Electrical Journeyworker Exam
- Consult the Wisconsin Bureau of Apprenticeship Standards website for more information

If you need assistance getting started,
Gateway's Apprenticeship Department is happy to help.
QUESTIONS?
PLEASE CONTACT:
Gateway Technical College
Apprenticeship Department
262-564-2954
apprenticeship@gtc.edu

Notes associated with courses (identified by a superscript number at the end of the course title) are located on the front of the sheet.
(*) indicates students must achieve a minimum of 2.0 ("C") or above for these major courses to meet graduation requirements.