ELECTRICITY

WHITEWATER CAREER CENTER

OVERVIEW

Electricity is a hands-on program. You will use math skills to solve problems and complete tasks. If you are interested in a bright future and providing a service that makes the world run, you should consider this program.

YOU WILL LEARN

- Residential wiring
- Theory and how to apply it to projects
- How to read technical drawings
- How to use mathematical principles to solve electrical problems
- How to work in a team setting alongside Construction Technology students

A TYPICAL STUDENT

The typical student is one that enjoys hands-on learning and has the math skills to be successful. There will be a significant emphasis on mathematical principles to solve electrical problems. These skills will be required through the second year of the program, during further training, and on the job. Successful students have the patience and attention to detail to solve problems using the skills they have learned. They can work on projects independently or with other students. They can read drawings, check their work as needed, and stay on task without constant supervision. Safety is a primary focus, and students must follow OSHA guidelines to keep themselves and others safe.

GET YOURSELF READY

To be prepared, focus on doing well in algebra and geometry courses. Employment and admission into apprenticeship programs and specialty training programs after high school can be competitive. To increase your chances, do your best in all high school courses. The following courses will help prepare you for the Electricity program, further education and training, and a career in the electrical industry:

- Algebra I
- Geometry
- Introduction to Construction

POTENTIAL CAREERS

- Electrician
  $51,110
- Electrical and Electronics Installer & Repairer
  $53,900
- General Maintenance & Repair Worker
  $36,170
- Line Installer & Repairer
  $61,740

All career and salary information is cited from the Bureau of Labor Statistics.

YEAR ONE

Electricity I includes classroom and lab experiences focused on the installation and repair of the electrical and wiring systems of physical structures. This program includes instruction on the reading of technical drawings and their application in construction processes. Topics include the relationship between views and details, interpretation of dimension, transposing scale, tolerance, electrical symbols, sections, material lists, architectural plans, room schedules, and plot plans. Mathematical principles are used to solve electrical problems, including both AC and DC circuits. Students learn about electron theory, Ohm's Law, Watt's Law, Kirchoff's Law, series circuits, series-parallel circuits, electromagnetic induction, current, voltage, resistance, power, inductance, capacitance, and transformers and then apply what they have learned to projects in the classroom and in the field. Many projects are completed in teams working with Construction Technology students.

Industry Credentials
OSHA 10-Hour Construction Industry

YEAR TWO

Electricity II includes classroom and lab experiences in residential wiring, including electrical service, metering equipment, lighting, switches, outlets and other common components and methods of installation and maintenance of the residential wiring system in accordance with the current National Electrical Code. Additionally, students will learn methods and techniques for troubleshooting appliances, motors, motor controls, relay wiring, commercial wiring, and industrial wiring systems. Wiring methods, material selection for commercial and industrial wiring systems, mechanical installation of hardware, and electrical design and layout are also covered. Instruction in thinking critically to analyze, synthesize, and evaluate technical problems and information will also be covered as it relates to health, safety, and welfare standards and codes as dictated by local, state and federal agencies.

Industry Certifications
HBI (Home Builders Institute) Wiring Basic Certification

Dual College Credits

CONT 127	Electrical Basics	3 credits
BCOT 129	Residential Wiring	3 credits

WHEN YOU FINISH

Upon completion of this program, you may continue your education in 2 and 4-year degree programs at the postsecondary level or enter employment in one of the many electrical/construction fields. You may also enter apprenticeship programs for specific electrical or construction trades.

WHITEWATER CAREER CENTER
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