



# ELECTRICAL CONSTRUCTION

## PROGRAM OVERVIEW



Electrical technology is a sequential pathway in which students will experience multiple aspects in a vast and diverse sector of the construction industry. Using the most up to date tools and equipment, students will learn modern residential and commercial electric.

Students will learn skills such as device wiring, conduit bending, telecom equipment installation, service installation, green energy, and blueprint reading. Upon completing this pathway, students will be well prepared for post-secondary opportunities, including apprenticeship programs, college, or the workplace.



### **CAREER OPPORTUNITIES**

- **Chief Electrician**
- **Control Electrician**
- **Electrician**
- **Industrial Electrician**
- **Inside Wireman**
- **Journeyman Electrician**
- **Journeyman Wireman**
- **Maintenance Electrician**
- **Mechanical Trades Specialist**
- **Qualified Craft Worker**



### **POST-SECONDARY EDUCATION OPPORTUNITIES**

- **Alfred State**
- **International Brotherhood of Electrical Workers Local #86 Apprenticeship Program**





## PROGRAMS OF STUDY

### FOUNDATIONAL COURSES

#### **CTE Foundations: Construction**

9th Grade // 1 CTE Credit

Career Research and Exploration

Safety, Tools, and Materials

Basic Construction Skills

#### **Introduction to Construction & Design**

10th Grade // 2 CTE Credits

Rotation of Experiences in Carpentry

Masonry, Electrical, and Computer Aided Design & Drawing (CADD)

### CAREER MAJOR COURSES

#### **Electrical I**

11th Grade // 2 CTE Credits

OSHA 10 Certification

Ohm's Law

Power Formula

Device Wiring: Split Receptacles, Three-Way Switch, Four-Way Switch

Conduit Bending: 90°, Back-to-Back 90°, Box Offset, 30° Offset, 45° Offset

Drawing Out Device Circuits

#### **Electrical II**

12th Grade // 2 CTE Credits

National Electrical Code Review

Advanced Device Wiring

Advanced Conduit Bending: Three-Point Saddle

Advanced Circuit Drawings

Residential Service Build



## EMPLOYABILITY PROFILE:

*The Proficient Electrical Technology Student will...*

- Demonstrate employability skills that will help them get a job and meet employer's professional expectations.
- Demonstrate academic knowledge and skills that meet postsecondary requirements.
- Consistently demonstrate safe practices and healthy relationships.
- Properly select, use, store, and maintain all tools and equipment.
- Effectively read a variety of materials and communicate in a variety of situations.
- Accurately solve mathematical calculations, and apply geometric concepts, in context.
- Accurately measure within industry-standard tolerances.
- Demonstrate grit. Persevere through challenges and not give up.
- Define and apply safety rules and practices in residential/commercial electric according to National Electrical Code/OSHA standards.
- Effectively reference and navigate the NEC Code Book.
- Apply knowledge of basic wiring theory according to NEC standards.
- Calculate service loads and use proper cable for residential/commercial wiring situations.
- Install switches boxes and outlet boxes to meet NEC standards.
- Maintain already existing wiring to meet NEC standards.
- Rough in, connect, and install electrical devices to meet NEC standards.
- Install EMT conduit to meet NEC standards.
- Install service entrance to meet NEC standards.