Electrical Systems

2 YEAR PROGRAM

HARKNESS, POTTER

PROGRAM SUMMARY

- This program focuses on the importance of safety, theory and application of all facets of the electrical industry.
- Students have the opportunity to complete a 30-hour internship with electricians in the field.
- Students will learn the codes associated with the electrical industry.
- Solar and wind technology is an emphasis of this program.

COLLEGE CREDIT CONNECTIONS

- Alfred State College
- Lincoln Technical Institute
- SUNY Erie

SPECIAL NOTES

- Boots or safety shoes are required for this program.

PROGRAM ELIGIBILITY

- Technical Endorsement
- 3.75 Credits per Year
- Pathways to Graduation (CTE and CDOS)

Career Paths

PROFESSIONAL CAREERS

Electrical Construction & Maintenance Management
Electrical Engineer
Electrical Inspector
Maintenance Technician
Solar Technician (Photovoltaics)
Utility Scale Worker
Wind Turbine Technician

TECHNICAL CAREERS

Audio Service Technician
Automotive Electrician
Commercial Electrician
Electrical Sales Representative
Residential Electrician

ENTRY LEVEL CAREERS

Apprentice
Electrician Helper

THE BASICS
- Electrical Safety
- Trade Measurements
- Hand Tools
- Technical Calculations
- Basic Equipment and Procedures
- Wiring Methods

ELECTRICAL CIRCUITS I
- Power Calculations
- Specialized Tools and Equipment
- Circuit Fundamentals
- Magnetism
- Raceways and Fittings

ELECTRICAL CIRCUITS II
- Combination Circuits
- Trouble Shooting Methods
- Electrical Testing
- Cable
- Proper Enclosure Installation
- Ohm's Law

RESIDENTIAL AND BLUE PRINT READING
- Electrical Construction Drawings
- Overcurrent Protection
- Lighting
- Residential Service Installations
- Load Center Calculations
- Commercial and Industrial Services

A/C THEORY
- Single / Three Phase Distribution
- Transformers
- A/C Theory
- OSHA 10 Safety Certification

MOTOR CONTROLS
- Conductor Terminations and Splices
- Control Circuit Fundamentals
- Motor Controls
- Motor Theory and Application

RENEWABLE TECHNOLOGIES
- Renewable Energy
- Photovoltaic Systems
- Wind Technology
- Battery Technology
- Inverters and Application

CONTROL SYSTEMS AND INTERNSHIPS
- Circuit Breakers and Fuses - Calculations and Applications
- Three Phase Motors
- Contractors and Motor Starters
- Financial Literacy
- Internship