



Electrical Design, Installation, & Alternative Energy

2-Year Program

Plattsburgh Main Campus

Renewable-energy technologies along with traditional wiring is a rapidly growing sector of electrical constructing. An upgraded curriculum offers students the more current trade methods and equipment. Electrical construction training is based on compliance with the National Electric Code and emphasizes the electrical design, installation and maintenance of residential and commercial systems. With growing concerns about the future and security of electrical energy, renewable resources such as solar power are becoming increasingly important. Students will acquire the entry level skills necessary to meet the demands of a diverse trade and discover a rewarding future career.



Program Highlights

- Hands on Training
- Electrical Safety & OSHA 10 Training
- CPR Training
- Electrical Fundamentals
- Wiring Methods & Splicing
- Blueprint Reading-Circuit Design
- Heating and Appliance Installation
- Conduit Installation & Bending Methods
- Residential/Commercial Service Installations
- Electrical Troubleshooting & Repair
- Fire & Alarm systems
- Structured Wiring - Networks
- Solar-Wind Energy Trainer & Installations

Career Connections

- Residential Electrician
- Commercial Electrician
- Electrical Contractor
- Electrical Apprentice
- Solar Wind Tech
- Security & Alarm Tech
- Building Maintenance Electrician

Articulation Agreements

- Clinton Community College
- Lincoln Technical Institute
- SUNY Delhi

Certifications

- IBEW Certification Preparation
- First Aid/CPR
- OSHA-10: Construction
- NWRC/21st Century Skills

Special Notes

- Students are responsible for providing appropriate work clothes, footwear, hard-hats and safety glasses

Course of Study

Electrical Safety

- P.P.E. - Job Site
- OSHA 10 Training
- ARC Fault Safety

Electrical Fundamentals

- Ohms Law Formula
- Power Formula
- Series Circuit Problems & Lab
- Parallel Circuit Problems & Lab

Wire and Cable

- Variety of wire splices
- Conductor Properties
- Wire & Cable Methods

Lighting

- LED Fixture
- Outdoor Fixture
- Smoke Detector
- 3-way Switch

Appliance Circuits

- Energy Star Appliances
- Mechanical Ventilation & Control
- Dryer
- Range
- Electric Water Heater

Electric Service

- Utility Metering
- 200 Amp
- Pole Service
- Sub Feeder
- Size Circuit Breakers
- Arc Fault Breakers

New Construction Rough In

- Read Prints - Layout
- Cable Runs & Splices
- Lighting Schedule
- Circuit Tie-in

Conduit Formulas &

Bending

- Offsets
- Saddles
- Wire Fills - NEC appendix
- Rigid Conduit - Ream & Thread

Electrical Troubleshooting

- Fuses - Test - Sizing
- Motor Overloads
- Fluorescent Ballasts
- Circuit Breakers
- Meter Testing

Alarm & Control

- Alarm Cable
- Detecting Devices
- Fire Alarm Panel
- Program Events

Blueprint Design &

Research

- Interprets Prints & Symbols
- Produce Working Drawings
- Lighting Schedule
- Circuit Schedule
- Design PV Circuit
- Design Wind Power

Alternative Energy Lab

- Load Study & Management
- Utility Metering Specification
- Calculating Size
- Interconnect PV Panels
- Batteries
- Hybrid System
- Charge Controller
- DC Motor
- Charge Load

21st Century Skills

- Communication Skills
- Decision Making Skills
- Interpersonal Skills