



Get involved with these student organizations

- ▶ Future Business Leaders of America
- ▶ National Technical Honor Society
- ▶ Skills USA

NON-DISCRIMINATION POLICY

It is the policy of the Genesee Valley Educational Partnership not to discriminate on the basis of religion, sex, race, color, sexual orientation, national origin or disability in admissions, employment and treatment of students and employees in any educational program or activity.

For More Information...

**Batavia Career & Technical
Education Center**
8250 State Street Rd., Batavia, NY 14020
(585) 344-7711



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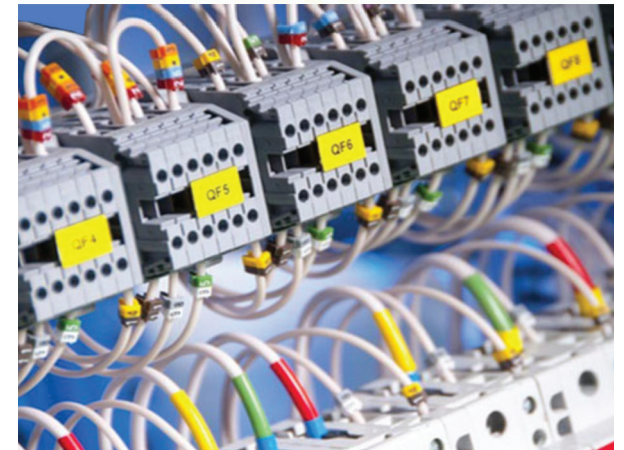
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2019-20

Electro-Mechanical Trades

Career & Technical Education



Genesee Valley Educational Partnership
success stories written here

Students in this program will learn basic electrical theory and how it applies to residential electronics, industrial electricity and mechanical and robotic operations. Students will understand how to read blueprints and apply that understanding to interpreting schematics and troubleshooting. The course will cover renewable energy (including solar and wind power), security systems and home entertainment.

UNITS OF STUDY

YEAR 1

- ▶ OSHA Safety (Construction 10 hour)
- ▶ Safe and Proper Tool use
- ▶ Blueprint reading
 - Electrical Construction Drawings
 - Schematics
- ▶ Basic Electrical Theory
 - Electrical Fundamentals
 - Basic Electricity
 - Basic Electrical Circuits
 - Electrical Systems and protection
 - Alternating Current
 - Motor, Generators, & Transformer
- ▶ Residential wiring
 - Services
 - Power Distribution
 - Home Entertainment Systems
 - Security Systems
 - RENEWABLE ENERGY SYSTEMS

YEAR 2

- ▶ OSHA Safety (General Industry 10 hour)
- ▶ Specialized Tools and Equipment
- ▶ Motor control
 - Advance circuits
 - Contactors and Motor Starters
 - Motor Theory and application
 - Trouble Shooting
 - Electrical Testing
 - Load Calculations
 - Commercial
 - Industrial

- ▶ Commercial and Industrial Wiring
 - Wiring Methods
 - Circuit Breakers and Fuses
 - Three Phase
- ▶ Premise Wiring
 - CATV
 - Network Wiring
 - Fiber Optic
 - Fire Alarm Systems

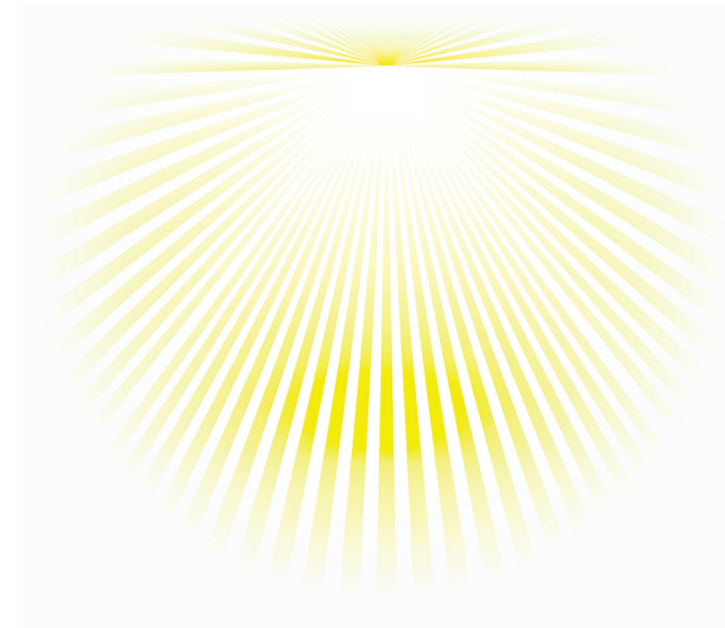
HANDS-ON ACTIVITIES

- ▶ Booth Wiring Practice
- ▶ House Project Wiring
- ▶ Motor Control Lab
- ▶ Building Maintenance
- ▶ Photovoltaic Array
- ▶ Wind Turbine Lab
- ▶ Fire Alarm Lab
- ▶ Network Wiring Lab

CAREER OPPORTUNITIES

(20 percent projected job growth from 2016-2026)

- ▶ Residential Electrician
- ▶ Commercial Electrician
- ▶ Industrial Electrician/Technician
- ▶ HVAC Technician
- ▶ Network/Communication Technician
- ▶ Fire Alarm Technician
- ▶ Home Entertainment Installer
- ▶ Lineman
- ▶ Electro-Mechanical Technician
- ▶ Building Maintenance
- ▶ Wind Mill Technician
- ▶ Photovoltaic Technician
- ▶ Home Entertainment Installation
- ▶ Security System Technician



- ▶ Home Energy Analyst Technician
- ▶ Manufacturing
- ▶ Aerospace

CREDIT AVAILABLE

High School

- ▶ 4.0 CTE
- ▶ .5 Career & Financial Management

Embedded

- ▶ 1.0 Math
- ▶ 1.0 Science

ELECTRO-MECHANICAL TRADES