

Joseph M. Barry Career & Technical Education Center  
1196 Prospect Ave.  
Westbury, NY 11590

### COURSE OUTLINE

Course Name: **Trade Electric Theory**  
Weeks: 6  
Sessions: 12  
Hours: 36  
Days/Time: Mon/Wed, 7-10 pm  
Instructor: Cass Rappa  
Required Textbook: None  
Prerequisites: None  
Adult evening Office: (516) 622-6950

#### Course Overview:

This course is required for those individuals interested in the electrical trades and is a prerequisite for all other electrical courses. Learn about electrical circuits, layout symbols, practical low voltage wiring, switches, wire sizes, and computing loads using Ohm's Law. Course includes handouts, support lectures and hands on lab work. The basics learned here will get you on your way to a rewarding career in the electrical field. Required: Students must provide basic hand tools (list provided first night of class). This is a Nassau BOCES *Green Certified* course.

Trade Electricity Certificate Program: Trade Electric Theory, Trade Electric I, Trade Electric II, Trade Electric III, Trade Electric IV, Minimum 270 hours.

#### Course Topics

Session 1 Basic Concepts of Electricity, Generation & Distribution  
Session 2 Basic Transformer Theory (Step up – Step Down – Isolation)  
Session 3 Fundamentals of DC  
Session 4 Fundamentals of AC  
Session 5 Safety and Protection  
Session 6 Conductors & Insulators  
Session 7 Hand Tools & Wiring Practices  
Session 8 Ohms Law Principles & Power and Wattage  
Session 9 Basic Series & Parallel Circuits  
Session 10 Elementary Circuitry – Open, Closed, Short  
Session 11 Circuit Analysis & Measurement – Voltage/Amps – Low Voltage Practice  
Session 12 Basic Wiring Symbols, Schematics

#### Green Technology topics to include:

Florescent bulbs, Insulation, Exhaust attic fan, Power Strips, High efficiency appliances, Skin conductors, Proper circuit breaker sizing.

Additional discussion may include: Solar Energy, Wind Energy, New & Emerging Technologies, Recycling of Materials (Copper & Aluminum).



#### **Adult Evening Program**

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