

Expect Excellence Apprenticeship Program

Level 1 – Self-Paced

This course introduces apprentices to the electrical trade, with emphasis on construction safety, fundamental electrical concepts, and the National Electrical Code (NEC). Students build a foundation in workplace safety, basic wiring principles, and the structure and application of the NEC. Coursework includes both theoretical instruction and applied examples.

Course Objectives

- Recognize electrical hazards and apply safe work practices, PPE requirements, and electrical safety procedures.
- Apply foundational electrical theory, Ohm's Law, Watt's Law, circuit calculations, and AC principles.
- Use digital multimeters and apply measurement principles to electrical systems.
- Explain the operation and application of motors, generators, relays, and transformers.
- Identify and apply overcurrent protection, GFCI/GFPE/AFCI/SPD, voltage-drop, and multiwire-circuit concepts.
- Navigate the 2026 NEC and apply fundamental requirements from Articles 90, 110, 200, 210, 250, 300, 310, and related wiring-method and equipment articles.
- Apply NEC requirements through activities and hands-on lab instruction involving switching, grounding electrodes, conductor ampacity and selection, box fill, wiring methods, and practical electrical skills.

Course Topics and Hours

Topic	Hours	Description
Electrical Safety & Safe Work Practices	6	Electrical hazards, safe work practices, PPE, electrical contact release, OSHA construction safety, falls, ladders, stairs, and scaffolds. Includes 4 hours of NFPA 70E-related electrical safety instruction.
Electrical Theory & Fundamentals	51	Electrical principles, circuits, power sources, electromagnetism, electrical math, Ohm's Law, Watt's Law, series and parallel circuits, AC fundamentals, inductance, capacitance, power, and power factor.
Meters, Equipment & Applied Electrical Concepts	42	Digital multimeter principles, switching, motors, generators, relays, transformers, overcurrent protection, GFCI/GFPE/AFCI/SPD concepts, voltage drop, multiwire circuits, and related applied electrical concepts.
NEC Fundamentals & Code Application	36	NEC navigation and fundamental requirements including Articles 90, 110, 200, 210, 250, 300, 310, 312, 314, wiring methods, devices, equipment, lighting, grounding electrodes, conductor ampacity, and box fill.
Review & Assessment	21	Module reviews, quizzes, electrical theory review and examination, Level 1 comprehensive review, and final examination.

Total Contact Hours: 156

Instructional Method:

The Expect Excellence Apprenticeship Program follows the Mike Holt 2026 Electrical Apprenticeship Program curriculum, utilizing Mike Holt textbooks and supporting instructional materials. Level 1 is delivered asynchronously. Students complete assigned coursework, instructional materials, activities, quizzes, examinations, and required assignments according to established pacing milestones and may work ahead of the recommended schedule. A mentor instructor provides ongoing instructional support, answers student questions, monitors progress, and assists students with course concepts as needed. Required hands-on laboratory instruction reinforces safety procedures, electrical theory, NEC application, wiring methods, tool use, calculations, and practical electrical skills.