



## CNC Technical Solutions - Phase 0 Introduction to Basic Electricity Course Outline

### Phase 0 – Introduction to Basic Electricity

**Classroom and Lab Hours** – Combined 64 Total hours.

**Typical method of delivery** - 1 day of class per week, 8 hours a day. Instructor led, combined classroom and lab delivery.

**Phase 0 - Introduction to Basic Electricity** is a class designed to prepare students for entry into our Phase 1 Industrial Electricity & Electronics Program. This course should be seriously considered for students who need a refreshing of, or perhaps have never been exposed the world of industrial electricity / electronics and the associated theories and mathematics that accompany this field. This class will be instructor-led and covers both the Electrical & Electronic theory, practical applications and math concepts required to successfully introduce a student into this field. This class will combine electrical theory and lab experiments to build the students' understanding of electricity. This is all working toward a foundational electrical understanding and of the math skills that will be required for our Phase 1 program.

#### **Basic Electricity R&EA**

- Fundamental concepts of electricity
- Technical Vocabulary
- Electrical Shop Math - Pier Wheel
- Engineering Notation
- Scientific Notation
- Use of the Ti-30 calculator for electrical shop math
- Meter usage Analog and Digital
- Batteries
- Series DC Circuits
- Parallel DC Circuits
- Electrical conductors and wiring techniques
- Breadboard Test & Electrical Experimentation

#### **Anticipated Learning Outcomes**

Upon completion of Phase 0 - Introduction to Basic Electricity the student will achieve the following Learning Outcomes.

- Comprehend basic electrical fundamentals, laws and principles of electricity
- Comprehend Electrical Shop Math and Technical Terminology
- Be proficient in the use of analog & digital volt meters.
- Be proficient in building and wiring basic electrical components and circuit boards.
- Student will be ready for the Phase 1 Industrial Electronics