

In this module you will dive into the inner workings of the machines in which you have been learning to operate. Basics of Electronics ties in how these machines operate from their core fundamentals to the individual components required to make machines work with precision. The goal of this module is to pull back the veil of CNC machining so

that you may be able to use this knowledge when preparing files for your projects.

Final Deliverables

Read and Understand these terms for use later in this module.

A1- Intro to Circuits

With this assignment you will be introduced to terms and concepts that are used while Wiring. Understanding these terms will allow you to interface with Circuit Diagrams Arduinos, and Motors later in this module. Terms such as : Circuit, Ground, Positive, Negative, Voltage, and Amperage, are all commonly used while preparing a circuit. For this assignment please read and understand how each of these terms applies to circuits and electronics.

Circuit - This pertains to a complete circular path that electricity flows through. A simple circuit consists of a current, source, conductors, and a load. The term circuit can be used in a general sense to refer to any fixed path that electricity, data, or signal can travel through.

Ground- An electrical reference point that connects to the earth. Ground connects to neutral at a single neutral point on an electrical system measuring zero volts (0 volts).

Amperes- Electrical measurement of the quantity of the flow of electrons.

Current Flow Direction- It is not known for sure what direction currents flows. The conventional theory of current flow is from positive (+) to negative (-).

Voltage - The electrical force or potential difference measured in volts (V).

Ohms- Electrical measurement of the opposition of the flow of electrons in a conductor.