



C THE World Academy

Electronics 101 and ARDUINO Class

January 2-4, 2013

Horizon Community Church – 2121 Dad Clark St., Highlands Ranch, CO 80126

Itinerary

Wednesday, January 2

Introduction to Electricity and Electronics

Morning:

What is electricity? Static, Circuit, and Electromagnet Hands-on experiments with the power of electricity.

12-12:45 LUNCH

Afternoon: Emphasis on circuit boards. What is a breadboard? How does Arduino differ than “plain” circuit boards? What makes Arduino special? We'll be learning how to set up the Arduino board, the software program and get an LED to light up.

Thursday, January 3

ALL ABOUT ARDUINO! If you only are in camp this day, you'll learn all you need to know to get started with Arduino.

Morning:

What is Arduino? Input (photoresistors, push buttons, potentiometers) vs. Output (LEDs Servo Motors, piezoelectric speakers), Analog vs. Digital, introduction to C++/programming

LUNCH

Afternoon: Learn a few different ways to make the Arduino work for you. We'll be making multiple LEDs light up in a specified sequence, getting a speaker to “sing” and more!

Friday, January 4

Playing around with Arduino

Today is the “now-what” kind of day. How do we apply what we learned yesterday about Arduino to create our own inventions?

We'll also be learning about 7-segment displays (that's what a digital clock has for it's numbers)

Throughout each day we will have “stretch and movement” breaks to make sure the body doesn't go numb while the brain is on fire.