Smart Traffic Lights

**Lesson Description**

This course is an introduction to Arduino circuit building and programming. The targeted age group for this course is students between 12 to 16 years old. Students will be learning open source prototyping of Techtronic’s platform. Students will create interactive electronic objects using an Arduino board, micro controllers and so on.

Prerequisite

The student must have completed VEX EDR

Instruction Method

Lectures, Videos, Labs and Discussion.

Schedule

Other Information

**Parts**

* Red LED
* Yellow LED
* Green LED
* Infrared Emitter and Transistor: https://www.creatroninc.com/product/940nm-infrared-emitter-transistor-pair-ltr-4208-ltr-3208/
* Arduino UNO
* 220 Ohm resistor x4
* 2k Ohm Resistor
* F-F Jumper Wires
* M-F Jumper Wires
* Breadboard

**Procedure**

* Connect the 3 LEDs to 3 of the digital pins on the Arduino using 3 220 Ohm resistors
* Connect the IR emitter to one of the digital pins using one 220 Ohm resistor
* Connect the positive pin of the Transistor to 5V
* Connect the negative pin of the transistor to ground using the 2k Ohm resistor
* Connect the negative pin of the transistor to one of the analog pins on the Arduino