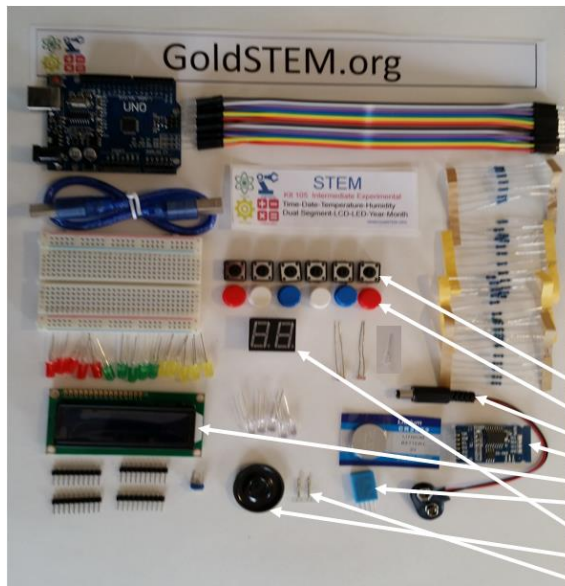


Kit 105 Intermediate Experimental

Price \$49.95



Item #	Kit 105 INTERMEDIATE EXPERIMENTAL	Quantity	Check list
1	Arduino UNO R3 Compatible	1	
2	Male to Male Dupont cable	20	need to separate
3	USB Cable	1	
4	Breadboard 400 Holes	1	
5	LED Red	5	
6	LED Green	5	
7	LED Yellow	5	
8	LID White	5	
9	LED RGB Red Green Blue	1	
10	Resistor 220 Ohm	10	
11	Resistor 1K	10	
12	Resistor 10K	10	
13	Resistor 100K	10	
14	Photo resistor 5516	2	
15	Button Switch	6	
16	Button Switch Cover	6	
17	9V Battery Connector	1	
18	DS3231 Clock Memory Module Temperature	1	
19	LCD 1602 5V Blue 2X16	1	Need to solder header
20	DHT11 Temperature and Humidity	1	
21	2 Digit Multiplexed Common Anode LED	1	
22	Speaker 28MM 1W 80Ohm	1	Need to solder lugs
23	Speaker Solder Lugs	2	

The course is broken down for beginners with no electronics or programming experience. It starts out with hands on, how to load the code and get the on board led to blink. Once the experiment is completed the hardware is analyzed, schematics are reviewed and code is analyzed. Students can then build on their experience and modify the blinking rate of the LED light emitting diode, and get multiple LED's to blink in sequence.

By the end of the lesson the student will be exposed to reading schematics, ohms law, electronic components, resistors, led, microprocessor, how to wire circuits, and programming.

Students work in teams and learn the value of collaboration and project management.

Basics

The course starts out with the basics, just the absolute information to get started and complete the experiments. After the experiment is successfully completed you can read up and learn about the details of the components and software needed to complete the experiment. For this reason we suggest you follow the course in the sequence intended. We have provided hot links so you can go back to more basic experiments to find out what you need to know to complete the more complex experiments.

- 1) Identifying Parts in the Kit
- 2) How to use the bread board
- 3) How to find and load code to Arduino
- 4) Onboard LED Blink
- 5) External LED Blink
- 6) Four LED Sequencing
- 7) Counting binary
- 8) Morse Code LED SOS Save our Ship
- 9) Dimmable LED with photo resistor
- 10) Traffic Light Red Yellow Green
- 11) Color Spectrum display RGB Led

- 12) 7 segment Display Counting 0 – 99
- 13) Speaker Sound Music
- 14) Speaker Frequency Dependent on Photo resistor
- 15) Temperature and Humidity to Terminal in Celsius
- 16) Temperature in Fahrenheit to Terminal
- 17) Time Date Day and Temperature to Terminal
- 18) Time 24 hour Day name Temperature Fahrenheit to Terminal
- 19) LCD Hello World
- 20) LCD Hello World Count
- 21) LCD Thermostat
- 22) LCD Clock
- 23) LCD Clock Calendar
- 24) LCD Clock Calendar Temperature
- 25) LCD Clock Calendar Temperature Fahrenheit