

Physics 37100 Advanced Physics Laboratory I

Lab #1

(PART I: The Equipment)

1) Obtain: (*starred items are available for use in MR422)

Required:

- Arduino uno R3 or clone w/ usb cable
- Solderless Breadboard
- *Jumper Wires
- *Light sensor (photoresistor, phototransistor, photo cell)
- *LEDs
- *Resistors (100, 1K, 10K, 100K)
- *Variable resistor (any size from 1K-100K)

Optional:

- *Transistors (ex. 2N2222)
- Small DC Motor
- *Diodes (ex. 1N4148)
- SPDT 5V Relay
- Piezo Speaker
- Anything you might want for your project

Some links to Amazon:

Full Starter Kits:

Official kit:

https://www.amazon.com/gp/aw/d/B009UKZV0A/ref=mp_s_a_1_1?qid=1448997975&sr=1-1&pi= SX200 QL40&keywords=arduino+kit&dpPI=1&dpID=51mGYf6gUJL&ref=pl_Srch

Similar starter kits:

https://www.amazon.com/Elegoo-Project-Starter-Tutorial-Arduino/dp/B01DGD2GAO/ref=sr_1_19?s=pc&ie=UTF8&qid=1472416547&sr=1-19&keywords=arduino+kit

https://www.amazon.com/Elegoo-Project-Tutorial-Prototype-Expansion/dp/B01D8KOZF4/ref=sr_1_5?s=pc&ie=UTF8&qid=1472416547&sr=1-5&keywords=arduino+kit

https://www.amazon.com/gp/aw/d/B00U11ES8I/ref=mp_s_a_1_11?qid=1448998092&sr=1-11&pi=AC SX110 SY165 QL70&keywords=arduino+kit

https://www.amazon.com/gp/aw/d/B00JUW71QK/ref=mp_s_a_1_13?qid=1448998169&sr=1-13&pi=AC SX110 SY165 QL70&keywords=arduino+kit

https://www.amazon.com/gp/aw/d/B00UV7KAPM/ref=mp_s_a_1_14?qid=1448998242&sr=1-14&pi=AC SX110 SY165 QL70&keywords=arduino+kit

Original brand Arduino:

https://www.amazon.com/gp/aw/d/B008GRTSV6/ref=mp_s_a_1_1?qid=1448998331&sr=1-1&pi= SX200 QL40&keywords=arduino+uno&dpPI=1&dpID=51shUptLQcL&ref=plSrch

Clones:

https://www.amazon.com/gp/aw/d/B00P2FX9WY/ref=mp_s_a_1_3?qid=1448998618&sr=1-3&pi= SY200 QL40&keywords=arduino+uno&dpPI=1&dpID=51qulzfFFjL&ref=plSrch

https://www.amazon.com/gp/aw/d/B00OBSD202/ref=mp_s_a_1_2?qid=1448998664&sr=1-2&pi= SY200 QL40&keywords=arduino+uno&dpPI=1&dpID=51dgrNaaD2L&ref=plSrch

Component Kits (no Arduino included):

https://www.amazon.com/Elegoo-EL-CK-002-Electronic-Breadboard-Potentiometer/dp/B01ERP6WL4/ref=sr_1_14?s=pc&ie=UTF8&qid=1472416547&sr=1-14&keywords=arduino+kit

Breadboard:

https://www.amazon.com/gp/aw/d/B012587L2E/ref=mp_s_a_1_10?qid=1448998735&sr=8-10&pi= AC SX110 SY165 QL70&keywords=breadboard

Jumper wires:

https://www.amazon.com/Honbay%C2%AE-120pcs-Multicolored-Female-Breadboard/dp/B017NEGTXC/ref=sr_1_2?ie=UTF8&qid=1472416357&sr=8-2&keywords=jumper+wires

https://www.amazon.com/CHENBO-140pcs-Solderless-Breadboard-Arduino/dp/B01CKULUQK/ref=sr_1_13?ie=UTF8&qid=1472416450&sr=8-13&keywords=Breadboard+Board+Jumper+Cable+Wire+Kit