



January 15, 2016
Lab 6 Soldering
Joseph Tabas

Introduction

All lab report content must be written in your own words, no copy and paste or retyping of others work. Save your lab report as a Microsoft Word document with file name:

LASTNAME_Tech10500_LAB#. You will then submit the lab report in the Assignments section in Canvas. All submissions must be through the Canvas drop box. No submissions via email or messages will be accepted. The due date will be posted in the assignment section on Canvas (typically at the beginning of the next week's lecture). Late labs will not be accepted for any reason.

In today's lab student will learn to safely use equipment to assemble a system. In this case, the system is a circuit and the equipment is a soldering iron. If the components and equipment are unfamiliar to you, be sure to pay close attention to the precautions and watch the how to solder video.

Precautions

Extreme caution must be practiced while performing this lab as soldering irons are extremely hot and will burn anything that they come in contact with including, but not limited to: laptops, humans, the table, etc. Safety glasses must be worn at all times during this lab. Failure to do so will result in failure of this lab and possibly class. It is advised that you wash your hand at the completion of this lab as the solder can potentially contain harmful chemicals and/or elements.

If you have never soldered before, click on the link below and watch the short video.

[Click Here](#)

If the link does not open, go to YouTube, search for "How to Solder" by the curious inventor.

Use the free version, not the pay for version.

Procedure

Step 1: Prepare soldering irons.

- Dampen the sponge. (This doesn't mean dripping with water.)
- Insure the soldering iron is away from all objects.
- Turn the soldering iron on. Turn the dial on the stand approximately $\frac{3}{4}$ of the way up.

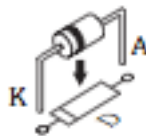
Step 2: Using the Internet identify and sort the components in the kits.

- Resistors (identified by the color bands on them)
- Capacitors
- Integrated Circuits (IC)
- LEDs
- Variable Resistors
- Connection Posts
- Circuit Board

Step 3: Solder the connection posts into their proper locations, then solder the resistors onto the board in their proper locations. Resistors are not polarity sensitive.

Step 4: Solder the IC cradle, not the actual Chip onto the board and in their proper locations.

Step 5: Solder the capacitors into their proper locations. (Capacitors are polarity sensitive. Use the Internet to determine what side is + and what side is -.)



Step 8: Solder the LEDs into their proper location. (These LEDs are polarity sensitive. The flat

side of the LED is the negative side. The direction the triangle points is the negative side on the board.)

Course Work

1. Using the Internet write a paragraph explaining what the function of a capacitor is. This must be in your own words.
2. Using the Internet write a paragraph explaining what the function of a resistor is. This must be in your own words.
3. What is an example of a conductor?
4. What is an example of an insulator?
5. Identify each schematic symbol:



Results and Analysis

This is where you discuss the data and/or outcome(s) meaning, what did you learned from this lab, and how what you learned will benefit you. You should also discuss whether the objective(s) were met and any mistakes you might have made.

Conclusion

A single paragraph that sums up what happened in the lab. Did you succeed, if so why, if not why not? You should also give some feedback as to what you think of the lab and the course so far. This includes what skills you have learned in the lab.

Appendices

This is the section that should contain charts, graphs, tables, etc. All of the objects in this sections must have a unique caption that identifies each object so that they can be referenced in your report, use the caption tool in word, it makes this process easier.

If your research was based on someone else's work or if you cited facts from any books or textbooks, websites, lab material, etc., then you must list these references in APA format here.