EE 452 Lab Safety Guidelines

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1 General Safety Precautions and Guidelines

This document outlines some basic principles that you are expected to adhere to while working on your experiments to achieve a safe operating environment. These guidelines are by no means inclusive of all necessary precautions.

- Before powering up your circuits for the first time, you must have a 1-on-1 with one of the instructors or the TA.
- Avoid loose wires, cables, and connections.
- Assume any exposed metal is live with electricity unless otherwise verified.
- Check the polarity of all your connections before powering up.
- Only make changes to your circuit when the circuit power is turned off and all power sources read zero voltage and zero current, as applicable.
- Use wires of suitable length for their appropriate applications. Long wires or connections can cause clutter on a bench and may snag on other objects, whereas very short wires or connections can be too tight and may be easily disconnected.
- Ensure the voltage produced by your power supply is what you expect before connecting it to your circuit. If you have a variable voltage power supply, make sure that it starts from a zero voltage and zero current output and then raise it to the desired operating voltage/current.
- Turn off all equipment when not in use. Do not leave live circuits unattended.
- Provide appropriate ventilation for cooling your circuit.
- Remove jewelry, metal watches, or other metal accessories while performing any experiment, as these can be dangerous in the vicinity of electrical connections.
- Be mindful of loose apparel, long hair, and exposed skin as these may come in contact with electrical connections.

- Be sure your soldering iron is turned off when not in use and that the tip is in the iron holder when not in active use.
- Wash your hands after soldering.
- Take care when probing your circuit (using a multimeter or scope probes) such that the probes don't short your circuit.
- Your work space (table) should be non-conductive. Avoid placing your circuit on metal objects as these could cause unintended electrical connections. Likewise, ensure there are no metal shards on your PCB as these could also create unintended electrical connections.
- Be mindful of liquids in your work space. Spilling liquid on your circuit could be hazardous.
- If available, wear safety googles or glasses to protect your eyes.

2 COVID-19 Guidelines

The lab section will follow the UW Covid protocols. Masks will be mandatory when you are in the lab, and will be mandatory in the building as long as the UW protocol mandates it. If you need to take off your mask, vacate the building (nearest exit out and to the right of the ECE137 room). If your soldering iron and/or circuit is powered on, there must be at least 1 team member attending it. Otherwise, power down your soldering iron and circuit.

3 Sign and Date:

Sign

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Date

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