



TECHIN512 Lab Safety Manual

Safety is always the No.1 priority for any labs! Before you begin any lab, please read this safety manual carefully.

The University of Washington has an Electrical Safety course. Please finish this course (25min).

<https://www.ehs.washington.edu/training/electrical-safety-basic-online>

1. **Disconnect power connections to the circuit immediately** in the event of an emergency, this is **always the first step**. Then unplug the power supply.
2. **Always make sure you are safe first**, then try to save instruments.
3. If you are not sure of anything, **ask instructor or TA**.
4. Ensure a **clean workspace**. Make sure that there are only the necessary instruments and components in your workspace. Especially, beware of any combustible.
5. **Wear a glass**. Debris from a failing component (such as capacitors) can hurt your eyes.
6. **Beware of water!** Water should never meet with instruments and components. Always make sure your hand is dry before doing any operation.
7. Always **pay full attention** when working on labs. Danger hides behind carelessness.
8. **Do not leave powered instruments and circuits alone**. If you need a pause, turn off the power supply.
9. **Components can be very hot!** Although the labs use only low voltages. If everything is correct, nothing should be burning hot. However, if part of a circuit is shorted by errors, components can be very hot, especially resistors. If your circuit gets hot or does not work well, turn off the power connections, be careful when removing components, simply wait several minutes and let them cool down. Then check all the connections again.
10. **Always set a conservative current limit for your DC power supply**. Start with a low current value, if you find the voltage drops because the current limit is too low, it is never too late to raise the current limit afterwards.
11. **Never short a battery!** Unlike bench-top DC power supply which has a shortcut protection, batteries do not. Shortcutting batteries can be very dangerous and cause fire.
12. **No food or drinks when doing labs**.