Lab Safety Guideline for EECE5698-08

General Lab Safety Rules

1. **Access and Supervision:**

   - Only students **registered** for this course are permitted in the lab.
   - A minimum of **two people** must be present during any experiment. At least one of these individuals must be a staff member (instructor or TA). This is crucial for emergency response.

2. **Prohibited Items and Activities:**

   - **NO** food or drink is allowed in the lab at any time. This prevents contamination of equipment and potential spills.
   - **NO** running, horseplay, or other distracting activities are permitted. Always maintain a professional and safety-conscious demeanor.
   - Do **NOT** remove any equipment or tools from the lab.

3. **Workstation Management:**

   - Keep your workstation **clean and organized**. A cluttered workspace increases the risk of accidents.
   - Clean up your area **after each project or task** to maintain a clutter-free environment for the next user.

4. **Seeking Help:**

   - When in doubt, **ask the TA or instructor**. Never assume something is safe if you are unsure.

Electrical Safety

1. To prevent damage to lab equipment and your laptop, **avoid short-circuiting** the positive (+) and negative (-) leads.
2. Do **NOT** wear rings, necklaces, bracelets, or any other conductive jewelry. These items can act as a path for electricity and cause severe burns or electrocution.
3. If you are unsure, please **have the TA confirm your circuit** connection before powering on any circuit to avoid equipment damage.
4. Please strictly **follow the specified input and output voltage** during the experiment. Otherwise, your load may be easily damaged.

Audio Safety

1. When playing the 50 Hz – 10 kHz frequency sweep tone, **always wear the provided earplugs**. High-frequency sounds (approaching 10 kHz) can be sharp, uncomfortable, and cause hearing damage with prolonged exposure.

Laser Safety

2. **ALWAYS** wear the provided protective goggles when using the laser. The laser light can cause permanent eye damage.
3. **NEVER** point the laser at yourself or others, especially toward the eyes. A direct or reflected beam can cause irreversible retinal injury.

DC Power Supply Usage

1. We should use the black cable on the upper right to connect to the Output Negative (-), and the red cable to connect to the Output Positive (+).
2. The correct sequence for using this DC power supply should be
    a. Disconnect the load from the power supply output leads.
    b. Turn on the power supply using the rear switch.
    c. Adjust the Voltage and Current knobs (Coarse and Fine) until the output is set to 3V or 5V (according to the specific experiment requirements). Confirm on the display that the power supply is operating in CV (Constant Voltage) mode.
    d. Turn off the power supply.
    e. Connect the positive and negative output leads to the loads
    f. Turn on the power supply.
3. If you want to adjust the load connection during the experiment, please make sure to first switch off the rear power switch of the DC power supply and only modify the load connection after the power has been completely turned off.

Teensy Board Usage

1. **Connect wires before powering on:** Always disconnect power before modifying wiring to avoid accidental short circuits.
2. **Prevent electrostatic damage:** Use an anti-static wrist strap in dry environments.