Safety requires thinking ahead and considering all the possible safety hazards that might occur. Students should determine the most effective means of preventing each and every possible hazard for the work to be performed. Implement all controls deemed necessary prior to commencing the work.

Electric current can cause injury or even death. 10mA can cause muscles to contract and prevent a person from letting go of the device producing the current. Ventricular fibrillation can be started by a current from 100mA-300mA. An AC current of ≈ 60mA and a DC current of ≈ 350-500mA will cause fibrillation.

Metal rings, bracelets, and even sweat can provide a conducting path for current and sufficient current flow through those materials can produce enough heat to burn the body. Prior to working with or around exposed voltages over 24V, jewelry should be removed and stored away from the work and the hands should be kept dry.

Some other safe practices to consider:

* Be rested, alert, and attentive.
* Limit distractions while working.
* Keep work area clean and clear of un-needed materials.
* Use eye protection as necessary.
* Use tools and instruments properly and as recommended.
* Do not exceed component current, voltage, or temperature ratings.
* Always apply proper voltage polarity to electrolytic capacitors.
* If fire, smoke, or excessive heat conditions are detected or suspected, remove power immediately.

Safety can only be maintained if everyone is aware and diligent about safe practice and prevention.