UNC CHARLOTTE
Department of Engineering Technology

LABORATORY SAFETY ANALYSIS

OPERATING A POWER SUPPLY

Location: All Smith Electrical/Computer Engineering Technology Labs.

Required Training: A Power Supply is designed and intended for use by properly trained and experienced operators. If you are not familiar with the proper and safe operation of the equipment, do not use until proper training and knowledge have been obtained.

Required Personal Protective Equipment (PPE): Safety glasses closed toed shoes.

Reference Materials: Manufacturer's safety rules and operating instructions

PHOTOS	TASK	HAZARDS	CONTROLS
	Wear clear safety glasses with side shields.	Flying debris	• Students are required to provide their own safety glasses. • See laboratory instructor or laboratory manager if you do not have safety glasses before proceeding to use equipment.
	Inspect safety glasses for cracks, scratches or other damage. Ensure the ANSI standard Z87.1 is stamped into the side of glasses.	Flying debris	• If defects are found report this to your lab instructor before using.
	Put on PPE	Flying debris	• Always wear safety glasses.
	Inspect work area.	Slips, trips & falls.	• Keep the work area free from scraps, dust, oil and grease.
	Preparing to operate a power supply	Shock Hazard/ Damage to the power supply.	• Read operating instructions thoroughly and completely before operating the power supply. Note all cautions very carefully. • Always inspect your power supply's power cord and accessories for any signs of damage or abnormalities before every use. • If the electrical cord is damaged or worn the electrical cord should be unplugged and tagged "Out of Service-Do Not Use". • This should be reported to your

			laboratory manager immediately. • Electrical cord replacement should only be conducted by a factory authorized technician.
	Ensure the electrical cord is connected to the outlet.	Shock Hazard/ Damage to the power supply	• Caution: Always remember to disconnect the electrical power cord when operation is complete or when you leave the work station for an extended period of time.
	Operating a power supply	Injury/ Damage to the Power Supply	• Disconnect ac power before making output terminal connections. • The output of the supply is isolated from earth ground. Either output terminal may be grounded or the output can be floated up to 240 volts off ground. • Each load should be connected to the power supply output terminals using separate pairs of connecting wires. This will minimize mutual coupling effects between loads and will retain full advantage of the low output impedance of the power supply. Each pair of connecting wires should be as short as possible and twisted or shielded to reduce noise pickup (if a shield is used, connect one end to the power supply ground terminal and leave the other end unconnected). • Never ground yourself when taking electrical measurements. Keep your body isolated from ground by using dry clothing, rubber shoes, rubber mats or any suitable and approved insulating material. • Never touch exposed wiring, connections or live circuit conductors when attempting to take measurements.
	MAINTENANCE	Shock Hazard/ Damage to the power supply.	• Keep the Power Supply dry and dust free. If it gets wet, wipe it dry immediately. Liquids can contain minerals that can corrode electronic circuits. • Use and store the power supply only in normal temperature environments. Temperature extremes can shorten the life of electronic devices, damage batteries, and distort or melt plastic parts. Handle the power supply gently and carefully. Dropping it can damage the circuit boards and cause the power supply to work improperly

	Clean work area and return all PPE to a clean storage area.	Injury	• Ensure adequate housekeeping measures to prevent accidents.

For more information about this LSA, contact the *Department of Engineering Technology* at UNC Charlotte (704) 687-2305
Please visit our website at: http://www.et.uncc.edu\

The development of Laboratory Safety Analyses is a very effective means of helping reduce incidents, accidents, and injuries in the workplace. It is an excellent tool to use for training purposes and can also be used to investigate "near misses" and accidents.