



The Electrical and Computer Engineering Department of North South University requires the students, staffs, and faculties to follow the basic General Laboratory Safety Rules in all department operated labs.

Using laboratory equipment to perform any kind of experiments contains some elements of risk, particularly in power system labs. Safe working habits are important for your safety and the safety of people around you.

### GENERAL LABORATORY SAFETY RULES

- ❖ Smoking, including electronic cigarettes, is prohibited in all laboratories.
- ❖ Shoes shall be worn that provide full coverage of the feet, and appropriate personal clothing shall be worn in laboratories.
- ❖ Students shall be familiar with the locations and operation of safety and emergency equipment such as, emergency power off, emergency telephones, and emergency exits.
- ❖ Do not displace or remove laboratory equipment without instructor or technician authorization.
- ❖ Never open or remove cover of equipment in the laboratories without instructor authorization.
- ❖ If for a special reason, it must be left on, a barrier and a warning notice are required.
- ❖ Report all problems and difficulties to the instructor.
- ❖ In case of emergency, call NSU Campus Security (02-55668200 *ext. 1231 or 6042*) or dial 999.

### ELECTRICAL SAFETY GUIDELINES

- ❖ No laboratory should be performed without laboratory instructor present.
- ❖ Before equipment is made live, circuit connections and layout should be checked by the instructor.
- ❖ Never make any changes to circuits without first isolating the circuit by switching off and removing connections to supplies. Disconnect the power source before implementing or repairing electrical equipment.
- ❖ Voltages above 50 V<sub>rms</sub> AC and 50 V DC are always dangerous. Extra precautions should be considered as voltage levels are increased.
- ❖ When it is necessary to handle electrical equipment that is plugged in, be sure hands are dry and, when possible, wear nonconductive gloves, protective clothes and shoes with insulated soles.
- ❖ Never handle electrical equipment when hands, feet, or body are wet or perspiring, or when standing on a wet floor.
- ❖ Equipment producing a tingle or found to be faulty in any way should be reported immediately and not used until it is inspected and declared safe.
- ❖ In Power and High Voltage lab, if it is safe to do so, work with only one hand, keeping the other hand at your side or in your pocket, away from all conductive material. This precaution reduces the likelihood of accidents that result in current passing through the chest cavity.
- ❖ When it is necessary to touch electrical equipment (for example, when checking for overheated motors), use the back of the hand. Thus, if accidental shock were to cause muscular contraction, you would not freeze to the conductor.
- ❖ Do not keep foods, drinks, or any highly flammable liquids near electrical equipment.

- ❖ If water or a chemical is spilled onto equipment, shut off power at the main switch or circuit breaker and unplug the equipment.
- ❖ Remove metal bracelets, bangles, rings or watchstraps from hands. Do not use metallic ruler on workstation.
- ❖ Use extension cords only when necessary and only on a temporary basis.
- ❖ Do not use damaged cords, cords that become hot, or cords with exposed wiring. Inform the instructor about damaged cords.
- ❖ Know the correct handling procedures for batteries, cells, capacitors, inductors and other high energy-storage devices.
- ❖ Report accidents as soon as possible to the department chair, department secretary, or the faculty in charge of the lab.

## EMERGENCY RESPONSE

### **Electric Shock:**

- ❖ Each lab has an Emergency Power Off button. Localize the Emergency Power Off button in your lab at the beginning of the semester.
- ❖ A serious electrical shock can make a person unconscious. Immediately turn off the electrical power source if the victim is still in contact with the electrical current
- ❖ If it is too risky or you cannot disconnect the power source, push in the Emergency Power Off button.
- ❖ When you provide help, do not touch a victim that is still in contact with a power source.
- ❖ For medical support, call NSU Medical Center (02-55668200 *ext. 6220*).

### **Burn:**

- ❖ In case of burn, hold burned skin under cool (not cold) running water or immerse in cool water until pain subsides. Use compresses if running water isn't available.
- ❖ For medical support, call NSU Medical Center (02-55668200 *ext. 6220*).

### **Electrical Fire:**

- ❖ If a small electrical fire occurs, try to disconnect the electrical power source, if possible. Do not put yourself at risk.
- ❖ Do not use water on an electrical fire.
- ❖ The fire detection system is comprised of centrally connected smoke detectors. In case of fire, the system automatically calls the Fire Department. When the Fire Alarm sounds, you need to evacuate the building immediately. Never assume the alarm is false or use an elevator to exit during a fire alarm is active.

## REQUIRED SAFETY EQUIPMENT

- ❖ Fire extinguishers (CO<sub>2</sub>)
- ❖ Smoke Alarm
- ❖ Signage
- ❖ First Aid Kit Box
- ❖ Smart Circuit Breaker Panel