

University of Sindh



SINDH UNIVERSITY ENVIRONMENTAL, HEALTH AND SAFETY POLICY

	NAME & DESIGNATION	SIGNATURE	DATE
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Reviewed by:	Health & Safety policy committee members. 1. Dean Faculty of natural Sciences 2. Dean Faculty of Engineering and Technology 3. Director Institute of Biochemistry 4. Chairman Deptt. Of Physiology 5. Director SFAO 6. Director QEC		
			16-5-23
			16-5-23
Approved by:	Professor (Meritorious) Dr. Muhammad Siddique Kalhoro		16.5.2023
	Vice-Chancellor		
Date of Issue:			



UNIVERSITY OF SINDH

ALLAMA I.I. KAZI CAMPUS, JAMSHORO SINDH, PAKISTAN

REGISTRAR

NO.SU/G/ 210

Date: 31-05-2023

NOTIFICATION:

The Vice Chancellor, University of Sindh, Jamshoro has been pleased to approve the Sindh University Environmental, Health and Safety Policy, recommended by the committee formed in this regard. The policy will provide a strong foundation for ensuring the health and safety of all staff members of the University of Sindh (including faculty members, staff, students and visitors).

DR. GHULAM MUHAMMAD BHUTTO
REGISTRAR

Copy to all Concerned:



UNIVERSITY OF SINDH

ALLAMA I.I. KAZI CAMPUS, JAMSHORO SINDH, PAKISTAN

REGISTRAR

NO.SU/GI/800

Date: 25.10.2022

NOTIFICATION:

The Vice Chancellor, University of Sindh, Jamshoro is pleased to constitute a Health and Safety Policy Committee for accreditation of Sindh University in Pakistan Engineering Council (PEC), comprising on the following members:

COMMITTEE

- | | | |
|----|--|-------------------------------|
| 1. | Prof. Dr. Wazir Ali Baloch
Dean, Faculty of Natural Sciences
University of Sindh | Convener |
| 2. | Prof. Dr. Khalil-u-Rehman Khoubati
Dean, Faculty of Engineering and Technology,
University of Sindh | Co- Convener |
| 3. | Prof. Dr. Naseem Aslam Channa
Director, Institute of Biochemistry,
University of Sindh | Member |
| 4. | Prof. Dr. Zulfiqar Ali Laghari
Chairman, Department of Physiology,
University of Sindh | Member |
| 5. | Prof. Dr. Mushtaque Ali Jariko
Director, SFAO,
University of Sindh | Member |
| 6. | Dr. Altaf Nizamani
Director QEC,
University of Sindh | Member /
Secretary |

TOR's of the Committee:

- To prepare the final draft of Health and Safety Policy, University of Sindh and present to respective forum for approval.

By order of the Vice-Chancellor

DR. GHULAM MUHAMMAD BHUTTO
REGISTRAR

Copy to all Concerned:

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GENERAL STATEMENT OF POLICY, DUTIES & RESPONSIBILITIES

1. INTRODUCTION

The University of Sindh, Jamshoro, has recently ratified an administrative policy aimed at minimizing on-the-job accidents and illnesses and safeguarding the environment. These policies are intended to serve as a basis for creating safety and environmental health initiatives in every department. The University of Sindh acknowledges that the well-being and safety of its students, faculty, and staff are paramount.

APPLIES TO

This policy applies to all faculty, staff, students, researchers, and all other individuals working at the University of Sindh and its associated campuses.

2. POLICY STATEMENT

The health and safety policy of the University of Sindh prioritizes the safety of all individuals involved in its operations. The university firmly believes that no task or service is so urgent that it cannot be carried out in a safe and environmentally conscious manner. The university pledges to abide by all relevant regulations to ensure the protection of employees, students, university property, the community, natural resources, and the environment.

Moreover, the University of Sindh is committed to constructing, operating, and maintaining its facilities in a way that fosters a healthy and safe work environment for all personnel and the surrounding community.

3. POLICY PURPOSE

The purpose of University of Sindh's environmental health and safety program is to:

- Provide students, faculty, and staff with a safe and healthy work environment
- Develop safety awareness among employees and others engaged in work for University of Sindh so that accidents (personal injuries and property damage) and occupational illnesses will be reduced to a minimum.
- Identify and control safety, public health, and environmental hazards associated with their operations
- Work constructively with government agencies and others to develop and implement laws, regulations, and standards to protect public health, safety, and the environment, and Work with the University administration to assure adequate funding and staffing for environmental health and safety programs.
- Provide adequate working conditions with proper facilities to safeguard the health and safety of personnel and to ensure that any work which is undertaken produces no unnecessary risk to health or safety

- Provide information to other employers about any risks to which those employer's workers on the university's premises may be exposed

This policy statement and/or the procedures for its implementation may be altered at any time by the Health & Safety Committee (H&SC). The Committee will be nominated by the Vice-Chancellor for three years. The statement and the procedures are to be reviewed each year by the committee *or by other persons (Experts)* appointed by the Committee. A report on the review, with any other proposals for amendment to the statement of procedures, is to be made to the next ordinary meeting of the Committee.

4. SAFETY GOALS

- The development of ongoing safety consciousness among all members of the University community, and
- A reduction in occupational injuries and illnesses and the associated loss of productivity.

The success of the University's health and safety effort depends on:

- Acceptance of the concept that all serious injuries can be prevented
- All students, faculty, and staff participating in health and safety training programs recognise that it is to everyone's advantage to work safely.

5. UNIVERSITY HEALTH AND SAFETY DIRECTIVES

The University's H&S policy shall be implemented through a series of approved manuals and other documents, as appropriate to the operations of University of Sindh. H&S committee shall be responsible for the development, distribution, and maintenance of these manuals. The list of specific policies, procedures and recommended practices for implementation is given below:

- I. General Health and Safety Procedures (**Appendix-I**)
- II. Safety Policy for Electronic Engineering Labs (**Appendix-II**)
- III. Safety Policy for Telecommunication Engineering Labs (**Appendix-III**)
- IV. Radiation Safety Policy¹
- V. Biosafety Policy¹
- VI. Chemical Waste Management Policy¹
- VII. Environmental Management Plan¹

These documents contain essential information regarding health and safety policies that students, faculty, staff, and visitors must adhere to while working at University workplaces. The policies aim to provide personnel with comprehensive guidance to comply with local, state, and federal regulations for occupational health and safety.

If anyone needs information about health and safety training programs, they can contact the University of Sindh's H&S Committee. The health and safety programs offered by

¹ Available at the department level (if applicable)

the university are designed to minimize or prevent occupational injuries and illnesses through appropriate training and preventive activities.

6. POLICY FOR VISITORS AND CONTRACTORS

Upon arrival, all visitors must be directed to the duty representative of the relevant section or a representative of the building's user/hirer. This person will take responsibility for the visitor(s) and assist them in evacuating the building during an emergency or arrange for help in case of an accident. Additionally, all visitors, including contractors and their workers, are required to sign a record of their arrival and departure, which includes the date and time.

Contractors working in the building are responsible for reporting any concerns related to their own safety or suspected unsafe working practices to the Duty representative of the relevant section. The representative will investigate the matter and report to the committee.

7. SAFETY RESPONSIBILITIES

Individual Responsibilities

All University employees have an individual responsibility to:

- Know and follow all health and safety rules, policies, and procedures for the area in which they are working and maintain a safe work environment
- Use good judgment and report to their section head immediately, all - unsafe conditions, accidents, and work-related injuries and illnesses (every occupational accident or injury) must be reported immediately by filling out the Incident Reporting Form-A. The form must be returned to the section head for further processing.
- Know the hazards of the materials and equipment they work with and follow the specified precaution
- Properly use all safety equipment provided
- Participate as needed in exposure hazards measurement programs
- Participate as needed in safety training programs
- All university employees also have a collective responsibility to assure that their work activity is conducted in such a way that it does not affect the safety of others.

Department Level H&S Manager

The H&S manager or departmental coordinator is designated as the sectional head responsible for implementing applicable policies and directives and ensuring that personnel and operations they supervise comply with all relevant requirements.

Their responsibilities include taking proactive steps to identify and minimize accidents and incidents associated with their operations, informing employees and students of the safety hazards associated with their work, instructing them on safe work methods, keeping them updated on the latest procedures, and ensuring that they perform their

work in accordance with the established requirements. Their ultimate goal is to reduce accidents and incidents to as low as reasonably achievable.

Deans, Directors, and Section/Department/Institution Heads

According to the University of Sindh's H&S policy, Deans, Directors, and Section/Department/Institution Heads are responsible for ensuring that all department-related activities comply with established safety requirements in their respective areas.

The Deans have the primary responsibility for safety in their respective faculties and report directly to the Vice Chancellor. Within their faculties, management is responsible for ensuring that facility operations and all other activities under their direction conform to the University's H&S policy and its implementing plans and procedures.

Vice Chancellor

The ultimate responsibility for safety within the University of Sindh lies with the Vice Chancellor or the H&S Focal person nominated by the Vice-Chancellor. They meet this responsibility by establishing safety requirements for all operations within the University.

8. GENERAL ARRANGEMENT AND PROCEDURES

First Aid and Accident Reporting

First Aid

- The current First Aider(s) for the premises is/are displayed (*on the Notice Board in the Reception Area of each section/department*).
- First Aid Boxes are provided in the following location(s):
 - i) Department Office/Hostel Reception (*example*)
 - ii) Laboratories (*example*)
 - iii) Kitchen (*example*)

Accidents

- In the event of an injury or illness, call for a member of staff or ring for an ambulance directly. To call an ambulance – dial 1122 and ask for “ambulance”;
- All accidents must be reported to the Health and Safety Officer or another member of staff on duty immediately or as soon as practicable;
- All accidents must be entered on an accident form, available from the reception desk. The procedures for “notifiable” accidents as shown in Appendix A below must be followed;
- The Health and Safety Officer will investigate incidents and accidents, writing a detailed report for the University’s H&S Committee to consider the actions necessary to prevent a recurrence.

Fire Drills

- All students, faculty members, and staff must know the fire procedures, the position of fire appliances and escape routes.

in the event of a Fire

- Persons discovering a fire should sound the nearest alarm if available or inform the H&S supervisor. The first duty of all employees is to evacuate all students or visitors from the building by the nearest exit immediately after the fire is discovered.
- All persons must evacuate the building and, where possible without personal risk, leave all doors and windows closed;
- The assembly point for the building is at the
- No one should leave the assembly point without the permission of a member of staff;
- If **any** fire occurs, **however minor**, the Fire Brigade must be called immediately by dialing ----- or 1122 and asking for “Fire”;
- When the Fire Brigade arrives advise whether all persons are accounted for and the location of the fire.

Bomb Warnings

- If you receive a warning, try to find out from the caller:
 - i) The approximate location of the bomb and likely time of detonation;
 - ii) Whether the police and fire brigade have been notified;
 - iii) Try to RECORD EXACTLY WHAT IS SAID:
- Notify the Police immediately on 15

Cleaning Materials, General Machinery and High-Risk Areas

- All portable machinery must be switched off and unplugged when not in use;
- Wandering cables are a hazard; use them with caution and safety in mind;
- Slippery floors and dangerous; use warning signs;
- Use protective clothing and equipment provided and as instructed on machinery/equipment/material. A worker has to report any loss of or defect in protective clothing or equipment.

General

- All thoroughfares, exits and gates must be left clear at all times;
- Corridors and fire exits must not be blocked by furniture or equipment;
- Vehicles must not be parked near the building to cause any obstruction or hazard;
- Hazards or suspected hazards or other health and safety matters should be reported to the Health and Safety Officer or the staff member on duty immediately or as soon as practicable so that action can be taken. If the hazard is serious, immediate action must be taken to protect or clear the area to prevent injury to staff or other users.

-----The End-----

Appendix-I

GENERAL HEALTH AND SAFETY PROCEDURES

The Environment, Health and Safety manual provides University employees with written health and safety policies and procedures for promoting a safe and healthy work environment.

Health and Safety Sub-committee

The sectional head may appoint a Health and Safety Sub-committee/coordinator at the departmental level, for the purpose of;

- To have a broad overview of Health and Safety matters;
- To conduct safety tours of the premises;
- Ensure that risk assessments are carried out, including assessments regarding substances hazardous to health;
- To take such action as may be required to ensure that the University's responsibilities for Health and Safety are fulfilled;
- To report to the Management Committee on their performance of these responsibilities.

Contractors working in the building should report any concerns relating to their own safety or suspected unsafe working practices to the Duty representative of the coordinator/sectional head who will investigate and report to the University's H&S committee.

Safety Tours

The Health and Safety Committee will conduct tours and inspections of the premises every six months and generate a report. Any necessary actions identified during the tour will be implemented where reasonable and feasible. The inspection will also cover a review of the Accident File.

Accident Forms and Book

It is mandatory to maintain an Incident Reporting Form (Appendix-A) in each department or section. Any incidents or accidents that result in injuries to students, faculty members, staff, or visitors on the premises of the department or section, no matter how minor, must be recorded in this form. The form should be kept and maintained within the department or section.

Fire Precautions

It is mandatory for all personnel to acquaint themselves with the fire escape routes and protocols and to comply with the instructions of the authorities regarding fire safety.

Equipment and Appliances

The use of any equipment or appliance that is not provided or authorized by the university is prohibited. In addition, any instructions provided for the use of authorized equipment or appliances must be strictly followed.

Safety Clearways

Corridors and doorways must be kept free of obstructions and properly lit.

Maintenance

Defective equipment, furniture and structures must be reported as such without delay.

Hygiene and Waste Disposal

The University requires that waste materials be disposed of in a clean and hygienic manner, using appropriate facilities and in accordance with any special instructions relating to the material concerned. It is the responsibility of all personnel to ensure that waste disposal areas are kept clean and tidy.

Display Screen Equipment

The University acknowledges its obligation to safeguard the health and well-being of employees who frequently use display screen equipment as a substantial part of their regular job. Such employees are advised to take a five-minute break from the display screen equipment at least once every hour.

Alcohol, Drugs and Tobacco

Smoking and drug use (unless under medical supervision) are strictly prohibited within the university premises. The use of alcohol is also strictly prohibited on university premises. No employee or volunteer is allowed to perform their duties while under the influence of alcohol or drugs, except under medical supervision.

Food Hygiene

When handling or preparing food there are specific hygiene requirements:

- Regularly wash hands before and during food preparation and especially after using lavatory;
- Ensure cuts or sores are covered with correct waterproof dressings;
- Keep yourself clean and wear clean clothing;
- Remember that smoking in a food room is illegal;
- Never cough or sneeze over food;
- Clean as you go. Keep all equipment and surfaces clean;
- Ensure waste food is disposed of properly. Keep the lid on the rubbish bin and wash your hands after putting waste in it.

Appendix-II

Safety Policy for Electronic Engineering Labs

The primary goal of this safety policy is to guarantee the secure and efficient functioning of the Electronics Engineering laboratories as part of the BE Electronic Engineering program. All individuals present in the labs are obligated to adhere to the safety regulations at all times. Additionally, every student enrolled in the lab course must sign the safety agreement located at the conclusion of this policy document.

General laboratory guidelines and safety instructions

- Ensure that no one gets injured or harmed during the experiment.
- Handle the equipment in a way that prevents any damage or destruction.
- Carefully follow all written and verbal instructions, and ask for help if needed.
- Always work in a group or under the supervision of the instructor/lab engineer.
- Conduct only the experiments that are specified in the instructions or authorized by the instructor/ lab engineer.
- Keep the workplace clean and organized at all times, including before, during, and after the experiment.
- Review the handout and procedures before beginning the experiment.
- Misconduct on purpose will result in expulsion from the lab.
- Avoid bringing any food or drinks into the lab.

Electrical Safety

It is crucial to promptly turn off the current flow to prevent health hazards and to take all necessary precautions to minimize risks when dealing with electricity. Exposure to electrical current can cause severe injuries or even death. The extent of the damage depends on several factors such as the amount of current, frequency, path through the body, and type of current (AC or DC).

- Current flow up to 0.5 mA is not noticeable, while slight tickling can be felt above this level.
- At 10 mA, there will be muscle contractions and breathing difficulties, and it becomes difficult to release objects.
- Although not harmful to healthy individuals, current flow above 200 mA can lead to fibrillation, cardiac arrest, and other health issues.
- For currents exceeding 500 mA, chemical poisoning can also occur, leading to death even after several days.

While DC is often considered less dangerous, it can still cause harm at higher values. Calculating a safe touch voltage requires considering the human body's resistance, which can vary from 600 to 6000 Ω based on factors such as skin moisture, physical attributes, and the voltage involved. Higher voltages result in lower resistance, and therefore, there is no definitive safe touch voltage. Additionally, malfunctioning or damaged equipment in the laboratory can pose a risk of fire, increasing the potential hazards.

Further to this, fire is a potential hazard when working with electrical equipment in the laboratory. This can be caused by various factors such as damaged or frayed cables, overloaded electrical sockets, or faulty equipment. It is important to inspect equipment before use and report any damaged or malfunctioning equipment to the lab instructor or

supervisor immediately. Electrical equipment should also be turned off and unplugged when not in use. Proper storage of equipment and chemicals should also be ensured to prevent the risk of fire or explosion.

Handling of Electronic Components

Proper handling of electronic circuits and components is crucial to avoid damage or destruction. Overheating, driving too much current, polarity mix-up, and electrostatic discharge (ESD) are some of the factors that can cause device failure. To prevent damage, always refer to the relevant documentation, handouts, or datasheets and follow the instructions carefully when handling electronic devices.

ESD happens when two objects with different electrical potentials transfer a sudden charge to balance out their potentials. This phenomenon often occurs when non-conductive materials come into contact and then separate. The type and amount of charge transferred, whether positive or negative, depend on the materials involved. Common materials in laboratory and business environments, such as plastics, fabrics, and human skin, can generate static electricity.

To control electrostatic discharge (ESD), the following principles should be followed:

- **Grounding:** Using grounding is an effective way to discharge static charges from the body when working with electronic components. This can be done using a personal grounding device or a wrist strap. To ensure proper function, the wrist strap must be worn tightly to maintain skin contact and connected to a common point ground at a workstation that is static-safe. To prevent any damage to circuit boards, it is important to never remove the board from its anti-static packaging unless you are properly grounded.
- **Isolation:** It is important to note that static charges can be prevented from affecting electronic components by using containers made of conductive materials or those that have a conductive layer. This effect is commonly referred to as the Faraday cage. There are different types of Faraday cages that can be used to control ESD, including metallized shielding bags and conductive tote boxes with covers. To avoid damaging circuit boards, it is recommended not to remove them from anti-static packaging until you are ready to install them.
- It is crucial to dissipate any static charges on the exterior of Faraday cages before opening them. Therefore, it is essential to open these protective containers only at a static-safe workstation by personnel who are properly grounded. Moreover, isolation can also be achieved by keeping any materials that generate charges away from ESD-sensitive items. This is best done by clearing your workstation of:
 - Plastic bags
 - Cellophane tape
 - Paperwork
 - Common untreated plastic materials
 - Styrofoam cups
- **Prevention:** Prevention is the area where you can make the biggest difference. Proper use and implementation of ESD control materials are not the only weapons for fighting the ESD battle. Several common sense rules can be applied. These rules do not require additional materials but are extremely effective in preventing static damage.
 - Never enter an ESD-sensitive area without taking the proper precautions.

- Test ground devices for correct operation daily.
- Open ESD-sensitive items only at a static-safe workstation.
- Always keep your workstation clean and clear of unnecessary material, particularly common plastics.
- Place ESD-sensitive items on a dissipative surface, not on top of a blueprint or other paperwork.
- Return ESD-sensitive items to their ESD-protective containers when not actively working with the items.
- Do not hold ESD-sensitive items against your clothing. Even if you are wearing a wrist strap, your body is grounded but your clothes are not!

Other Laboratory Rules and Safety Precautions

- Do not touch open wires unless you are sure there is no voltage.
- Use coloured wires of suitable length and keep only what you need for each experiment.
- Switch off the power supply before making changes to the experiment, even if the voltage is low.
- Switch off and disconnect all equipment after each lab session.
- Report any dangerous or exceptional conditions to the instructor or lab engineer immediately such as equipment that is not working as expected, wires or connectors that are broken, or equipment that smells or “smokes”.
- Never use damaged instruments, wires, or connectors. Hand them to the instructor or lab engineer

Safety Agreement

I acknowledge the safety rules and understand that following them is important for my safety and others in the lab. To ensure a safe environment, I will cooperate with my instructor and classmates and adhere to all written and verbal instructions. I am aware that any violation of these rules that result in unsafe conduct in the laboratory or misbehaviour on my part may result in being removed from the laboratory.

Name:

Roll No:

Date:

Signature:

Appendix-III

Safety Policy for Telecommunication Engineering Labs

The aim of this safety policy is to guarantee the safe and smooth operation of the Telecommunication Engineering labs associated with the BE Telecommunication Engineering program. Adhering to the safety guidelines and rules is necessary to ensure the well-being of individuals, prevent significant damage or loss, and ensure the successful completion of lab activities. It is mandatory for all individuals present in the lab to strictly follow the safety regulations. Additionally, students enrolled in the lab course are required to sign the safety agreement provided at the end of this policy document.

General laboratory guidelines and safety instructions

- Be sure to read all fire alarm and safety signs and follow the instructions in the event of an accident or emergency.
- Ensure you are fully aware of your lab evacuation procedures.
- Make sure you know where your lab's safety equipment—including first aid kit(s), and fire extinguishers.
- Do not chew gum, drink, or eat while working in the lab
- Never use lab equipment that you are not approved or trained by your instructor/Lab Engineer to operate.
- Handle the equipment in a way that prevents any damage or destruction.
- Carefully follow all written and verbal instructions, and ask for help from the lab attendant if needed.
- Always work in a group or under the supervision of the instructor/lab engineer.
- Conduct only the experiments that are specified in the instructions or authorized by the instructor/ lab engineer.
- Never leave an ongoing experiment unattended.
- Horseplay, running or practical jokes must NOT occur in the lab.
- Keep the workplace clean and organized at all times, including before, during, and after the experiment.
- Review the handout and procedures before beginning the experiment.
- Misconduct on purpose will result in expulsion from the lab.

Electrical Safety Limits

The impact of electrical current on the human body can result in severe injuries or even fatalities. The degree of injury is determined by factors such as the amount of current, frequency, path through the body, and type of current (AC or DC). Current flow up to 0.5mA is not noticeable, while slight tickling can be felt above this level. At 10mA, there will be muscle contractions and breathing difficulties, and it becomes difficult to release objects. Although not harmful to healthy individuals, current flow above 200mA can lead to fibrillation, cardiac arrest, and other health issues. For currents exceeding 500mA, chemical poisoning can also occur, leading to death even after several days. It is important to switch off the current flow promptly to avoid health hazards and to take all necessary precautions to minimize risks when working with electricity.

DC is generally considered less hazardous, but can still cause the effects described at higher values. To determine a safe touch voltage, one must take into account the resistance of the human body, which varies between 600 to 6000Ω depending on factors such as skin moisture, the individual's physical characteristics, and the voltage itself.

There is no set value for a safe touch voltage, as resistance decreases with higher voltage. In addition to the risk of injury, there is also a potential danger of fire in the laboratory caused by broken or damaged equipment.

Handling of Electronic Components

To prevent damage or destruction of sensitive electronic circuits and components, it is essential to handle them with great care. Driving too much current through the device, overheating, polarity mix-up, and electrostatic discharge (ESD) are some of the ways that can lead to device failure. Always follow the instructions provided in the handout, datasheet, or other relevant documentation when handling electronic devices to prevent any damage.

An ESD event occurs when there is a sudden transfer of charge between two objects to balance their electrical potential. This phenomenon is commonly observed when two electrically non-conductive materials come into contact and then separate. The type and amount of charge transferred, whether positive or negative, depends on the materials involved. Many common materials found in business and laboratory environments, such as plastics, fabrics, and even human skin, can be sources of static electricity.

To control electrostatic discharge (ESD), the following principles should be followed:

- **Grounding:** Grounding is a means of draining the static charges present on your body, by use of a personal grounding device or a wrist strap. To function properly, a wrist strap must always be worn snugly to assure skin contact at all times and grounded to a common point ground at a static-safe workstation. To avoid possible damage to a circuit board, never remove the board from its anti-static packaging unless you are personally grounded.
- **Isolation:** Static charges cannot penetrate containers that are made of conductive materials or have a conductive layer. This effect is called the Faraday cage. The types of Faraday cages commonly used in controlling ESD are metallized shielding bags and the conductive tote box with a cover. Do not remove circuit boards from anti-static packaging until you are ready to commence installation.
- These Faraday cages can carry static charges on their exterior that should be dissipated before opening. Therefore, it is imperative that these protective containers only be opened at a static-safe workstation by properly grounded personnel. Isolation can also be accomplished by keeping charge-generating materials away from any ESD-sensitive items. This is best done by clearing your workstation of:
 - a. plastic bags
 - b. cellophane tape
 - c. paperwork
 - d. common untreated plastic materials
 - e. Styrofoam cups
- **Prevention:** Prevention is the area where you can make the biggest difference. Proper use and implementation of ESD control materials are not the only weapons for fighting the ESD battle. Several common sense rules can be applied. These rules

do not require additional materials but are extremely effective in preventing static damage.

- a. Never enter an ESD-sensitive area without taking the proper precautions.
- b. Test ground devices for correct operation daily.
- c. Open ESD-sensitive items only at a static-safe workstation.
- d. Always keep your workstation clean and clear of unnecessary material, particularly common plastics.
- e. Place ESD-sensitive items on a dissipative surface, not on top of a blueprint or other paperwork.
- f. Return ESD-sensitive items to their ESD-protective containers when not actively working with the items.
- g. Do not hold ESD-sensitive items against your clothing. Even if you are wearing a wrist strap, your body is grounded but your clothes are not!

Electrical and ESD Safety Rules

- Before using any high-voltage equipment (voltages above 50Vrms ac and 50V dc), make sure you get permission from your lab instructor/Lab Engineer.
- High-voltage equipment should never be changed or modified in any way.
- Make sure the grounding arrangements have been properly done.
- Always turn off a high-voltage power supply when you are attaching it.
- Use only one hand if you need to adjust any high-voltage equipment. It's safest to place your other hand either behind your back or in a pocket.
- Make sure all electrical panels are unobstructed and easily accessible.
- Do not touch open wires unless you are sure there is no voltage.
- Use coloured wires of suitable length and keep only what you need for each experiment.
- In case of doubt, use the min, and max levels of currents, voltages, and powers as mentioned by the manufacturer.
- Avoid touching pins, leads, or circuitry.
- Always be properly grounded when touching a static-sensitive component or assembly.
- Wear an ESD wrist strap connected by a ground cord to a grounded workstation or unpainted surface of the computer chassis. Wrist straps are flexible straps with a minimum of 1 megohm (± 10 percent) resistance in the ground cords. To provide proper ground, wear the strap snug against the skin.
- If an ESD wrist strap is unavailable, touch an unpainted surface of the chassis before handling the component.

Laser safety rules

The experiments where a laser is involved, the following rules must comply.

- While performing experiments, always listen to instructions from the Lab Engineer in areas of the lab where lasers are present.
- Even if you are certain that a laser beam is "eye" safe or low power, you should never look into it.
- The most common laser injuries are those caused by scattered laser light reflecting either off the shiny surface of optical tables, the sides of mirrors, or off of mountings. Be cautious to avoid damage from such scattered light.
- You should never keep your head at the same level as the laser beam.
- Always keep the laser beam at or below chest level.

- Laser beams should never be allowed to spread into the lab. Beam stops should always be used to intercept laser beams.
- Do not walk through laser beams.

RF & Microwave Equipment Safety Guidelines

RF and microwave equipment should be visually inspected carefully before starting operations.

1. Visual inspection should include:
 - a. General safety/housekeeping conditions in the surrounding area
 - b. Presence and functionality of safety interlocks
 - c. High voltage safety features (e.g. grounding rods, etc.)
 - d. Condition of cables and coax lines that transmit RF
 - e. Presence and condition of RF shielding.
2. Operational inspection should include:
 - a. Monitoring or indicated of RF levels by vendor, especially in occupied spaces
 - b. Test of interlocks to inhibit RF generation when tripped
 - c. Verify proper use of "lockout / tagout" for RF and/or high voltage equipment.

Post Lab/During Lab Safety Precautions:

- Switch off the power supply before making changes to the experiment, even if the voltage is low.
- Switch off and disconnect all equipment after each lab session.
- Report any dangerous or exceptional conditions to the instructor or lab engineer immediately such as equipment that is not working as expected, wires or connectors that are broken, or equipment that smells or "smokes".
- Never use damaged instruments, wires, or connectors. Hand them to the instructor or lab engineer

Safety Agreement

I acknowledge the safety rules and understand that following them is important for my safety and others in the lab. To ensure a safe environment, I will cooperate with my instructor and classmates and adhere to all written and verbal instructions. I am aware that any violation of these rules that result in unsafe conduct in the laboratory or misbehaviour on my part may result in being removed from the laboratory.

Name:

Roll No:

Date:

Signature:



Form-A

UNIVERSITY OF SINDH
Environmental Health and Safety Committee (EH&SC)
INCIDENT REPORTING FORM

To be completed by the user involved in/reporting the incident. This form is to be used to report all incidents. Please complete and submit to the EH&S within 24 hours

Reference No.: _____

FACULTY		
DEPARTMENT		
PI/ Laboratory Personnel Information		
PI/ Laboratory Personnel Name		
Telephone:	Office:	Mobile:
Incidence time (00:00 am/pm)		
Incidence date (dd/mm/yyyy)		

IDENTIFY THE DIRECT AND CONTRIBUTING CAUSES OF THE INCIDENT

1. Describe the incident: (Attach extra sheet if needed)

2. Does the incident cause any injury? (please give details of injuries/trauma/name of the person(s)) (Attach extra sheet if needed)

3. Probable cause or causes of the incident (tick 1 or more boxes for appropriate answers).

Fault of equipment ☐	Inadequate workspace ☐	Weather ☐
Equipment unavailable ☐	Lack of training ☐	Assistance unavailable: ☐
Poor storage ☐	Poor access ☐	Electrical fault ☐
Incorrect method/work ☐	Carelessness ☐	Unknown ☐

Others*

4. Did the incident contribute to any release or dispersal of potentially biohazardous materials outside the containment/ field experiment area?

If “Yes”, please state the emergency response plan taken. (Attach extra sheet if needed)
5. What act(s) by the staff and/or others contributed to the incident (e.g. wrong tool or equipment, improper position or placement, work rule violation, failure to follow instructions, etc.)?
6. What personal factors contributed to the incident (e.g. improper attitude, fatigue, inattention, substance abuse, failing to wear PPE etc.)?
7. What corrective actions have been or will be taken to prevent a recurrence of this type of incident (e.g. repair / modify/replace equipment, counselling, training, policies, procedures, etc.)?
8. Who is responsible to implement corrective actions?
Signature of the reporting person Name: Telephone: Date:
Signature and stamp of the Institute/Department/Section Head Name: Telephone: Date:
For official use only: