

Safety and Incident Management Plan for Simulation Lab

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Introduction

The Simulation Lab at Ahsanullah University of Science & Technology (AUST) is equipped with state-of-the-art computers, multimedia projectors, and high-speed internet to facilitate learning and research in simulation-based software applications. Students use software such as ANSYS, MATLAB, SolidWorks, MS Excel, Minitab, and Wolfram Mathematica for both coursework and research. This document outlines safety protocols, incident prevention strategies, and emergency response measures for the Simulation Lab, meeting the accreditation criteria for a safe and controlled learning environment.

Safety Rules and Practices

To ensure a safe environment in the lab, the following safety rules and procedures are enforced:

- **Personal Protective Equipment (PPE):** Although the lab poses minimal physical risk, users are advised to wear PPE, such as anti-static wrist straps, when necessary for handling sensitive electronic equipment.
- **Restricted Access:** Only authorized personnel, including students enrolled in relevant courses, are allowed to use the lab. Access is supervised by the Lab In-Charge or Lab Assistant.
- **Ergonomics Awareness:** Proper seating and workstation ergonomics are encouraged to reduce strain during extended software use. Students are instructed on proper posture and screen positioning.
- **Electrical Safety:** Electrical equipment, such as computers and projectors, should be handled carefully. Students must report any malfunctioning equipment immediately.
- **Data Backup and Security:** Students are encouraged to back up their work regularly and follow cybersecurity protocols to protect sensitive data.
- **Software Usage Policy:** Only authorized software is permitted on lab computers. Unauthorized downloads and installations are strictly prohibited.

Incident and Accident Prevention Procedures

The following procedures are implemented to minimize the risk of incidents:

- **Routine Inspections:** The Lab In-Charge conducts routine checks of all equipment, including computers, projectors, and network connections, to ensure everything is operational and safe.
- **Regular Maintenance:** Computers and related equipment are regularly maintained to prevent unexpected failures during use.
- **Safety Training:** All users are briefed on lab safety protocols, including emergency exit routes and correct usage of electronic devices, at the beginning of each term.
- **Cybersecurity Measures:** Lab computers are equipped with antivirus and fire-wall protection. Students are trained to avoid suspicious links and unauthorized websites to prevent data breaches.

Provisions for Managing Accidents and Health Hazard Conditions

In the event of an emergency or health hazard, the following provisions are in place:

- **Emergency Contacts:** Contact details for the Lab In-Charge, Warden, Assistant Warden, and campus medical services are posted at prominent locations.
- **First Aid Kit:** A first aid kit is available in the lab to address minor injuries, such as cuts or strains.
- **Fire Extinguishers and Emergency Power-Off Switches:** Fire extinguishers are easily accessible, and emergency power-off switches are located near the exits to quickly shut down all electrical equipment if necessary.
- **Emergency Response Protocol:** In case of a fire or other emergencies, the Lab In-Charge should be notified immediately. They will contact the Warden and Assistant Warden to coordinate with the AUST Fire/Disaster Safety Team.
- **Evacuation Procedure:** In the case of a serious emergency, such as fire or electrical hazard, all personnel should evacuate via the designated exit routes to the assembly point outside the building.

Roles and Responsibilities

Lab In-Charge

The Lab In-Charge is responsible for the overall safety and management of the Simulation Lab. Key responsibilities include:

- Conducting routine safety checks and ensuring all equipment is in working order.

- Providing safety and cybersecurity training to students and staff.
- Responding to incidents and coordinating with the Warden and Assistant Warden during emergencies.
- Reporting any safety concerns to the Department Head and ensuring corrective actions are implemented.

Lab Assistant/Attendant

The Lab Assistant, under the supervision of the Lab In-Charge, is responsible for:

- Assisting with the setup, maintenance, and troubleshooting of lab equipment.
- Monitoring students during lab sessions to ensure safety and adherence to lab protocols.
- Reporting any technical or safety issues to the Lab In-Charge promptly.

Warden and Assistant Warden

As part of the AUST Fire/Disaster Safety Team, the Warden and Assistant Warden are responsible for:

- Assisting with evacuation procedures during emergencies.
- Coordinating with external emergency services if necessary.
- Reporting the incident to the Campus Safety Task Force.

Lab-Specific Incident Prevention Plan

The following guidelines apply to the Simulation Lab to ensure safe and efficient operation:

1. **Using Simulation Software:** Students should handle computers carefully and follow proper procedures when using software such as ANSYS, MATLAB, and SolidWorks. Regular backups of work are advised to prevent data loss.
2. **Ergonomic Best Practices:** Students should maintain an ergonomic posture to reduce strain during prolonged use of computers.
3. **Electrical Safety:** Only qualified personnel should attempt repairs on electrical equipment. Computers should be turned off after use, and unauthorized devices are not allowed.

Conclusion

The Simulation Lab at AUST is committed to upholding high standards of safety and incident prevention. Through established safety protocols, preventative measures, and emergency response plans, the lab provides a secure environment for students and staff. Regular reviews and updates to this safety plan ensure compliance with accreditation requirements and evolving safety standards.