

# Safety and Incident Management Plan

## Sheet Metal Lab

Department of Mechanical and Production Engineering (MPE),  
Ahsanullah University of Science and Technology (AUST)

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### Introduction

The Sheet Metal Lab is an essential facility within the Department of Mechanical and Production Engineering (MPE) at Ahsanullah University of Science and Technology (AUST). It is equipped with contemporary material processing equipment, including bending machines, sheet metal rolling machines, pipe bending machines, and shear machines. The lab plays a critical role in providing undergraduate students with hands-on experience in basic bending operations, metal-forming techniques, and sheet metal joining and pipe-bending processes.

### Objective

To implement a comprehensive plan ensuring safety, prevention, and effective management of incidents and accidents in the Sheet Metal Lab, fostering a secure learning environment for students and staff and meeting accreditation requirements.

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## 1. Laboratory Safety Rules

### 1. General Rules

- PPE such as gloves, safety goggles, steel-toed footwear, and face shields must be worn at all times.
- Lab access is restricted to authorized personnel during operating hours.
- Loose clothing, jewelry, and long hair must be secured to prevent entanglement.
- Eating, drinking, and other non-laboratory activities are strictly prohibited.

### 2. Behavioral Rules

- Follow the instructions of the Lab In-Charge and Lab Assistant/Attendant without exception.
- Maintain a clean and organized workspace to minimize hazards.
- Report any malfunctioning equipment or unsafe conditions immediately.

### 3. Equipment-Specific Rules

- Ensure machines (bending machine, rolling machine, pipe bending machine, shear machine) are inspected before use.
- Operate machinery only after receiving proper training and authorization.
- Use tools and equipment only for their intended purposes.

- Ensure all safety guards and protective shields are in place before starting operations.
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## **2. Safety Procedures and Practices**

### **1. Before Lab Sessions**

- The Lab In-Charge conducts a weekly inspection of all machines for proper functioning.
- The Lab Assistant/Attendant checks the availability and condition of first aid kits, fire extinguishers, and emergency tools.
- Conduct an orientation session at the beginning of each semester to familiarize students with lab safety protocols and equipment operations.

### **2. During Lab Sessions**

- Students must operate machines under direct supervision of the Lab Assistant/Attendant.
- The Lab Assistant/Attendant ensures adherence to safety protocols and monitors students for unsafe practices.
- The Lab In-Charge oversees critical operations, ensuring compliance with safety and procedural standards.

### **3. After Lab Sessions**

- Machines must be turned off, and tools properly stored.
  - Waste materials and debris must be disposed of following lab guidelines.
  - The Lab Assistant/Attendant logs any incidents or equipment maintenance needs in the Lab Report Log.
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## **3. Provisions in Case of Accidents and Health Hazards**

### **1. Emergency Equipment**

- **First Aid Kit:** Stocked with antiseptics, bandages, and burn treatments, easily accessible in the lab.
- **Fire Safety Equipment:** Includes fire extinguishers and fire blankets, regularly inspected and positioned near exits.
- **Emergency Stop Switches:** Clearly marked on all machines for immediate shutdown in case of malfunction.

### **2. Emergency Response**

- **Minor Incidents:**
  - The Lab Assistant/Attendant provides immediate first aid.

- The incident is documented in the Lab Incident Report Log.
  - **Major Incidents:**
    - The Lab In-Charge notifies the designated Warden and Assistant Warden as part of the AUST Fire/Disaster Safety Team.
    - Emergency services are contacted if necessary.
3. **Evacuation Procedures**
- Follow the AUST emergency evacuation plan.
  - The Lab In-Charge leads the evacuation while the Lab Assistant/Attendant ensures all students and staff have exited safely.
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## 4. Roles and Responsibilities

1. **Lab In-Charge**
- Ensure safety procedures are implemented and followed consistently.
  - Coordinate safety training sessions and equipment inspections.
  - Report emergencies to the Warden and Assistant Warden and oversee post-incident analysis.
2. **Lab Assistant/Attendant**
- Perform pre- and post-session equipment checks.
  - Supervise student activities and enforce compliance with safety rules.
  - Provide first aid and assist with evacuation during emergencies.
3. **Students**
- Adhere to all safety rules and instructions.
  - Handle equipment responsibly and report any hazards promptly.
  - Avoid operating machines without proper training or authorization.
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## 5. Documentation for Accreditation

1. **Safety Manual**
- A detailed manual outlining lab safety rules, emergency procedures, and equipment operation guidelines must be provided to students and staff.
2. **Incident Log**
- Maintain a Lab Incident Report Log for recording and analyzing accidents and near-misses.
3. **Inspection and Maintenance Logs**
- Document regular equipment inspections, maintenance activities, and safety training sessions.

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## **Conclusion**

This plan ensures the safety and well-being of students and staff in the Sheet Metal Lab while fostering a secure and compliant environment for learning and skill development. Regular reviews and updates to the plan will ensure continued alignment with accreditation standards.