

Safety and Incident Management Plan

Machining and Manufacturing Lab

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

Introduction

The safety and well-being of students, faculty, and staff are of paramount importance in the Machine Tools and Machining Laboratory of the Department of Mechanical and Production Engineering (MPE) at Ahsanullah University of Science and Technology (AUST). This laboratory, integral to the undergraduate Mechanical Engineering program, serves as a bridge between theoretical learning and practical application, equipping students with hands-on experience in manufacturing and machining processes. To ensure compliance with accreditation standards and uphold a safe learning environment, this plan outlines the measures in place to prevent and manage incidents and accidents.

Objective

To ensure a safe, well-managed laboratory environment by implementing a comprehensive plan to prevent and manage incidents and accidents in the Machining and Manufacturing Lab, aligning with accreditation criteria.

1. Laboratory Safety Rules

1. General Rules

- Students must wear Personal Protective Equipment (PPE) at all times, including safety goggles, gloves, closed-toe shoes, and lab coats.
- No unauthorized individuals are allowed in the lab.
- Food, drinks, and open flames are strictly prohibited.
- Mobile phones must not be used while operating machinery.

2. Behavioral Rules

- Follow the instructions of the Lab Assistant/Attendant and Lab In-Charge.
- Do not operate any machine without prior training or permission.
- Always maintain a clean and organized workspace.

3. Machine-Specific Safety

- Conduct a pre-check on machinery before use to ensure functionality.
- Use guards and shields where applicable.

- Stop the machine immediately in case of abnormal sounds or performance and inform the Lab Assistant/Attendant.
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2. Safety Procedures and Practices

1. Before Lab Sessions

- The Lab In-Charge ensures that all machines are inspected for proper functioning weekly.
- The Lab Assistant/Attendant confirms the availability of first aid supplies and functioning of emergency equipment (fire extinguishers, alarms).
- Conduct a safety briefing at the beginning of each semester for all students.

2. During Lab Sessions

- The Lab Assistant/Attendant supervises student activities to ensure adherence to safety practices.
- Lab In-Charge ensures that only authorized students operate machines and equipment.

3. After Lab Sessions

- Machines must be powered off and inspected for any signs of wear or malfunction.
 - Waste materials and debris must be disposed of following safety protocols.
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3. Provisions in Case of Accidents and Health Hazards

1. Emergency Equipment

- **First Aid Kit:** Stocked and accessible.
- **Fire Safety Equipment:** Includes fire extinguishers, fire blankets, and alarms, inspected regularly by the Lab In-Charge.
- **Emergency Shut-Off Switches:** Clearly marked on all machines.

2. Emergency Response

- **Minor Incidents:**
 - First aid administered by the Lab Assistant/Attendant.
 - Incident documented in the Lab Incident Report Log.
- **Major Incidents:**
 - Immediate notification to the Lab In-Charge.
 - Activation of emergency services via the AUST Fire/Disaster Safety Team.

3. Evacuation Procedures

- Follow AUST's established evacuation plan.

- The Lab In-Charge leads the evacuation, while the Lab Assistant/Attendant ensures no students are left behind.
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4. Roles and Responsibilities

1. Lab In-Charge

- Supervise overall lab safety and compliance.
- Organize regular training sessions on lab safety and machine operation.
- Report emergencies to the Warden/Assistant Warden and ensure timely action.

2. Lab Assistant/Attendant

- Ensure day-to-day implementation of safety practices.
- Conduct safety checks before and after lab sessions.
- Assist in emergency response and first aid.

3. Students

- Follow all safety rules and procedures.
 - Report any unsafe conditions or incidents immediately to the Lab Assistant/Attendant.
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5. Documentation for Accreditation

1. Safety Rules and Procedures

- Maintain a written manual outlining all safety rules, to be distributed to students and faculty.

2. Incident Records

- Keep a Lab Incident Report Log for all reported incidents, including date, time, nature, and actions taken.

3. Inspection Logs

- Document machine inspections, safety equipment checks, and safety training sessions.
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Conclusion

This plan ensures the safety and well-being of all individuals in the Machining and Manufacturing Lab, provides comprehensive provisions for managing incidents, and fulfills accreditation

requirements. Regular monitoring and periodic updates to this plan will ensure continuous improvement in lab safety.