



## Metallurgy and Heat Treatment Lab

Mechanical and Production Engineering Department

Ahsanullah University of Science & Technology (AUST)

### General Lab Safety Rules

**Wear PPE:** Lab coat, safety goggles, gloves, and closed-toe shoes are mandatory.

**No Unauthorized Entry:** Only authorized students and staff are allowed in the lab.

**Keep Workspace Clean:** Ensure all equipment is stored properly and workspaces are clean after experiments.

**No Eating or Drinking:** Food and drinks are strictly prohibited to avoid contamination.

### Accident and Health Hazard Provisions

**First Aid Kit:** Familiarize yourself with its location and basic first aid procedures.

**Fire Safety:** Know the emergency exits and fire alarm locations. Evacuate immediately if a fire cannot be controlled.

**Electrical Safety:** In case of a power failure or electrical hazard, do not touch any equipment. Report to the Emergency contact.

**Incident Reporting:** Report accidents immediately to the lab in-charge. Investigations will be conducted to prevent future incidents

### Safety Procedures for Specific Equipment

**Polishing Machine:** Always wear safety goggles to protect against particles and dust created during polishing. Ensure the polishing wheel guard is in place to prevent accidental contact with the rotating wheel.

**Muffle Furnace:** Always wear heat-resistant gloves when placing or removing samples from the furnace. Ensure the temperature is set according to the experiment requirements to avoid overheating or thermal shock. Operate the furnace in a well-ventilated area to avoid the buildup of any toxic fumes. Allow the furnace to cool down before handling materials or conducting any maintenance work.

**Inverted Microscope:** Ensure the microscope is properly grounded and inspect for any exposed electrical components before use. Use designated lens-cleaning materials to prevent scratches and damage to the lens. Do not touch the lens with bare hands to prevent oil or dirt transfer.

**Optical Metallurgical Microscope:** Adjust the focusing knobs slowly to prevent sudden movements that could damage the specimen or objective lens. Use lens paper or a soft cloth for cleaning, avoiding abrasive materials that can scratch the lens. Place the microscope on a stable, flat surface to avoid vibration or tilting during operation.

### Lab Contact Information

Lab In-Charge: Md. Tanvir Ahmed, Md. Shahjahan Durjoy  
Emergency Contact: [LA: 01771915698, AAO: 01534100141]

**REMEMBER: Safety First! Always adhere to lab safety protocols.**