Laboratory Brief Overview

University/Institute: NED University of Engineering and Technology

Department: Metallurgical Engineering

Lab Name: Material Deterioration Lab

Lab In-Charge: **Engr. Dr. Muhammad Ali Siddiqui**

Designation: Associate Professor

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Lab Overview

The Material Deterioration Lab is designed to study the degradation and deterioration of materials under various environmental conditions. Our lab is equipped with state-of-the-art facilities to simulate real-world conditions and test the durability of materials.

Equipment

Equipment Name	Research / Teaching Applications
Electrochemical Workstation	Enables electrochemical testing and analysis of material properties.
Humidity Chamber	Simulates controlled humidity environments to test material degradation.
Grinding Machine	Prepares samples for testing and analysis
Hot Plate Magnetic Stirrer	Facilitates sample preparation and chemical reactions.

Furnace/High-Temperature Oven	Allows for high-temperature testing and material processing.
Salt Spray Chamber	Tests material corrosion resistance in a saline environment.
DC Power Supply	Provides controlled power for various experiments.
Electroplating Setup	Demonstrates electroplating principles and techniques.

Research Applications / Areas

Study material degradation mechanisms

- Evaluate corrosion resistance and durability

- Investigate the effects of environmental factors on materials

- Develop new materials and coatings with improved durability

The Material Deterioration Lab supports research and development in materials science, corrosion engineering, and related fields.