



Laboratory Brief Overview

University/Institute: NED University of Engineering and Technology

Department: Metallurgical Engineering

Lab Name: Testing of Materials Lab

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

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Lab Overview

The Testing of Materials Lab is equipped with a comprehensive range of instruments to evaluate the mechanical, physical, and chemical properties of materials. Our lab offers a wide range of testing capabilities.

Equipment

Equipment Name	Research / Teaching Applications
Brinell Hardness Tester	Measures bulk hardness of materials
Rockwell Hardness Tester	Evaluates hardness of materials with varying loads.
Vickers Hardness Tester	Provides precise hardness measurements.
Nanoindentation	Measures nanomechanical properties, such as hardness and elastic modulus
Tensile Testing	Evaluates tensile strength, yield strength, and ductility.
Fatigue Testing	Studies material behavior under cyclic loading

Impact Testing

Assesses material toughness and resistance to impact

Cryogenic Testing

Evaluates material properties at low temperatures

Optical Emission Spectroscopy (OES)

Chemical Composition Analysis

Research Applications / Areas

Our Testing of Materials Lab supports research and development in materials science, mechanical engineering, and related fields, enabling researchers to:

- Evaluate material properties and behavior.
- Develop new materials with improved performance.
- Optimize material selection for specific applications.
- Investigate material failure mechanisms.