

**Course Title: HEAT TREATMENT
TECHNOLOGY**

Course Code: MEC 117

Course Background / Summary:

This course is designed to provide a practical approach toward evaluation and attain quality heat-treating results. The course will provide brief coverage of various heat-treating problems associated with poor heat-treated parts. The presentation also emphasizes process applications, including valuable information on instrumentation and control devices to inspect and calibrate heat-treating variables such as time, temperature, atmosphere, pressure, flow, and quenching characteristics.

Also included in this course are the various techniques used to examine heat-treated properties such as hardness, strength, grain size, toughness, distortion, stress, surface finish, corrosion resistance, and constituents of heat-treated microstructure commonly.

Course Objectives:

- Identify the types of heat treatment processes and their purposes
- Study heat-treated parts problems and their measuring techniques
- Understand key factors and fundamentals to attain a quality result in various heat-treating processes
- Learn how to measure and control heat-treating variables
- Gain an overview of good manufacturing practices & management of heat treatment workshop.

Target Audience:

- Technical staff dealing with heat treatment and related processes daily
- Engineers and technicians at industrial plants and facilities responsible for heat treatment
- Teaching staff (including vocational and technical teachers)

Course Duration: 3 -Days

Course Contents

1.0 Introduction: Types of Heat Treatment Processes & Its Purposes.

4.0 Heat Treatment Best Practice

2.0 Materials Consideration: Material Factors, Heat Treating Practice.

5.0 Control and Measurement

3.0 Inspection Techniques