**UNIVERSITI KUALA LUMPUR**
MALAYSIAN SPANISH INSTITUTE

(The contents and other related details in this form is used for publication purpose only. Training module will be given to participants upon registration)

| **Course Title: HEAT TREATMENT TECHNOLOGY** | **Course Code :** | **MEC 102** |
|---|---|---|

**Course Background/Summary :**

This course is designed to provide practical approach towards evaluation and attain quality heat-treating results. The course will provide brief coverage on various heat-treating problems associated with poor heat-treated parts. The presentation also emphasis on process applications, including valuable information on the use of 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 commonly heat treated properties such as hardness, strength, grain size, toughness, distortion, stress, surface finish, corrosion resistance and constituents of heat treated microstructure.

**Course Objectives:**

- Identify the types of heat treatment processes & its purposes.
- Study heat-treated parts problems and its 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 practice & management of heat treatment workshop.

**Target Audience:**

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

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|---|---|
| **Course Duration:** | **Min:3 days, Max:5 days** |
| **Course Contents :** | |



*UniKL MSI can also customize existing short courses and develop new courses to meet your personal training needs and requirements. The course duration serves as a guideline for your reference.*

*Please forward enquiries to Centre for Advancement & Continuing Education (ACE), University Kuala Lumpur (Malaysian Spanish Institute), Kulim Hi-Tech Park, 09000 Kulim, Kedah or via fax to:04-4032539 or email to* ***syazrah@unikl.edu.my*** *or call 04-4035199 / 200 (ext:112 / 185)*

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| No | TOPICS | |
|---|---|---|
| 1 | **Introduction:** | |
| 2 | Types of Heat Treatment Processes & Its Purposes | |
| 3 | **Materials Consideration:** | |
| 4 | Material Factors. | |
| 5 | Heat Treating Practice | |
| 6 | **Inspection Techniques:** | |
| 7 | Mechanical Tests | |
| 8 | Microstructure examinations | |
| 9 | Non-destructive Tests | |
| 10 | **Heat Treatment Best Practice** | |
| 11 | Material Quality | |
| 12 | Furnace Equipment, Design and Utilization | **(Industrial Visit)** |
| 13 | Organization, Auxiliary & Services | |
| 14 | **Control and Measurement** | |
| 15 | Instrumentation and Parameters | |

| **COURSE STRUCTURE:** | |
|---|---|
| Theory : | 50% |
| Practical : | 50% |



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