MAWA EVENTS

Address: No. 857, Block A2. Leisure Commerce Square - No 9., 46150 Petaling Jaya, Selangor, Malaysia

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METALLURGY FOR NON METALLURGISTS

"Understand Metals, Their Properties, and Applications Without Becoming a Metallurgist."

Schedule

Venue (In-house)	Fees
At Your Organization Premises	Ask For The Quotation

► **Available delivery methods:** In-House Training

Introduction

Metallurgy is a critical aspect of engineering, manufacturing, and industrial operations. A proper understanding of metals, their properties, and processing techniques helps non-metallurgists make informed decisions in design, production, and maintenance.

This course provides practical knowledge of metals and alloys, including their properties, selection criteria, failure mechanisms, and industrial applications. Participants will learn essential concepts without delving into complex metallurgical theory, making it ideal for engineers, technicians, and professionals working with metals in various industries.

Objectives

By the end of this course, participants will be able to:

- Understand the fundamental concepts of metallurgy and materials science.
- Identify common metals and alloys and their industrial applications.
- Recognize the physical and mechanical properties of metals.
- Understand heat treatment processes and their effects on metal properties.
- Identify common causes of metal failures such as corrosion, fatigue, and wear.
- Make informed decisions on material selection for specific applications.
- Apply basic metallurgical knowledge in maintenance, design, and quality control.
- Communicate effectively with metallurgists and materials specialists.

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Why Attend

Non-metallurgists often face challenges in selecting the right materials, understanding failures, and communicating with metallurgical experts. This course equips participants with practical metallurgical knowledge, enabling them to improve decision-making, prevent costly errors, and enhance operational performance in their respective roles.

Target Audience

This course is suitable for:

- Mechanical, Electrical, and Maintenance Engineers
- Plant Supervisors and Production Managers
- Quality Assurance and Inspection Professionals
- Designers and Product Development Engineers
- Technicians and Operational Staff working with metals and alloys
- Professionals interacting with metallurgists or working in manufacturing, maintenance, or materials selection

Individual Benefits

- Gain practical understanding of metals and their behavior.
- Enhance problem-solving skills in material-related issues.
- Improve communication with metallurgical and technical experts.
- Increase confidence in material selection and failure analysis.
- Develop knowledge to prevent material-related operational problems.

Organizational Benefits

- Reduce material selection errors and costly failures.
- Improve product quality and reliability.
- Optimize maintenance and operational decisions related to metals.
- Enhance cross-functional communication between engineers and metallurgists.
- Build in-house knowledge in materials and metallurgy for operational efficiency.

Instructional Methodology

The training employs a practical and application-focused approach:

- Expert-led theory sessions simplified for non-metallurgists
- Real-world examples and industrial case studies
- Hands-on demonstrations and material inspection exercises
- Group discussions and problem-solving workshops
- Continuous feedback, Q&A sessions, and practical assignments

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Course Outline

Module 1: Introduction to Metallurgy and Materials Science

Module 2: Common Metals and Alloys – Properties and Applications

Module 3: Physical and Mechanical Properties of Metals

Module 4: Heat Treatment and Its Effects on Metal Properties

Module 5: Corrosion, Wear, and Fatigue in Metals

Module 6: Failure Analysis and Preventive Measures

Module 7: Material Selection for Industrial Applications

Module 8: Welding, Joining, and Fabrication of Metals

Module 9: Inspection, Quality Control, and Metallurgical Testing

Module 10: Industrial Case Studies and Practical Applications

Certification

Upon successful completion, participants will receive a Certificate in Metallurgy for Non-Metallurgists, recognizing their practical understanding of metals, their properties, applications, and failure prevention techniques in industrial environments.

Why Choose MAWA Events

- **Global Expertise:** More than 17 years of experience in professional training and consulting.
- **Industry-Leading Faculty:** Courses delivered by seasoned professionals with hands-on experience.
- **Practical Insights:** Learn to turn theory into actionable strategies for real-world business impact.
- **Client-Focused Solutions:** Customized programs designed to achieve your organisation’s unique goals.

In-House / Customized Training Interested in running this course for your team? Please contact us:	TEL: **+601116373203**	EMAIL: **info@mawaevents.net**

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