Materials Science, Metallurgy & Polymer Engineering Course

30 August – 3 September 2027
Amsterdam (Netherlands)

UK Traininig
PARTNER



Materials Science, Metallurgy & Polymer Engineering Course

Ref: 322998_221399 **Date:** 30 August – 3 September 2027 **Location:** Amsterdam (Netherlands) **Fees:** 5900 GBP

Course Description

This intensive 1-week course provides a comprehensive overview of materials science, metallurgy, and polymer engineering. Participants will gain in-depth knowledge of material structures, properties, processing techniques, and applications across various industries. The course combines theoretical concepts with practical examples to enhance understanding of advanced materials and their industrial relevance.

Learning Objectives

- Understand fundamental principles of materials science and structure-property relationships
- Analyze metallurgical processes and their effects on material properties
- Explore polymer synthesis, characterization, and engineering applications
- Evaluate material selection criteria for specific industrial applications
- Apply materials science concepts to solve real-world engineering challenges

Course Modules

Day 1: Introduction to Materials Science

- Atomic structure and bonding
- Crystal structures and defects
- Phase diagrams and transformations
- Structure-property relationships

Day 2: Metallurgy Fundamentals

- Ferrous and non-ferrous metals
- Heat treatment processes
- Strengthening mechanisms
- Corrosion and protection

Day 3: Advanced Metallurgical Processes

- Casting and solidification
- Forming and shaping techniques
- Powder metallurgy
- Welding and joining methods



Day 4: Polymer Science and Engineering

- Polymer chemistry and synthesis
- Polymer properties and characterization
- Polymer processing techniques
- Composites and nanocomposites

Day 5: Industrial Applications and Future Trends

- Materials selection and design
- Failure analysis and prevention
- Advanced materials in various industries
- Emerging trends and technologies

Practical Wins for Participants

- Ability to select appropriate materials for specific applications
- Improved troubleshooting skills for material-related issues
- Enhanced knowledge of advanced processing techniques
- Better understanding of material behavior in real-world conditions

