Global Horizon
TRAINING CENTER

Training Course:
Artificial Intelligence for Hazardous Materials Handling and Safety

15 - 19 June 2025
Amman (Jordan)
Chemisty

Training Course:
Artificial Intelligence for Hazardous Materials Handling and Safety

Training Course code: SC235826 From: 15 - 19 June 2025 Venue: Amman (Jordan) - Chemisty Training Course Fees: 3875 Euro

Introduction

The increasing complexity of hazardous materials HAZMAT management requires advanced technological solutions to improve safety, efficiency, and compliance. Artificial Intelligence AI is transforming hazardous materials management by optimizing risk assessment, automating monitoring systems, enhancing emergency response strategies, and ensuring regulatory compliance. This program provides professionals with an in-depth understanding of AI applications in HAZMAT management, covering risk analysis, predictive maintenance, AI-powered monitoring, and emergency response planning.

Target Audience

- HAZMAT professionals and safety officers
- Environmental engineers and regulatory compliance officers
- Industrial safety managers and supervisors
- Emergency response teams and disaster management professionals
- AI and data analytics professionals in industrial safety
- Government agencies involved in hazardous material regulation

Objectives

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

- Understand the fundamentals of AI and its role in hazardous materials management
- Utilize AI-driven predictive analytics for risk assessment and mitigation
- Implement AI-powered monitoring systems for real-time HAZMAT tracking
- Integrate AI tools for emergency response and disaster mitigation
- Ensure regulatory compliance through AI-enabled automation

Outlines

Day 1:

Introduction to AI in Hazardous Materials Management

- Overview of hazardous materials: Risks, classifications, and regulations
- Fundamentals of AI and machine learning in industrial applications
- Role of AI in risk assessment and decision-making
- Case studies: AI-powered hazardous materials tracking and monitoring
- Hands-on session: Exploring AI-based risk modeling tools

Day 2:

AI for Risk Assessment and Predictive Analytics

- AI-driven hazard identification and risk assessment models
- Predictive analytics for early detection of potential hazards
- Using AI for exposure assessment and toxicology prediction
- AI-powered geospatial mapping for hazardous material transportation
- Workshop: Developing AI-based risk assessment models

Day 3:

AI-Powered Monitoring and Detection Systems

- AI-driven sensors for real-time monitoring of hazardous materials
- IoT and AI integration for predictive maintenance in hazardous environments
- Computer vision and AI-based image recognition for spill detection
- Case studies: AI-powered drones and robotics for hazardous site inspections
- Practical session: Hands-on AI-based monitoring tools for HAZMAT

Day 4:

AI in Emergency Response and Disaster Management

- AI applications in hazardous materials spill response
- AI-driven simulations for emergency preparedness and training
- Role of AI-powered chatbots in real-time emergency response coordination

- AI-based decision support systems for disaster mitigation
- Group exercise: AI-based emergency response simulation

Day 5:

AI for Compliance, Automation, and Future Trends

- AI applications for regulatory compliance and reporting
- Using AI to automate hazardous material documentation and workflows
- Ethical considerations and challenges in AI-driven hazardous materials management
- Emerging AI trends in industrial safety and environmental protection
- Final assessment and certification

Registration form on the Training Course: Artificial Intelligence for Hazardous Materials Handling and Safety

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