

SAFETY WHEN WORKING WITH RADIOACTIVE MATERIALS

“Protecting Personnel, Facilities, and the Environment from Radiation Risks”

Schedule

Date	Venue	Fees (Face-to-Face)
03 - 05 Jun 2026	Dubai, UAE	USD 2495 per delegate

► **Available delivery methods:** Face-to-Face & Online Training

Introduction

Working with radioactive materials requires a rigorous understanding of radiation principles, protective measures, and regulatory compliance. Exposure to ionizing radiation can have serious health and environmental consequences if not managed effectively. This 3-day practical training provides a comprehensive overview of radiation safety, risk assessment, and best practices in handling, transport, and storage of radioactive sources.

Designed for professionals working in healthcare, research, energy, and industrial sectors, the course combines regulatory knowledge with operational procedures to ensure safe and compliant use of radioactive materials.

Objectives

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

- Understand the nature and types of ionizing radiation and their effects
- Apply radiation protection principles: time, distance, shielding, and containment
- Perform risk assessments and dose calculations
- Implement safe handling, storage, and transport procedures
- Comply with international and national radiation safety regulations

Why Attend

- Gain critical knowledge of radiation physics and biological effects
- Learn practical safety protocols for radioactive material use
- Reduce the risk of exposure, contamination, and regulatory non-compliance
- Enhance your facility's emergency preparedness and incident response
- Ensure safe work practices for you and your team

Target Audience

This program is designed for:

- Radiation Safety Officers and HSE personnel
- Medical physicists and nuclear medicine professionals
- Industrial radiographers and research technicians
- Laboratory staff and facility engineers
- Anyone working with or around radioactive sources

Individual Benefits

Key competencies that will be developed include:

- Understanding radiation types, units, and health impacts
- Using personal protective equipment (PPE) and dosimeters effectively
- Applying the ALARA (As Low As Reasonably Achievable) principle
- Recognizing signs of contamination and initiating response actions
- Documentation and reporting of radiation activities

Organizational Benefits

Upon completing the training course, participants will demonstrate:

- Improved compliance with IAEA and local safety regulations
- Minimized occupational radiation exposure risks
- Enhanced operational safety and waste handling protocols
- Readiness for audits and inspections
- Stronger organizational safety culture around radiological hazards

Instructional Methodology

The course follows a blended learning approach combining theory with practice:

- Strategy Briefings - Radiation fundamentals, regulations, and procedures
- Case Studies - Past exposure incidents and emergency response
- Workshops - Conduct risk assessments, set up safety zones, inspect PPE
- Peer Exchange - Discuss facility-specific challenges and mitigation plans
- Tools - Radiation survey meters, signage, logbooks, emergency drills

Course Outline

Training Hours: 7:30 AM - 3:30 PM Daily Format: 3-4 Learning Modules | Coffee breaks: 09:30 & 11:15 | Lunch Buffet: 01:00 - 02:00

Day 1: Radiation Fundamentals and Exposure Risks

- Module 1: Types and Sources of Radiation (07:30 - 09:30) • Alpha, beta, gamma, neutron; natural vs artificial sources
- Module 2: Radiation Units and Biological Effects (09:45 - 11:15) • Gray, Sievert, Becquerel; dose-response and risk
- Module 3: Protection Principles and ALARA (11:30 - 01:00) • Time, distance, shielding, contamination control
- Module 4: Workshop - Identify and Label Hazard Zones (02:00 - 03:30) • Using signage and zoning techniques

Day 2: Operational Safety and Compliance

- Module 5: Personal Protective Equipment and Dosimetry (07:30 - 09:30) • Types of PPE, film badges, TLDs, real-time monitoring
- Module 6: Handling and Storage Procedures (09:45 - 11:15) • Shielded containers, access controls, ventilation
- Module 7: Transportation of Radioactive Materials (11:30 - 01:00) • Labeling, packaging, and regulatory documentation
- Module 8: Workshop - Simulate Safe Handling Scenarios (02:00 - 03:30) • Step-by-step for different material types

Day 3: Incident Response and Regulatory Oversight

- Module 9: Spill Management and Emergency Response (07:30 - 09:30) • First response, decontamination, evacuation
- Module 10: Radiation Waste Disposal and Records (09:45 - 11:15) • Storage limits, decay-in-storage, disposal vendors
- Module 11: IAEA and National Safety Regulations (11:30 - 01:00) • Licensing, reporting, inspections, penalties
- Module 12: Final Workshop - Conduct a Radiation Safety Audit (02:00 - 03:30) • Prepare checklist and conduct mock inspection

Certification

Participants will receive a Certificate of Completion in Safety When Working with Radioactive Materials, confirming their competency in applying international best practices, safety controls, and emergency procedures when working with ionizing radiation sources.

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Please contact us:

TEL:

+601116373203

EMAIL:

info@mawaevents.net

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