

Fundamentals of Radiation Safety

- What is Radiation?
- Types of Radiation Sources (ionising & non-ionising)
- Fundamental of Ionising Radiation
- Type, Characteristics & Sources of Ionising Radiation
- Understanding Risk from Radiation
- Man-Made Radiation Materials
- Application of Ionising Radiation
- Case Study & Video of Chernobyl Nuclear Disaster

DAY 2

Effects of Radiation on the Human Body

- Units of Radiation Exposure and Dose Concentrations
- Biological Effects of Ionising Radiation
- Principles of Radiation Protection (ALARA)
- Categorising Radiation Exposure Effects
- Exposure to Radiation (acute & delayed)
- Dose Limits of Acceptable Radiation Exposure
- Case Study & Video of Fukushima Nuclear Disaster

DAY 3

Radiation Exposure Risk Assessment

- Measurement Instrumentation (Dosimeter & Dose-meter)
- Radiation Safety & Security Controls (Internal & External)
- Key Exposure Assessment Elements
- Determining Potential Radiation Exposure Pathways
- Identifying Radiation Exposure and Short and Long Term Effects
- Evaluating Exposure Duration and Concentrations
- Estimating Radioactive Chemical and/or Particulate Impacts
- Case Study: Assessment of Work task using Radioactive Material



Radiation Management & Control Procedures

- IAEA Standards and CoP
- UAE- FANR Radiation Protection Regulations
- Security of Radioactive Materials
- Radiation Exposure Monitoring and Detection Methods
- Radiation Protection Solutions (time, distance & shielding)
- Laboratory Radiation Safety Processes
- Radiation Precautions and Safety Procedures
- Classification of Working Areas
- Transport of Radioactive Materials (DOT, UN, IAEA, IATA)
- Exercise: Developing Radiation Material Storage & Handling Procedure

DAY 5

Radiation Management Principles

- Radiation Protection Management System Structure
- RPO Responsibilities
- Radiation Emergency Response Plan
- Waste Disposal of Radioactive Materials
- Transport and Transfer of Radioactive Materials
- Safe Procurement and Quarantine of Radiation Materials
- Review and Discussion of Visual Wall Map (as developed step-by-step during course)
- Multi-Choice Assessment of Course Subject and Topics
- Close of Training Course