

## Construction Site Safety Management & Risk Control

### Course general description:

This course provides a **comprehensive understanding of safety management and risk control in construction sites**. It covers **hazard identification, risk assessment, regulatory compliance, accident prevention strategies, and control measures**. Participants will explore **best practices for site safety management, contractor safety, emergency preparedness, and incident investigation** to ensure a **safe and compliant construction environment**.

### Audience:

This course is intended for:

- Construction Safety Managers
- Site Engineers & Project Managers
- HSE Professionals in Construction
- Contractors & Subcontractors
- Risk Managers & Compliance Officers
- Safety Officers & Supervisors
- Government & Regulatory Inspectors

### Course objectives:

By the end of this course, participants will:

- **Understand construction site hazards** and risk control measures.
- **Apply OSHA, ISO 45001, NFPA, and local regulatory requirements** for construction safety.
- **Conduct site safety inspections & risk assessments**.
- **Develop and implement safety management plans** for construction projects.
- **Enhance contractor safety management & compliance**.
- **Improve hazard communication & worker engagement** in safety programs.
- **Apply emergency response and incident investigation techniques**.

### Course duration:

5 days

### Course location:

Cairo-Dubai-Istanbul

### Course contents:

#### **Day 1: Introduction to Construction Safety & Regulatory Compliance**

- Pretest
- **Overview of Construction Safety Management**
  - Importance of safety in construction
  - Key statistics on construction accidents
  - Safety culture and leadership in construction
- **Regulatory & Legal Requirements**
  - OSHA 29 CFR 1926 (Construction Safety Standards)
  - ISO 45001:2018 (Occupational Health & Safety Management Systems)
  - NFPA 241 (Fire Protection in Construction)
  - Local & international construction safety regulations
- **Common Construction Hazards & Risk Management**
  - Falls from heights (scaffolding, ladders, roofs)

- Electrical hazards (NFPA 70E – Arc Flash Protection)
- Heavy equipment & vehicle safety
- Fire & explosion risks in construction
- Structural failures & excavation hazards
- **Practical Exercise:** Identifying hazards in a construction site scenario

#### **Day 2: Site Safety Planning & Risk Control Strategies**

- **Construction Risk Assessment Techniques**
  - Hazard Identification & Risk Assessment (HIRA)
  - Job Safety Analysis (JSA) & Toolbox Talks
  - Permit-to-Work (PTW) systems for high-risk activities
- **Hierarchy of Controls in Construction**
  - Elimination & Substitution of Hazards
  - Engineering & Administrative Controls
  - PPE Selection & Usage in Construction
- **Scaffolding & Working at Height Safety**
  - OSHA 1926 Subpart L (Scaffold Safety Requirements)
  - Fall protection systems & personal fall arrest equipment
  - Rescue planning for working at heights
- **Excavation & Trenching Safety**
  - OSHA 1926 Subpart P (Excavations)
  - Soil classification & protective systems
  - Trench collapse prevention methods
- **Practical Exercise:** Conducting a Job Safety Analysis (JSA) for a construction task

#### **Day 3: Contractor Safety Management & Site Safety Inspections**

- **Managing Contractor Safety in Construction**
  - Prequalification & selection of contractors
  - Contractor safety induction & training
  - Safety performance monitoring & audits
- **Site Safety Inspections & Auditing Techniques**
  - Developing a site safety checklist
  - Conducting construction safety walkthroughs
  - Identifying & reporting unsafe conditions
- **Heavy Equipment & Crane Safety**
  - OSHA 1926 Subpart CC (Cranes & Derricks)
  - Safe operation of construction machinery
  - Traffic management in construction zones
- **Material Handling & Storage Safety**
  - OSHA 1926 Subpart H (Material Handling)
  - Safe lifting techniques & ergonomic considerations
  - Handling hazardous materials on construction sites
- **Practical Exercise:** Performing a construction site safety audit

#### **Day 4: Emergency Preparedness & Incident Investigation**

- **Fire Safety & Emergency Response in Construction**
  - NFPA 241 (Fire Prevention in Construction)
  - Hot work permits & fire watch requirements

- Emergency response planning & drills
- **Confined Space Safety in Construction**
  - OSHA 1926 Subpart AA (Confined Spaces in Construction)
  - Gas monitoring & atmospheric testing
  - Entry permit system & emergency rescue procedures
- **Incident Reporting & Root Cause Analysis**
  - Accident investigation techniques (5 Whys, Fishbone Diagram)
  - Understanding near misses & proactive reporting
  - Developing corrective & preventive actions (CAPA)
- **Practical Exercise:** Conducting a simulated incident investigation

#### **Day 5: Behavioral Safety, Leadership & Continuous Improvement**

- **Human Factors in Construction Safety**
  - Worker behavior & safety performance
  - Overcoming resistance to safety rules
  - Safety leadership & accountability
- **Effective Safety Communication & Training**
  - Conducting safety meetings & toolbox talks
  - Safety signs, labels & hazard communication (HAZCOM)
  - Engaging workers in safety programs
- **Technology & Innovations in Construction Safety**
  - Digital tools for construction safety management
  - AI & IoT applications in construction risk control
  - Case studies of innovative safety solutions
- **Course Wrap-Up & Final Assessment:**
  - Review of key lessons learned
  - Final knowledge assessment
  - Certification issuance

#### **Methodology:**

- 50% lectures & concepts
- 10% Videos
- 10% Case studies
- 10% Exercises
- 10% Discussions
- 10% Software (if applicable or examples)

#### **Assessment and Certification:**

Upon successful completion, participants will receive a **Certificate of Completion in Construction Site Safety Management & Risk Control**, demonstrating their expertise in construction hazard control, site safety management, and regulatory compliance.

**Course code: (THSE007)**