



**SCANDINAVIAN ACADEMY**  
For Training and Development

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# Course: Safe Isolation of Plant and Equipment

Code	City	Hotel	Start	End	Price	Language - Hours
644	Beirut (Lebanon)	Hotel Meeting Room	2025-06-15	2025-06-19	3050 €	En - 25

## Course Introduction:

Safe isolation of plant and equipment is a critical practice to ensure the safety of personnel, prevent unexpected equipment energization, and comply with industry safety regulations. This training program is designed to provide professionals with the knowledge and practical skills required to safely isolate electrical, mechanical, and process equipment during maintenance, repair, or emergency shutdowns.

Through a combination of theoretical instruction, hands-on exercises, and case studies, participants will develop the expertise needed to implement isolation procedures, apply lockout/tagout (LOTO) systems, and adhere to workplace safety standards.

## Course Objectives:

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

- Understand the principles and importance of safe isolation in industrial environments.
- Identify and apply lockout/tagout (LOTO) procedures.
- Recognize hazards associated with incorrect isolation and energy release.
- Develop and implement workplace isolation plans and procedures.
- Ensure compliance with international safety standards (OSHA, ISO, IEC, and local regulations).
- Conduct risk assessments and audits related to plant and equipment isolation.



## **Target Audience:**

- Maintenance and Operations Personnel
- Electrical and Mechanical Engineers
- Health and Safety Officers
- Plant Managers and Supervisors
- Process Engineers and Technicians
- Anyone responsible for isolating plant and equipment in industrial settings

## **Course Content:**

### **Fundamentals of Safe Isolation**

- Importance of safe isolation in industrial environments
- Energy sources and hazards associated with plant and equipment
- Risk assessment and hazard identification techniques
- Principles of zero-energy verification and safe shutdown
- Common causes of isolation failures and accidents
- Industry standards and regulatory requirements (OSHA, IEC, ISO 45001)

### **Lockout/Tagout (LOTO) Procedures and Best Practices**

- Introduction to lockout/tagout (LOTO) systems
- Types of energy control devices and their applications
- Step-by-step isolation procedures for different equipment types
- Roles and responsibilities in the LOTO process
- Verification of isolation and equipment re-energization
- Case study: Implementation of an effective LOTO program



## **Isolation of Electrical, Mechanical, and Process Equipment**

- Safe isolation of electrical systems and circuit breakers
- Mechanical isolation for hydraulic and pneumatic systems
- Process isolation for pipelines, valves, and chemical systems
- Controlling stored energy and residual hazards
- Troubleshooting isolation challenges in complex systems
- Hands-on workshop: Practical isolation of plant and machinery

## **Emergency Shutdown and Permit-to-Work Systems**

- Emergency isolation procedures and shutdown protocols
- Integration of LOTO with permit-to-work systems
- Communication and coordination for safe plant isolation
- Managing simultaneous operations (SIMOPS) and isolation risks
- Emergency response planning for isolation-related incidents
- Case study: Lessons learned from industrial isolation failures

## **Auditing, Compliance, and Continuous Improvement**

- Conducting isolation audits and safety inspections
- Documentation and record-keeping for compliance
- Training and competency development for isolation personnel
- Improving workplace safety culture through isolation best practices
- Implementing digital and automated LOTO systems



The Scandinavian Academy for Training and Development adopts the latest scientific and professional methodologies in training and human resource development, aiming to enhance the efficiency of individuals and organizations. Training programs are delivered through a comprehensive approach that includes:

- Theoretical lectures supported by PowerPoint presentations and visual materials (videos and short films).
- Scientific evaluation of participants before and after the program to measure progress and knowledge acquisition.
- Brainstorming sessions and practical role-playing to simulate real-life scenarios.
- Case studies tailored to align with the training content and participants work nature.
- Assessment tests conducted at the end of the program to evaluate the achievement of training objectives.

Each participant receives the training material (both theoretical and practical) in printed form and saved on a CD or flash drive. Detailed reports, including attendance records, final results, and overall program evaluations, are also provided.

Training materials are prepared professionally by a team of experts and specialists in various fields. At the end of the program, participants are awarded a professional attendance certificate, signed and accredited by the Scandinavian Academy for Training and Development.

### **Program Timings:**

- 9:00 AM to 2:00 PM in Arab cities.
- 10:00 AM to 3:00 PM in European and Asian cities.

### **The program includes:**

- A daily buffet provided during the sessions to ensure participants comfort.