



course : Integrating Functional Safety and Cybersecurity in Industrial Systems

City : Kuala Lumpur
Start Date : 2025-11-24
Period : 1 Week

Hotel : Kuala Lumpur
End Date : 2025-11-28
Price : 3950 \$

HighPoint Training and Management Consultancy
هاي بوينت للتدريب والاستشارات الإدارية

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Course Overview

As industrial systems become increasingly interconnected and automated, the integration of functional safety and cybersecurity has become a vital requirement. Functional safety ensures that systems operate reliably and safely under defined conditions, while cybersecurity protects these systems from external threats that could compromise their performance or safety.

This training course provides a comprehensive understanding of both domains and how to integrate them effectively in industrial environments. Participants will learn principles, standards, and best practices with a focus on risk assessment, system design, compliance, and real-world applications.

Course Objectives

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

Understand the principles of functional safety and cybersecurity in industrial systems

Identify potential safety risks and cybersecurity threats in interconnected environments

Conduct integrated risk assessments for safety and security

Apply functional safety standards (IEC 61508, IEC 61511) and cybersecurity frameworks (IEC 62443, NIST)

Design and implement integrated safety and cybersecurity solutions

Monitor and evaluate the effectiveness of safety and security measures

Respond effectively to safety and security incidents in industrial operations

Target Audience

This course is highly beneficial for professionals such as:

Safety and cybersecurity engineers

Automation and control system specialists

Risk managers and compliance officers

Industrial IT and OT professionals

Plant managers and operations supervisors

Professionals responsible for industrial system safety and security

Methodology

The course applies a mix of interactive lectures, case studies, group discussions, scenario planning, and hands-on exercises to ensure maximum understanding and retention. Participants will actively engage in analyzing risks, designing secure systems, and practicing incident response techniques.

Course Outline

Day 1 - Foundations of Functional Safety and Cybersecurity

Introduction to functional safety: key concepts and standards (IEC 61508, IEC 61511)

Fundamentals of cybersecurity in industrial systems

Importance of integrating safety and cybersecurity approaches

Common threats, vulnerabilities, and risks

Day 2 - Risk Assessment and Analysis

Conducting functional safety risk assessments

Identifying cybersecurity risks in industrial environments

Integrating safety and security risk assessments

Case study: combined risk analysis in a process plant

Day 3 - Designing Integrated Safety and Security Solutions

Principles of safe and secure system design

Implementing functional safety systems: Safety Integrity Levels (SILs)

Cybersecurity frameworks (IEC 62443, NIST)

Practical exercise: developing a safe and secure system architecture

Day 4 - Implementation and Validation

Installing and configuring safety and cybersecurity measures

Testing, verifying, and validating integrated systems

Monitoring and maintaining system integrity

Practical session: configuring safety and security controls

Day 5 - Incident Response and Continuous Improvement

Managing and responding to safety and security incidents

Root cause analysis and lessons learned

Enhancing system design for resilience

Developing a continuous improvement plan

Final discussion, Q&A, and certification of completion

Certificates

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On successful completion of this training course, HighPoint Certificate will be awarded to the delegates.
Continuing Professional Education credits (CPE): In accordance with the standards of the National Registry of CPE Sponsors, one CPE credit is granted per 50 minutes of attendance.