Project &Quality Management · PQ447

AI for Quality Management: Transforming Quality Leadership with Artificial Intelligence

Duration	Category	Ref
1 Week	**Project &Quality Management**	**PQ447**
Language	Certificate	
English	**Certificate of attendance**	

Introduction

Artificial Intelligence (AI) is transforming the way organisations manage quality by improving decision-making, automating inspections, predicting quality issues, and enhancing continuous improvement initiatives. This course provides Quality Leaders with practical knowledge of AI technologies and demonstrates how AI can be integrated into Quality Management Systems (QMS), Quality Assurance (QA), and Quality Control (QC) processes. Participants will explore real-world applications, emerging AI tools, and implementation strategies that support operational excellence and data-driven quality management.

Course Objectives

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

- Understand the fundamentals of Artificial Intelligence and its role in Quality Management.
- Identify opportunities to apply AI in Quality Assurance and Quality Control processes.
- Utilise AI techniques to improve defect detection, root cause analysis, and predictive quality.
- Interpret quality data using AI-driven analytics and visualisation tools.
- Integrate AI into Continuous Improvement and Quality Management Systems.
- Develop an AI adoption roadmap for enhancing organisational quality performance.

Target Audience

This course is designed for:

- Quality Leads
- Quality Managers
- Quality Assurance (QA) Professionals
- Quality Control (QC) Engineers and Supervisors
- Continuous Improvement Professionals
- Operations and Production Managers
- Process Improvement Specialists
- Manufacturing and Industrial Engineers

- Professionals involved in Quality Management Systems and Operational Excellence

Course Outline

Day 1

Foundations of AI in Quality Management

- Introduction to Artificial Intelligence concepts
- AI technologies relevant to Quality Management
- AI in QA, QC, and Quality Management Systems
- Digital transformation and Industry 4.0 overview
- AI opportunities and challenges in quality

Day 2

AI Applications in Quality Assurance and Quality Control

- AI for automated inspection and defect detection
- Computer Vision applications in quality inspection
- Predictive quality and anomaly detection
- AI-supported testing and quality verification
- Practical industry case studies

Day 3

Data Analytics and Intelligent Decision-Making

- Quality data collection and preparation
- AI-driven quality analytics
- Root cause analysis using AI
- Predictive analytics for quality performance
- Quality dashboards and reporting

Day 4

AI for Continuous Improvement and Operational Excellence

- AI in Lean, Six Sigma, and Continuous Improvement
- Risk-based quality management
- Process optimisation using AI
- AI for supplier and production quality management
- Measuring quality performance with AI

Day 5

Implementing AI in Quality Management

- AI implementation strategies
- Selecting AI tools for quality processes
- Governance, ethics, and data security
- Developing an AI roadmap for Quality Management

Ask us for a date for this course

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training@hplustraining.com · +44 74 0108 8599 · +90 539 827 59 14