MAESTRO CONSULTANTS

WELL INTEGRITY MANAGEMENT FOR THE WELL LIFE CYCLE

COURSE OUTLINE 2025

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TRAINING TITLE

WELL INTEGRITY MANAGEMENT FOR THE WELL LIFE CYCLE

VENUE

Dubai, UAE

DURATION

5 Days

DATES

8th-12th Sep 2025

PRICE

$5,500 per attendee including training material/handouts, morning/afternoon coffee breaks and Lunch.

TRAINING INTRODUCTION

Ensuring well integrity is one of the most critical responsibilities in the oil and gas industry. Failures in well integrity can lead to safety hazards, environmental damage, production losses, and severe regulatory consequences. As wells become more complex and are expected to perform for longer periods, proactive and systematic integrity management throughout the entire well life cycle has become essential.

This 5-day training course, "*Well Integrity Management for the Well Life Cycle,*" provides a structured and practical framework for understanding, planning, and executing integrity management across all phases of a well's life — from design and construction, through production and intervention, to final abandonment.

TRAINING OBJECTIVES

☐ Understand the critical elements of a Well Integrity Management System (WIMS)

☐ Be able to apply risk-based strategies for maintaining well integrity

☐ Confidently plan for integrity during well construction, operation, and abandonment

☐ Be better prepared to ensure regulatory compliance and environmental protection

TRAINING AUDIENCE

Drilling and completion engineers, production engineers, well integrity engineers, field supervisors, HSE professionals, and asset managers involved in the design, operation, and abandonment of wells

TRAINING OUTLINE

Day 1: Introduction to Well Integrity Principles & Lifecycle Overview

Objective: Establish a clear understanding of well integrity, its importance, and how it applies across the entire well lifecycle.

- Defining Well Integrity
    - What is well integrity and why it matters
    - Key components: barriers, wellbore integrity, annuli integrity
    - Industry standards and regulations (API, ISO, NORSOK)
- The Well Life Cycle and Integrity Touchpoints
    - Phases: Design → Construction → Operation → Intervention → Abandonment
    - Major integrity challenges at each stage
    - Roles and responsibilities in maintaining integrity
- Well Integrity Management Systems (WIMS)
    - Elements of a WIMS
    - Integration with safety and asset management systems
    - Policy, processes, and procedures for lifecycle integrity

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Day 2: Well Design and Construction for Integrity

Objective: Learn how to design and construct wells with integrity as a core consideration.

- Barrier Philosophy in Well Design
    - Primary and secondary barriers
    - Barrier envelope design and verification
    - Contingency planning in case of barrier failure
- Casing and Cementing Practices
    - Casing design considerations for integrity
    - Cementing methods to ensure zonal isolation
    - Pressure testing, logging, and cement evaluation
- Integrity Documentation and Compliance
    - Engineering documentation and QA/QC
    - Regulatory requirements and industry best practices
    - Construction phase handover to operations

Day 3: Integrity During Production and Operations

Objective: Understand how to monitor and manage well integrity throughout the production phase.

- Monitoring Well Integrity
    - Pressure monitoring, leak detection, and annulus management
    - Well integrity KPIs and early warning indicators
    - Annular pressure buildup (APB) and sustained casing pressure (SCP)
- Well Integrity Inspections & Testing
    - Inflow testing, mechanical integrity tests (MIT), logging tools
    - Inspection frequencies and risk-based assessments
    - Well integrity status classification (traffic light system)
- Managing Integrity Failures
    - Response to barrier failure or loss of containment
    - Risk assessment and mitigation steps

    - Documentation, incident reporting, and root cause analysis

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Day 4: Intervention, Workovers, and Integrity Restoration

Objective: Examine how to safely intervene in wells while preserving or restoring integrity.

- Planning for Well Intervention
    - Types of interventions: routine, non-routine, and corrective
    - Barrier requirements during well interventions
    - Risk management and contingency planning
- Tools and Techniques for Integrity Restoration
    - Remedial cementing, packers, casing patches
    - Leak repair techniques (mechanical, chemical, expandable systems)
    - Evaluation and verification after intervention
- Records, Reporting, and Audit Readiness
    - Updating well integrity status post-intervention
    - Maintaining well files and regulatory documentation
    - Audit preparation and lessons learned reviews

Day 5: Well Abandonment, Risk Management & Digital Integrity Systems

Objective: Explore permanent well abandonment processes and the role of digital technologies in integrity assurance.

- Well Plugging and Abandonment (P&A)
    - Objectives and regulations for permanent well closure
    - Barrier requirements for abandonment
    - Long-term monitoring and environmental considerations
- Integrity Risk Management and Decision-Making
    - Integrity risk matrices and mitigation planning

    - Decision trees for integrity-related operational choices
    - Aligning with ALARP (As Low As Reasonably Practicable) principles
- Digital Well Integrity Management
    - Integrating WIMS with real-time monitoring systems
    - Data analytics and predictive integrity modeling
    - The future of well integrity: AI, IoT, and digital twins

TRAINING CERTIFICATE

MAESTRO CONSULTANTS Certificate of Completion for delegates who attend and complete the training course

METHODOLOGY

Our courses are highly interactive, typically taking a case study approach that we have found to be an effective method of fostering discussions and transferring knowledge. Participants will learn by active participation during the program through the use of individual exercises, questionnaires, team exercises, training videos and discussions of "real life" issues in their organizations.
The material has been designed to enable delegates to apply all of the material with immediate effect back in the workplace.