

# Certified Courses



# Inspection, Repair and Rehabilitation of Marine Structures

## INTRODUCTION

- This training course examines methods of inspection, rehabilitation, and repair of a wide range of marine structures and waterfront facilities. It also discusses the inspection, risk-based inspection of offshore structures and subsea equipment. The contents of marine structures in this training course include timber structures, concrete structures, steel structures and structures comprising synthetic material.

**This training course will highlight:**

- Types of port facilities, offshore and marine structures, and subsea equipment
- Inspection and maintenance of marine structures
- Maintenance and rehabilitation of waterfront structure
- Inspection and integrity of offshore structures
- Inspection and maintenance of subsea equipment

## OBJECTIVES

**By the end of this training course, participants will learn:**

- Different types of port facilities, waterfront structures, offshore structures
- Overview of subsea engineering and subsea equipment
- Repair and rehabilitation Techniques of different waterfront structures such as piers, jetties and quay walls
- Risk based maintenance and inspection (RBI) for offshore structures and subsea equipment
- challenges in inspection of offshore and subsea structures

## TRAINING METHODOLOGY

- Participants to this training course will receive a thorough training on the subjects covered by the seminar outline with the Tutor utilising a variety of proven adult learning teaching and facilitation techniques. Seminar methodology includes case studies, exercises, group discussions etc.
- The training course will include a comprehensive manual, PowerPoint presentations, videos, practical examples, and competency assurance tests.

## ORGANISATIONAL IMPACT

The organization will benefit as the following:

- Improve the quality of operation of different types of marine structures in the infrastructure and oil & gas industries
- Improve organization investment by training people to be decision makers in marine and offshore structures
- Improve project investment by defining how to modify the quality control of ports, marine structures and offshore construction or maintenance
- Increase cost savings by encouraging the organization to focus on repair and rehabilitation techniques of wide ranges of waterfront structures
- Increase the efficiency of projects by strengthening the competencies of human resources

## PERSONAL IMPACT

The delegates will benefit as the following:

- Increase awareness of different types of marine structures and the material comprising these structures
- Enhancing the knowledge about different methods of repair of marine structures
- Increase understanding of the importance of repair and rehabilitation of marine structures
- Enhance problem-solving abilities for maintaining marine structures
- Improving the delegates' operational skills

## WHO SHOULD ATTEND?

This training course is suitable to a wide range of professionals but will greatly benefit:

- Project managers and project engineers
- Marine structures engineers
- Offshore structures engineers
- Subsea engineers
- Structural engineers
- Designer engineer (civil engineer)
- Site Engineer (civil Engineer)
- Mechanical engineers
- QA/QC engineers
- Inspectors
- Operation engineers

## Course Outline

### Introduction to Berthing Facilities, Offshore Structures and Subsea Engineering

- Typical beach profile (Onshore, near shore, offshore, etc.)
- Ports berthing facilities (Quay walls, jetties)
- Types of offshore structures (Fixed platforms, floating structures, subsea system)
- Overview of subsea engineering

### Inspection of Marine Structures

- Factors affecting inspection performance
- Issues in quantifying performance
- Materials for ocean structures
- Maintenance planning and types of facilities
- Materials and preventive maintenance
- Safety and environmental compliance
- Levels of inspection

### Maintenance and Rehabilitation of Waterfront Facilities

- Repair of wood and timber structures
- Repair of concrete structures
- Repair of steel structures
- Repair of synthetic material
- Repair of bulkheads and quay walls

### Inspection & Maintenance of Offshore Structures

- Risk and reliability evaluation
- Risk based maintenance and inspection (RBI)
- Offshore structure integrity
- Introduction of cathodic protection

### Subsea Equipment, Inspection and Maintenance

- Subsea equipment (PLEM, connections and jumbers)
- Next generation subsea inspection, maintenance, and repair
- Challenges of subsea inspection
- Safety in operation and maintenance
- Emergency shutdown

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