



M0029: Offshore Structure Design, Construction, Inspection, Maintenance & Repair

Training Description:

The aim of this training course is to provide the participants with a complete and up-to-date overview of offshore structures engineering in general and steel jackets in particular. It will give a picture of the work of ocean and structural design engineering, using case studies to highlight the topics discussed.

This Offshore Structure Design, Construction, Inspection, Maintenance and Repair training course will illustrate all information about fixed offshore structure platform. The basic design and loads that affect the offshore structure platform will be discussed in detail with the up-to-date method of structure analysis as the pushover structure analysis. The selection of the proper configuration and layout of the platform; the construction and repair of the mature structure; and the risk-based under water inspection with up-to-date methodology will be illustrated in this training intensive training course.

Training Objectives:

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

- ✓ An understanding of the planning, concept development, design, construction, installation, operation, inspection and maintenance of Offshore Structures
- ✓ An understanding of the design, construction and risk based maintenance for offshore platforms, specifically, the theory and process of such design
- ✓ The ability to determine new technology for material of surface and subsurface structures
- ✓ An understanding of the use of current, applicable engineering methods in the design of fixed offshore platform
- ✓ Familiarity with most updated inspection and maintenance techniques for the offshore structures
- ✓ The skills to know the different types of offshore structures including its advantages and disadvantages and design requirements
- ✓ The capability to recognize the codes of inspection and the identify the types of preventive and recommended practices for maintenance in offshore structures

Training Designed for:

This course is intended for Project / Design / Construction Engineers, Project Managers from Oil & Gas, Construction, Design and Installation Companies and Regulatory Authorities, those who have recently moved into Offshore Structural Engineering and those who hold broad responsibilities that include Offshore Structures.

Training Requirement:

“Hand’s on practical sessions, equipment and software will be applied during the course if required and as per the client’s request.”

Contents can be adapted to your specific wishes. It is therefore possible to focus on specific modules of the training course as per client’s learning needs and objectives. Further, it should be forwarded to us a month prior to the course dates.

Training Program:

DAY ONE:

- ❖ Pre-test
- ❖ Introduction to Offshore Structures and Standards
 - Types of Offshore Structures with illustrated videos and animations
 - Design Parameters, Standards and Specifications
 - General Considerations for Design
 - Standard and Special Steels
 - Material Selections
 - Cost Optimization by Design
 - Loads Effects on Offshore Structures

DAY TWO:

- ❖ Metocean, Wave Loading and Buoyancy
 - Offshore Site Investigations
 - Meteorological and Oceanographically Data
 - Wave Theories
 - Wind and Wave Forces
 - Buoyancy and Stability
 - Introduction for Subsea Structures Facilities
 - New Technology for Material of Surface and Subsurface Structures

DAY THREE:

- ❖ Geotechnics, Piles and Structural Analysis
 - Geotechnical Engineering for Offshore Structures
 - Offshore Pile Design
 - Design of Axially Loaded Piles
 - Design of Laterally Loaded Piles
 - Design by Computer (*SACS, SESAM, etc.*)
 - Topsides and Jacket Designs
 - Optimum Platform Configurations

DAY FOUR:

- ❖ Detailed Design and Specialized Analysis
 - Design of Tubular Members and Tubular Joints
 - Welding and Weld Design
 - Concepts of Dynamic Analysis
 - Spectral Analysis
 - Fatigue Design – Deterministic and Spectral
 - Earthquake and Seismic Analysis
 - Load Out, Transportation and Installation
 - Marine Operations

DAY FIVE:

- ❖ Structural Integrity, Repair, Risk and Reliability
 - Inspection of Offshore Structures

- Codes of Inspection
 - Inspection Reporting
 - Maintenance and Remedy Action
 - Types of Preventive Maintenance for Offshore Structures
 - Recommended practices for maintenance of offshore Structures
 - Structural Reliability
 - Structure Integrity Principles
 - Repair Procedure for Damaged Members
 - Risk Assessment
- ❖ Course Conclusion
 - ❖ POST-ASSESSMENT and EVALUATION

Training Methodology:

This interactive training course includes the following training methodologies as a percentage of the total tuition hours:

- 30% Lectures, Concepts, Role Play
- 70% Workshops & Work Presentations, Techniques, Based on Case Studies & Practical Exercises, Gamification, Software & General Discussions
- Pre and Post Test

Training Certificate(s):

CMCT Internationally recognized certificate(s) will be issued to each participant who completed the course.

Training Fees:

TBA as per the course location - This rate includes participant's manual, hand-outs, buffet lunch, coffee/tea on arrival, morning & afternoon of each day.

Note: The 5% VAT (Value Added Tax), will be effective starting 01st of January 2018 as per the new regulation from the UAE Government. The VAT applies for all quotation both for local and abroad.

Training Timings:

Daily Timings:

07:45 - 08:00	Morning Coffee / Tea
08:00 - 10:00	First Session
10:00 - 10:20	Recess (Coffee/Tea/Snacks)
10:20 - 12:20	Second Session
12:20 - 13:00	Recess (Prayer Break & Lunch)
13:00 - 14:00	Last Session

For training registrations or in-house enquiries, please contact:

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