

Prerequisite Knowledge and Syllabus Details

1. Basic Knowledge of Mechanics of Materials

Participants should be familiar with:

- Stress and strain concepts
- Axial loading and deformation
- Shear force and bending moment
- Torsion in circular shafts
- Beam deflection and slope
- Material properties (elasticity, plasticity, yield strength)
- Failure theories and safety factors

2. Fundamentals of Structural Analysis

Participants should understand:

- Types of structural systems and supports
- Determinate and indeterminate structures
- Equilibrium equations
- Analysis of trusses and frames
- Shear force and bending moment diagrams
- Load transfer mechanisms
- Structural stability concepts
- Introduction to matrix methods of analysis

3. Basic Offshore Engineering Knowledge

Participants should have introductory knowledge of:

- Offshore structures and their applications
- Fixed and floating offshore platforms
- Environmental loading (wave, wind, current)
- Marine operating conditions
- Offshore construction and installation basics
- Corrosion and marine protection systems
- Safety considerations in offshore environments

4. Familiarity with Engineering Mathematics

Participants should be comfortable with:

- Algebraic equations and simultaneous equations
- Trigonometry and vector analysis
- Differential and integral calculus
- Ordinary differential equations

- Basic matrix operations
- Numerical methods and approximations
- Graph plotting and interpretation
- Basic statistics and data analysis