SACS Offshore Platform Structural Analysis and Design Training Course

26 – 30 September 2027
Cape town

AGILE LEADERS
Training Center

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Ref: 1701_227905 **Date:** 26 – 30 September 2027 **Location:** Cape town **Fees:** 6000 Euro

Overview

SACS Offshore Platform Structural Analysis and Design Training Course is a one-week professional course for offshore structural engineers, marine engineers, analysts, project engineers, and reviewers, who leave with a Fixed Platform Design Pack. The course connects SACS model setup, environmental loads, static analysis, code checks, pile-soil interaction, fatigue concepts, result interpretation, and reporting in one traceable engineering workflow. Agile Leaders Training Center presents the course on fixed offshore platform analysis and design.

Who Should Attend

- Teams responsible for fixed offshore structural models and design bases
- Functions responsible for wave, wind, current, and operational load definition
- Specialists responsible for member, tubular joint, and foundation verification
- Teams responsible for offshore engineering reviews and design assurance
- Leaders responsible for structural deliverables and project interfaces

The course assumes participants work with structural mechanics, steel design, offshore facilities, or engineering calculations and leaves out introductory statics, software installation, and general marine operations.

Departments and Industries

The course supports fixed-platform engineering decisions across offshore energy and marine infrastructure.

- Offshore structural engineering departments
- Marine and civil design consultancies
- Oil and gas project engineering teams
- Offshore wind foundation functions
- Fabrication and construction engineering groups
- Asset integrity and design assurance departments

Learning Objectives

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

- Build a controlled SACS fixed platform model
- Apply environmental and operational load definitions
- Analyze linear static response and load combinations
- Evaluate member, tubular joint, and foundation checks
- Compare fatigue and dynamic assessment evidence
- Diagnose results and assemble design review records

Course Agenda

Day 1: SACS Model Basis and Geometry

- Fixed Platform Design Basis Register
- SACS Precede Model Configuration Workflow
- Jacket Geometry and Connectivity Model
- Material and Section Property Library
- Model Quality Control Checklist

Day 2: Environmental Actions and Load Cases

- SACS Seastate Wave Load Definition
- Wind, Current, Buoyancy, and Marine Growth Model
- Operational and Equipment Load Register
- Boundary Condition and Support Model
- Load Case and Combination Matrix

Day 3: Static Analysis and Code Checks

- SACS Linear Static Solver Workflow
- Global Displacement and Reaction Review
- Member Utilization and Steel Code Check
- Tubular Joint Classification and Check
- Analysis Exception and Sensitivity Log

Day 4: Foundations, Fatigue, and Review

- Pile-Soil Interaction Analysis Model
- Foundation Demand and Capacity Review
- Wave Fatigue Screening Method
- Dynamic Response Assessment Framework
- ISO 19902 Design Review Checklist

Day 5: Fixed Platform Design Practice

- SACS Geometry and Model Audit Exercise
- Environmental Load and Combination Exercise
- Member, Joint, and Foundation Check Exercise
- Fatigue Evidence and Result Interpretation Exercise
- Fixed Platform Design Pack Capstone Exercise

Practical Exercises

The course uses suggested activities to practice fixed offshore platform analysis and design decisions.

- Suggested activity: build and audit a jacket geometry, property, connectivity, and support model in SACS.
- Suggested activity: define environmental actions, operational loads, load cases, and governing combinations.
- Suggested activity: interpret member, joint, reaction, foundation, fatigue, and sensitivity evidence.
- Suggested activity: compile a Fixed Platform Design Pack with assumptions, checks, exceptions, and review records.

FAQs

Who suits SACS offshore platform analysis training and what does it assume?

SACS offshore platform analysis training suits engineers, analysts, and reviewers working with fixed offshore structures. It assumes structural mechanics and engineering calculation experience and does not teach introductory statics or software installation.

How does SACS offshore platform design training differ from general steel design training?

SACS offshore platform design training centers on jacket geometry, hydrodynamic actions, tubular joints, pile-soil interaction, fatigue evidence, and offshore load combinations. General steel design training addresses broader building or industrial framing without this fixed-platform workflow.

How are wave, wind, and current loads represented in SACS offshore analysis?

Environmental actions are represented through defined metocean inputs, member hydrodynamic properties, directions, load cases, and combinations. Engineers then review generated loads, reactions, displacements, member forces, and governing utilization evidence.

What role does pile-soil interaction play in SACS fixed platform design?

Pile-soil interaction connects foundation stiffness and resistance with the structural response of the jacket. The model helps engineers examine load transfer, support behavior, pile demand, and the sensitivity of platform results to foundation assumptions.

How is fatigue considered in SACS offshore platform analysis?

Fatigue assessment considers repeated environmental loading, stress ranges, joint behavior, and accumulated damage evidence. The course introduces fatigue screening and result interpretation while keeping detailed project acceptance criteria within the applicable design basis.

Conclusion

Participants take a Fixed Platform Design Pack back to work. It connects the SACS model basis, environmental actions, analysis combinations, structural checks, foundation behavior, fatigue evidence, and review records. It changes isolated model outputs into traceable engineering assumptions, interpreted results, documented exceptions, and a structured design decision trail.