

SACS Training on Offshore Structural Analysis Computer System (SACS®)



**Course Title
Offshore Structural Analysis Computer System (SACS®)**

Duration & Location

5 Days Training, Mumbai

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Training Methodology

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

- 30% Lectures
- 30% Workshops & Work Presentations
- 30% Case Studies & Practical Exercises
- 10% Videos, Software & General Discussions

Schedule:

1. The training on the application and usage of the SACS software will be carried as per the attached proposed plan. However on confirmation of the training, the same can be altered as mutually suitable.
2. The training will be carried out in Five days in Mumbai.

Training Material:

1. Software access to each individual candidate will be provided by Aryatech Marine & Offshore.

Certificates:

1. Upon completion of training, certificates will be provided by Aryatech.

SACS TRAINING SCHEDULE

Day	Description
1	<p>Determine the system capabilities & the new features of SACS & be able to explain its system configuration</p> <ul style="list-style-type: none"> • Introduction • Fixed Platform Nomenclature • Platform Concepts • Analysis techniques • Codes and Standards • SACS Software Modules • Module arrangement • Global Settings • File naming convention • Setting up project, run files etc.. • Precede, Data Generator and Editor
2	<p>Creating Structural models with SACS using the graphical interface and be able to demonstrate the method of creating a new model using the wizard & also inputting the Member properties.</p> <p>Creating the Model</p> <ul style="list-style-type: none"> • Using Precede and Structural Wizard • Members • Wish bones • Main piles • Conductor Modeling • Inputting Material Properties • Plate Groups • Local and Global Coordinate Systems <p>Defining the Design Parameters</p> <ul style="list-style-type: none"> • Joint Connection Design • Define Beam Offsets • Define Member Code Check Properties <p>Loading the Model</p> <ul style="list-style-type: none"> • Dead Load • Applied Loads – Joint and Member loads • Over rides (Member and Group) • Simulation of non-structural elements such as anodes, walkways, stairs etc... • Loading the Structure (Using the Weight feature): Surface Loads, Equipment Footprint Loads, Appurtenant Structure Loads, Inertia Loading

<p style="text-align: center;">3</p>	<p>Understand the user-defined loading & be able to input environmental loading from waves, wind, current etc... Define the Load Combinations. Performing the Static Inplace Analysis based on the model that has been created. Also understand about the various factors to be considered for doing the Inplace analysis.</p> <p>Environmental Loading</p> <ul style="list-style-type: none"> • Wind Area Definitions • Wind Loads • Wave and Current Loading • Buoyancy Loads • Marine growth • Hydrodynamic Coefficients • Wave Kinematics and Current Blockage Factor • Hydrostatic Collapse check <p>Preparing for Analysis</p> <ul style="list-style-type: none"> • Load Combinations • Allowable Stress Modification factor • Unity Check Partition Table • Code Check & other Analysis options • Defining Boundary Conditions <p>Creating Joint Can Data File</p> <ul style="list-style-type: none"> • Joint Check Options • Joint Can File <p>Analysis Results</p> <ul style="list-style-type: none"> • Codes and Standards • Analysis and review of results • Interpretation of List files • PostVue Files • Viewing Results in 3D • Member Unity Checks and Unity Check Plots • Member Review and Redesign • Joint Design Review and Redesign • Data Extraction and Report Preparation
<p style="text-align: center;">4</p>	<p>Understanding the Boundary Conditions of Soil.</p> <p>Creating PSI Data File</p> <ul style="list-style-type: none"> • Soil Data Input • Pile Design Parameters • Super Element Simulation <p>Analysis Results</p> <ul style="list-style-type: none"> • Analysis and review of results with PSI Files

	<p>Performing the Lift analysis of the Jacket & also the calculation of the COG shift & Sling Forces from the Lift analysis.</p> <p>Understand about the Gap element concept for Load out analysis. Also understand about the various steps involved in the creation of the Tow input file for Generation of Inertial acceleration loads.</p> <ul style="list-style-type: none"> • Load out sequence • Gap element concept • Typical Motion Parameters • Tow input file • Single stage method • Two stage Method • Review of results • Discussions
<p>5</p>	<p>Introduction to Performing the Dynamic analysis & fatigue analysis of the model that has been prepared. Also understand about the various aspects of Dynamic & Fatigue analysis like Added Mass, SCF, Wave Scatter Data, Cyclic Stresses etc.</p> <ul style="list-style-type: none"> • Super Element Simulation • Mass Modeling • Added Mass and entrapped fluid • Dynamic Analysis • Review of results • Wave Scatter Data • Wave Load specification • SCF and S-N Curves • Generation of Cyclic Stresses • Fatigue Damage Calculations • Deterministic Analysis • Spectral Representation of sea state • Wave Selection • Transfer Function Generation • Cyclic Stresses Generation • Spectral fatigue analysis • Review of results

Regards

Tarun Rewari
 Director
 Aryatech Marine & Offshore Services Pvt. Ltd