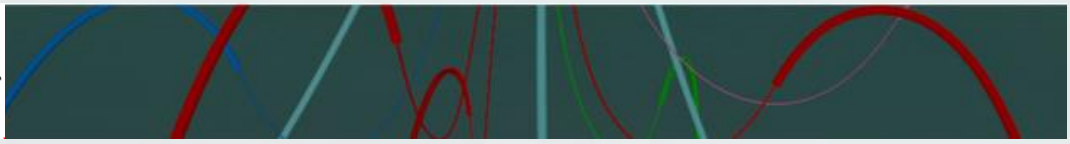
Aryatech Training Program On OrcaFlex Software



Aryatech Provide the training for OrcaFlex Software. Training session is 1 week.

The training session provides a broad overview of the software and show new users where to find answer to questions and how to get started. The later session goes into more detail and show users how to solve specific problem. The software will be provided to the candidates on the course of training.

Certificates:

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

Training Material:

Software access and Training Material to each individual candidate will be provided by Aryatech Marine & Offshore.

For more information contact :-
Aryatech Marine & Offshore Services Pvt. Ltd.
E-36, Hauz Khas, New Delhi:- 110016,
Contact No :- 011 46018102 / 103
Email :- Support@Aryatech.net , Website :- www.Aryatech.net

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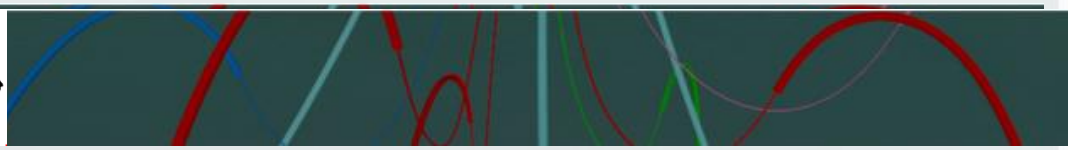


ORCAFLEX TRAINING SCHEDULE

1.1. Introduction of OrcaFlex

General introduction / background to OrcaFlex.

1.2. Simple Catenary Riser In Statics (Example 1)

Adding / editing objects.
Local origins, default data.
Making connections (not all objects can connect together).
Line end connection options.
Short cut keys and moving around the view.
Shaded vs. wire frame.
Data files – difference between *.dat* and *.yml.*
Workspaces.
Simulation files.

1.3. Line Theory

Nodes and segments.
Segments cannot bend, all bending at nodes.
How compression in segments is treated.
Including / excluding torsion.

1.4. Dynamic Calculation

Implicit integration scheme.
Explicit integration scheme.

1.5. End Connections (Example 2)

End connection stiffness settings: pinned, infinity, finite.
Explain what end fitting angle is, and why this needs to be set.
Explain use of azimuth, declination and gamma.

1.6. More on Lines and Line Types (Example 3)

1.6.1. Line Types

Homogeneous vs. General categories.
Geometry and Mass, Structure, etc. pages on line types form.
Variable data.
Line types wizard.

1.6.2. Contents

Difference between Uniform, Free Flooding and Slug Flow.

1.6.3. Pre-bend

Applying unstressed curvature to the line to represent spool pieces etc.

1.7. Adding More Line Objects (Example 5)

Polar coordinates option on All Objects data form.
Line type wizard to specify chain properties.

1.8. Model Browser

Copy+paste.
Move Selected Objects.
Groups.
Hide / Show and Locate features.

1.9. Seabed Friction

Lay Azimuth.
Prescribed track.

1.10. Adding Buoyancy (Example 5)

1.10.1. Attachments

Types (clumps, flex joints and bend stiffeners).
Properties data.
Clump “Align With” option.
Attachments can only be connected at a node.

1.11. Environment (Example 6)

Sea page.
Water density settings.
Weather directions set relative to global axis system.

1.11.1. Seabed

Can be flat, profiled, 3D.
Linear and non-linear models for normal direction.

1.11.2. Current

Defined through interpolated or power law profile.
Multiple data sets can be defined but only one active at a time.

1.11.3. Wind

Constant or time-varying.
Only applies to certain objects.

1.11.4. Waves

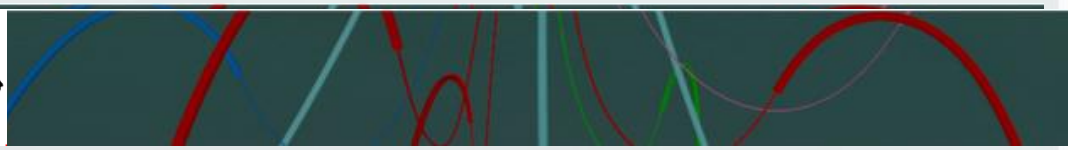
Multiple wave trains act in combination.
Regular or irregular waves.
Build-up period.
Waves Preview.

1.12. Links (Example 7)

Massless, dragless etc.
Differences between tether and spring/damper type.

1.13. Introduction to Contact (Example 8)

Only some objects are permitted to contact each other.
Different contact options (shapes, line clashing, line contact, supports).



1.14. Shapes and Line Statics (Example 9)

Elastic solid type shape for contact.
Linear reaction force.
Friction coefficients can be defined.
Different shape geometries possible (cylinder, block, plane, curved plate)
Shapes can also be used for Drawing only.

1.14.1. Line Statics

OrcaFlex solves individual line statics first then whole system statics.
Statics Progress window.
Step 1 and Step 2 line static stages.
Effect of changing Max Iterations, Tolerance, Min/Max Damping.
When to change to Mag. Std. Error & Change.

1.15. Winches and Whole System Statics (Example 10)

Also massless, dragless.
Multiple control points possible (frictionless)
Control payout, payout rate or tension.
Simple and detailed types.
Whole system statics convergence parameters adjusted on General data form.

1.16. Vessels (Example 11)

Represent rigid bodies in diffraction regime.
Diffraction data must be pre-calculated and then imported into OrcaFlex.
Calculation page options (Primary / Superimposed Motion, Included Effects).

1.16.1. Importing Diffraction Data

Assistance for specific packages given in the OrcaFlex help.
WAMIT/AQWA files can be imported directly.
Generic text file data require some mark-up.
Check RAOs.

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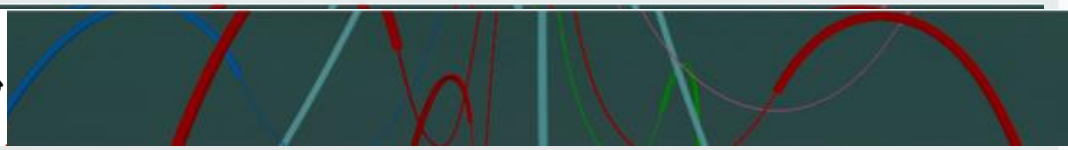

1.17. 3D and 6D Buoys Hydrodynamics (Example 12)

Represent rigid objects in drag/inertia regime (using Morison's equation).
Wings allow lift/drag characteristics to be applied as a function of buoy angle.
3D buoys.
6D lumped buoys.
6D spar and towed fish buoys.

1.18. Buoy Contact

Buoys interact with shapes through their vertices.
Contact area shared equally between all vertices.
Single vertex for 3D buoys.
Vertices from Drawing for lumped buoys.
Spar buoy vertices as shown by "draw as square cylinders" option.

1.19. Automation (Example 13)

OrcaFlex spreadsheet and API options.

1.19.1. Pre-Processing

Batch script.
Text data files.
File Compare.

1.19.2. Post-Processing

Spreadsheet Instructions Wizard.
How to process cases.
Duplicate Instructions.

1.20. Model Building

Model building.

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