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COURSE BROCHURE

Offshore Wind Farm Development for Oil and Gas Engineers Training Course

12 – 16 April 2027
Singapore

Offshore Wind Farm Development for Oil and Gas Engineers Training Course

Ref: 2853_109294 **Date:** 12 – 16 April 2027 **Location:** Singapore **Fees:** 9300 GBP

Offshore Wind Farm Development for Oil and Gas Engineers is a 1-week training course for engineers, project managers and asset owners who bring offshore experience into wind, and who leave with an offshore wind project screening plan. Energy companies are moving capital, vessels and people from hydrocarbons into wind. Jupiter Prime Training delivers this course for that transition.

Why Offshore Wind Farm Development Matters Now

Two forces shape offshore wind farm development today. Energy companies are rebalancing portfolios towards low-carbon power and asking offshore teams to judge wind sites. Turbines keep growing, which pushes foundations into deeper water and strains the supply of installation vessels and port space. An organisation that screens sites, seabed and logistics early protects its capital; one that copies oil and gas habits without adapting them faces late redesigns, idle vessels and stranded cable work.

Who Gains Most from Offshore Wind Farm Development

- Engineers responsible for selecting foundations and judging seabed and metocean conditions
- Project leads accountable for installation sequencing, vessel booking and interface risk
- Electrical specialists who scope array cables, export cables and offshore substations
- Asset owners and planners who weigh wind sites against existing upstream holdings
- Operations staff who will run service vessels, technician transfer and spare parts

Companies forming a wind business unit gain most when engineering, project and operations members attend together.

Offshore Wind Farm Development Capabilities

Participants turn offshore experience into wind judgements on layout, foundations, cables and access.

- Assess wind resource, water depth and seabed data for a candidate site — the go or no-go screening decision
- Compare monopile, jacket and floating foundation concepts — the foundation selection put to the design board
- Design a turbine array layout balancing wake losses and cable length — the yield case shown to investors
- Specify installation vessel and port needs for turbines and foundations — the contracting strategy for marine spreads
- Weigh array and export cable routes against burial and crossing risk — the grid connection discussion
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Build an operations and maintenance access concept — the availability target agreed with asset owners

Key Offshore Wind Farm Development Terms

- Wake loss — energy lost when downstream turbines sit in the slower, turbulent air left behind by upstream rotors.
- Monopile — a single large steel tube driven into the seabed to carry a turbine in shallow to moderate water.
- Floating foundation — a moored buoyant hull, such as a semi-submersible or spar, holding a turbine in deep water.
- Array cable — a medium-voltage cable linking turbines in strings to the offshore substation.
- Export cable — the high-voltage cable carrying power from the offshore substation to the onshore grid connection.
- Service operation vessel — a ship with accommodation and a motion-compensated gangway that keeps technicians offshore for weeks.

Offshore Wind Farm Development Day by Day

Day 1: From Platforms to Turbines

- Offshore Wind Value Chain Map — Where Oil and Gas Skills Transfer
- Wind Resource and Capacity Factor — Judging Site Energy Yield
- Metocean and Seabed Survey Data — Screening Candidate Lease Areas
- Turbine Size Growth Trends — Effects on Foundations and Vessels
- Stakeholder and Marine Spatial Constraints — Fishing, Shipping and Ecology Conflicts

Day 2: Layout and Foundations

- Array Layout and Turbine Spacing — Trading Wake Loss Against Cable Length
- Monopile and Jacket Concepts — Matching Foundations to Water Depth
- Floating Hull Types and Mooring — Opening Deep Water Sites
- Geotechnical Risk and Scour Protection — Protecting Foundation Design Life
- Foundation Fabrication and Load-Out — Yard Capacity and Schedule Decisions

Day 3: Installation and Cables

- Jack-Up and Heavy-Lift Vessel Selection — Securing Scarce Installation Spreads
- Marshalling Port Requirements — Quayside Space, Draught and Crane Capacity
- Weather Windows and Installation Sequencing — Limiting Vessel Standby Time
- Array and Export Cable Routing — Burial Depth and Crossing Agreements
- Offshore Substation and Grid Interface — Export Capacity and Redundancy Choices

Day 4: Operations and Lifecycle Economics

- Service Operation Vessels and Crew Transfer — Choosing the Access Strategy
- Condition Monitoring of Blades and Drivetrains — Reducing Unplanned Turbine Downtime
- Spare Parts and Heavy Component Exchange — Planning Major Repair Campaigns
- Levelised Cost of Energy Drivers — Testing Capital and Operating Assumptions
- Decommissioning and Repowering Options — Shaping End-of-Life Liabilities Early

Day 5: Practising the Offshore Wind Project Screening Plan

- Site Yield and Seabed Screen — Applying Resource and Survey Methods
- Foundation and Layout Choice — Applying Concept and Spacing Trade-Offs
- Installation and Cable Risk Register — Applying Vessel and Routing Lessons
- Peer Challenge of Screening Results — Testing Assumptions Across Disciplines
- Offshore Wind Project Screening Plan — Final Go or No-Go Case

Applying Offshore Wind Farm Development After the Course

- Run a first seabed and wind yield screen on one candidate area using the survey and capacity factor methods from the course.
- Lead a session that compares foundation and installation vessel options for that area and records the risks in a cable and installation register.

Offshore Wind Farm Development Questions FAQ

What is offshore wind farm development and why does it matter now?

Offshore wind farm development is the work of choosing sites, foundations, cables, vessels and service concepts for turbines at sea. It matters now because energy companies are moving offshore teams and capital into wind, and early screening decisions fix most of a project's cost and risk.

Which roles gain most from offshore wind farm development training?

Engineers, project leads, electrical specialists, asset planners and operations staff gain most. The course shows where their offshore knowledge transfers to turbines and where wind needs different answers.

How does offshore wind farm development differ from an offshore platform design course?

It covers many repeated light structures, wake effects, cable networks and long service campaigns rather than one heavy facility. A platform design course goes deep into one hydrocarbon facility.

What do you bring back from offshore wind farm development training?

You bring back a screening plan for one candidate wind project. It covers yield, seabed, foundations, cables and access, ready for your team to challenge.

Offshore Wind Farm Development: The Way Forward

The offshore wind project screening plan informs the first go or no-go decision on a candidate site. Engineers, project leads and asset owners use it to agree which areas deserve survey spend and vessel enquiries. After its first use, revisit the foundation and access assumptions as turbine sizes, port capacity and grid offers change.