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COURSE BROCHURE

Fundamentals of Upstream Exploration and Production Training Course

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Fundamentals of Upstream Exploration and Production Training Course

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Fundamentals of Upstream Exploration and Production is a 1-week training course for new upstream staff and for finance and commercial professionals following oil and gas from prospect to wellhead, ending with an upstream asset value chain map. Capital discipline, energy transition pressure and an ageing technical workforce now push non-specialists into upstream decisions. Jupiter Prime Training delivers this introduction to upstream exploration and production.

Why Upstream Exploration and Production Matters Now

Three forces shape upstream exploration and production today. Investors and partners expect each barrel to carry a lower cost and a lower emissions intensity, so portfolio choices face sharper scrutiny. Experienced geoscientists and petroleum engineers are retiring faster than they are replaced, leaving commercial and support staff to interpret technical arguments. Organisations that read the chain well commit capital to the right wells; those that read it badly approve projects they cannot explain. The course rests on the widely used stage-gate model of field development and on reserves and resources classification.

Who Gains Most from Upstream Exploration and Production

- Graduate and early-career staff joining subsurface, drilling or production functions placing their role in the asset lifecycle
- Finance professionals responsible for capital budgets, cost tracking and asset valuations
- Commercial and contracts staff who negotiate rig, service and joint venture agreements
- Supply chain and procurement personnel sourcing well materials, equipment and field services
- Human resources, legal and communications staff supporting upstream projects

Asset teams sending finance, contracts and technical newcomers together gain most, leaving with one shared picture of the field.

Upstream Exploration and Production Capabilities

Participants move from rock to revenue, linking subsurface work to the numbers that decide whether a field goes ahead.

- Explain how source rock, reservoir, seal and trap combine into a petroleum system — prospect screening discussions
- Interpret a seismic section and a well log at a non-specialist level — exploration well approvals
- Describe the sequence of drilling, casing, cementing and completion — well cost and schedule reviews
- Relate reservoir drive mechanisms and recovery factors to production profiles — forecast challenges with technical teams
- Calculate a simple field cash flow with net present value and breakeven price — investment committees and partners
- Build a value chain map of an upstream asset from licence to export — cross-functional asset planning

Key Upstream Exploration and Production Terms

- Petroleum system — the source rock, migration path, reservoir, seal and trap that together allow hydrocarbons to accumulate.
- Seismic survey — reflected sound waves recorded to image buried rock layers.
- Well completion — equipment installed after drilling so oil or gas flows safely to surface.
- Recovery factor — the share of hydrocarbons originally in place that a field is expected to produce over its life.
- Field development plan — the agreed concept of wells, facilities, cost and schedule used to sanction a field.
- Production sharing contract — a contract where the operator recovers costs and shares remaining output with the resource owner.

Upstream Exploration and Production Day by Day

Day 1: The Upstream Landscape and Petroleum Geology

- Upstream, Midstream and Downstream Segments — Where Value Is Created
- Asset Lifecycle From Licence to Abandonment — Stage-Gate Decisions
- Petroleum System Elements — Prospect Chance of Success
- Sedimentary Basins and Rock Types — Reservoir Quality Expectations
- Conventional Versus Unconventional Plays — Portfolio Risk Appetite

Day 2: Seismic Exploration and Appraisal

- Seismic Acquisition and Processing Basics — Survey Cost Versus Image Clarity
- Reading Seismic Sections and Structure Maps — Drill Location Choice
- Wireline Logs, Cores and Well Tests — Appraisal Well Justification
- Volumetric Estimates of Oil in Place — Discovery Size Ranges
- Reserves and Resources Classification — Booking and Disclosure Choices

Day 3: Drilling and Well Completion

- Rig Types and Drilling Contracts — Day Rate Versus Turnkey Terms
- Well Design, Casing and Cementing — Integrity and Cost Trade-Offs
- Authorisation for Expenditure and Well Cost Estimating — Budget Approval
- Completion and Artificial Lift Options — Initial Flow Rate Targets
- Non-Productive Time and Well Control — Schedule and Safety Exposure

Day 4: Reservoir, Production Operations and Field Economics

- Reservoir Drive Mechanisms and Recovery Factors — Production Profile Shape
- Surface Facilities, Separation and Export Routes — Concept Selection
- Water Flooding and Enhanced Recovery Methods — Late-Life Investment Cases
- Capital and Operating Cost Structures — Unit Cost per Barrel
- Discounted Cash Flow, Net Present Value and Breakeven — Project Sanction

Day 5: Practising the Upstream Asset Value Chain Map

- Fiscal Regimes, Concessions and Production Sharing Terms — Partner Economics
- Prospect-to-Sanction Case Review Using Geology and Seismic Evidence — Go or No-Go
- Well Cost and Production Forecast Reconciliation — Commercial Model Inputs
- Upstream Risk Register for Subsurface and Price Uncertainty — Contingency Sizing
- Upstream Asset Value Chain Map — Cross-Functional Asset Planning

Applying Upstream Exploration and Production After the Course

- Walk a finance or contracts colleague through the stage-gate sequence of a current asset, marking where well costs enter the commercial model.
- Rebuild a simple discounted cash flow for one field using its production profile and authorisation for expenditure figures.

Upstream Exploration and Production Questions FAQ

What is upstream exploration and production and why does it matter now?

Upstream exploration and production covers finding, drilling and producing oil and gas. It matters now because scarce capital and retiring specialists leave more non-technical staff judging upstream proposals.

Which roles gain most from upstream exploration and production training?

New subsurface, drilling and production staff gain most, alongside finance, commercial, contracts and supply chain professionals. Each sees how geology, wells and reservoirs become costs, volumes and cash flow.

How does upstream exploration and production training differ from a petroleum engineering course?

It is broader and less technical. Petroleum engineering courses train specialists to design wells, whereas this one gives newcomers the vocabulary and economics of every stage.

What do you bring back from upstream exploration and production training?

You bring back a value chain map of an upstream asset. It links each stage from licence to economics, showing where costs arise and where uncertainty sits.

Upstream Exploration and Production: The Way Forward

The upstream asset value chain map first informs the next stage-gate decision on a live asset, showing whether appraisal, drilling or facility spend deserves priority. Asset managers and finance partners use it to align assumptions. After its first use, revisit how price and recovery uncertainty flow through the chain, because those two drivers move fastest.