

OIL & GAS PRODUCTION FUNDAMENTALS - INCLUDING FPSO OPERATIONS

“Mastering the Key Elements of Hydrocarbon Production and Floating Production Systems”

Schedule

Date	Venue	Fees (Face-to-Face)
22 - 26 Feb 2026	Manama, Bahrain	USD 3495 per delegate

Introduction

Oil and gas production involves a complex blend of technologies and processes that span from reservoir to export. Understanding the fundamentals of upstream operations, especially the integrated systems found in Floating Production, Storage, and Offloading (FPSO) units, is essential for professionals working across the production value chain.

This comprehensive five-day course provides an in-depth overview of oil and gas production systems, including surface facilities, wellhead operations, separation, processing, and the unique operational aspects of FPSOs. The program blends theory with real-world insight, making it ideal for technical and non-technical professionals seeking a working knowledge of production systems and offshore floating assets.

Objectives

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

- Understand the full production lifecycle from reservoir to export
- Describe the function of key surface production equipment
- Identify and explain FPSO systems and operational requirements
- Analyze safety, processing, and environmental considerations in offshore production
- Communicate effectively with multidisciplinary teams involved in upstream projects

Why Attend

- Gain a complete understanding of onshore and offshore production processes
- Develop awareness of FPSO systems, capabilities, and limitations
- Learn technical concepts in a simplified and structured manner
- Improve interdisciplinary collaboration across operations, maintenance, and engineering teams
- Build confidence when working on production-related projects or offshore assignments

Target Audience

This program is designed for:

- Engineers, technicians, and operators entering the oil and gas sector
- Offshore FPSO and platform personnel seeking to broaden their production knowledge
- HSE, supply chain, and support staff interfacing with production systems
- Project and asset managers working with upstream developments
- Commercial, financial, and administrative professionals supporting production operations

Individual Benefits

Key competencies that will be developed include:

- Basic production system understanding across the oil and gas lifecycle
- Equipment functionality and process flow interpretation
- Offshore operational insight, especially on FPSO systems
- HSE and environmental awareness in production contexts
- Effective communication in multidisciplinary teams

Organizational Benefits

Upon completing the training course, participants will demonstrate:

- Improved technical fluency across diverse departments
- Safer and more efficient collaboration with field operations teams
- Increased readiness for offshore or production-related assignments
- Enhanced support capabilities in logistics, procurement, and compliance functions
- Broader alignment between engineering and operations disciplines

Instructional Methodology

The course follows a blended learning approach combining theory with practice:

- Strategy Briefings - Fundamentals of oil and gas production, facilities, and FPSO systems
- Case Studies - Real-world examples of production system challenges and FPSO incidents
- Workshops - Group exercises in process flow mapping and operational diagnostics
- Peer Exchange - Shared insights on offshore production and facility integration
- Tools - Process schematics, terminology guides, and offshore system checklists

MAWA EVENTS

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Course Outline

Detailed 5-Day Course Outline

Training Hours: 07:30 AM – 3:30 PM **Daily Format:** 3-4 Learning Modules | Coffee breaks: 09:30 & 11:15 | Lunch Buffet: 01:00 – 02:00

Day 1: Introduction to Oil & Gas Production Systems

- Module 1: Overview of the Upstream Sector (07:30 – 09:30) • Lifecycle from exploration to production • Key terminology and sector overview • Production vs. processing vs. refining
- Module 2: Reservoir to Wellhead Fundamentals (09:45 – 11:15) • Reservoir drive mechanisms and inflow • Types of wells and completion systems • Artificial lift methods (ESP, gas lift, rod pump)
- Module 3: Surface Production Facilities – Overview (11:30 – 01:00) • Function of separators, heaters, scrubbers, and tanks • Flowlines, manifolds, and gathering systems • Produced fluids: oil, gas, water, sand
- Module 4: Safety and Risk in Production Operations (02:00 – 03:30) • Process safety basics • Pressure containment, fire/explosion risks • Permit to work and safety barriers

Day 2: Separation and Processing Technologies

- Module 1: Oil-Gas-Water Separation (07:30 – 09:30) • Two-phase and three-phase separators • Slug catchers and scrubbers • Separator internals and controls
- Module 2: Gas Treatment and Compression (09:45 – 11:15) • Gas dehydration, sweetening, and flaring • Compression systems and pressure control • Vapour recovery and emissions handling
- Module 3: Produced Water and Sand Handling (11:30 – 01:00) • Hydrocyclones, flotation units, and filtration • Sand removal and erosion prevention • Discharge limits and reinjection
- Module 4: Workshop – Separation Process Mapping (02:00 – 03:30) • Team exercise to draw and explain surface process flow

Day 3: Introduction to FPSO Systems

- Module 1: FPSO Concept and Development (07:30 – 09:30) • What is an FPSO and why use it? • Field layout and mooring systems • Topsides vs. hull systems
- Module 2: FPSO Process Systems (09:45 – 11:15) • Production separation and gas compression • Power generation, water treatment, flare systems • Crude storage and offloading systems
- Module 3: Utilities and Marine Systems (11:30 – 01:00) • Firewater, HVAC, chemical injection, sea water • Ballast, bilge, and cargo systems • Accommodation and marine logistics
- Module 4: Case Study – FPSO Operational Event Review (02:00 – 03:30) • Review of an incident or failure from an FPSO case • Discussion of learnings and system responses

Day 4: Offshore Operations and Production Optimization

- Module 1: Offshore Production Planning (07:30 – 09:30) • Production targets, constraints, and optimization • Integrated operations and daily coordination • Production deferral analysis
- Module 2: Process Control and Automation (09:45 – 11:15) • Basic control systems (SCADA, PLC, DCS) • Process parameters and alarms • Operator response and troubleshooting
- Module 3: Maintenance and Integrity Management (11:30 – 01:00) • Routine maintenance and CMMS systems • Condition monitoring and inspection • Integrity barriers and performance standards
- Module 4: Workshop – Troubleshooting a Production Upset (02:00 – 03:30) • Participants analyze a simulated system upset • Root cause discussion and corrective actions

Day 5: HSE, Regulation, and Final Integration

- Module 1: HSE in Oil & Gas Production (07:30 – 09:30) • Safety case requirements and hazard studies • Emergency response planning and drills • Environmental protection and waste control
- Module 2: Regulatory Compliance and Reporting (09:45 – 11:15) • Production reporting, flaring, and emissions • Inspection readiness and record-keeping • Regulatory bodies and frameworks
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Module 3: Integration and Course Review (11:30 – 01:00) • Summary of surface and FPSO systems • Personal action planning for workplace application

- Module 4: Certification and Wrap-Up (02:00 – 03:30) • Final Q&A • Certificate distribution • Feedback and closing remarks

Certification

Participants will receive a Certificate of Completion in Oil & Gas Production Fundamentals - Including FPSO Operations, validating their understanding of production systems, surface processing technologies, and the operational essentials of FPSO facilities

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