Pipeline & Terminal Operations and Logistics Training Course

17 - 21 May 2026

Doha - *

5500 € (Per Person)

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Course Introduction / Overview:

The midstream sector is an essential part of the global oil and gas value chain, acting as a crucial link between upstream exploration and downstream refining. It encompasses the intricate processes of gathering, processing, transporting, and storing crude oil, natural gas, and natural gas liquids. This training course delves into these core operations, offering a comprehensive look at the infrastructure and logistics that ensure a seamless flow of energy resources to global markets. We will explore the technical complexities of pipelines, the strategic importance of storage terminals, and the logistical challenges of multimodal transportation. Professionals in this course will gain insights into key operational aspects, including safety, regulatory compliance, and risk management. The curriculum is informed by academic rigor, drawing on concepts presented in works like The Encyclopaedia of Midstream and Downstream Oil and Gas, which provides deep insights into the contractual and regulatory frameworks of the industry. This course also incorporates the perspectives of leading academics in the field, such as Dr. Michelle Michot Foss, a prominent figure in energy research whose work provides valuable context on the economic and geopolitical factors that influence midstream operations. BIG BEN Training Center is committed to equipping participants with the knowledge and practical skills needed to excel in this vital and evolving sector.

Target Audience / This training course is suitable for:

- Midstream operations managers and engineers.
- Pipeline and terminal supervisors.
- Logistics and supply chain professionals.
- Safety and risk management personnel.
- Government officials and regulators in the energy sector.
- Financial and investment analysts focused on the oil and gas industry.
- Project managers overseeing midstream infrastructure projects.

Target Sectors and Industries:

- Oil and gas.
- Energy and utilities.
- Petrochemicals and chemicals.
- Logistics and transportation.
- Government agencies and regulatory bodies.

Target Organizations Departments:

- Operations and Production.
- Logistics and Supply Chain Management.
- Engineering and Technical Services.
- Health, Safety, and Environment (HSE).
- Commercial and Marketing.
- Compliance and Regulatory Affairs.

Course Offerings:

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

- Explain the role of midstream operations within the larger energy value chain.
- Analyze the core principles of pipeline transportation, including design, integrity, and safety protocols.
- Evaluate the strategic function of storage and terminal facilities in balancing supply and demand.
- Identify key operational challenges in processing crude oil and natural gas.
- Apply best practices for logistics and multimodal transportation of hydrocarbons.
- Recognize the importance of regulatory compliance and risk management in midstream activities.
- Develop strategies for enhancing operational efficiency and asset management.

Course Methodology:

This training course employs a dynamic and interactive approach to ensure a practical and engaging learning experience for all participants. The methodology blends structured theoretical presentations with real-world case studies and group discussions, allowing attendees to apply their new knowledge in practical scenarios. We use detailed case studies of major midstream projects and incidents to highlight the complexities and best practices in the industry, from pipeline management and terminal operations to logistics and supply chain optimization. The program includes interactive sessions where participants can engage in problem-solving exercises and debates, fostering a collaborative environment. Feedback is a key component, with instructors providing personalized guidance and addressing specific challenges faced by professionals in their roles. This hands-on, practical methodology ensures that participants not only understand the concepts but can also effectively utilize them in their daily work. BIG BEN Training Center is dedicated to providing an immersive experience that goes beyond traditional classroom learning.

Course Agenda (Course Units):

Unit One: Introduction to Midstream Operations and Value Chain

- The global energy value chain: upstream, midstream, and downstream.
- Defining the midstream sector and its economic importance.
- Types of hydrocarbons handled: crude oil, natural gas, and NGLs.
- Midstream infrastructure: an overview of pipelines, terminals, and processing plants.
- Key players and business models in the midstream industry.
- Regulatory and geopolitical factors influencing midstream operations.
- Introduction to midstream asset management and integrity.

Unit Two: Pipeline Systems and Transportation

- Pipeline design, construction, and material selection.
- Liquid and gas pipeline operations and control systems.
- Pipeline integrity management, inspection, and maintenance.
- Leak detection and emergency response protocols.
- Pipeline economics, tariff structures, and capacity management.
- Environmental considerations and sustainability in pipeline transportation.
- Safety regulations and risk mitigation strategies for pipelines.

Unit Three: Storage and Terminal Operations

- The strategic role of storage facilities in the energy supply chain.
- Types of storage terminals: tank farms, caverns, and floating storage.
- Operations and management of crude oil and natural gas storage.
- Inventory management and measurement systems.
- Terminal safety, security, and fire protection.
- Loading and unloading procedures for tankers, rail cars, and trucks.
- Terminal automation and data management.

Unit Four: Processing and Logistics

- Field processing and separation of crude oil and natural gas.
- Natural gas processing and liquefaction (LNG).
- Multimodal transportation logistics: marine, rail, and truck transport.
- Supply chain optimization and scheduling.
- Trading and marketing of midstream products.
- Risk management in transportation and logistics.
- Technology and digitalization in midstream operations.

Unit Five: Safety, Compliance, and Future Trends

- Health, safety, and environmental (HSE) standards in midstream.
- Regulatory compliance and international standards (e.g., API, ISO).
- Crisis management and emergency preparedness.
- Cybersecurity for critical infrastructure.
- Emerging technologies and innovations in the midstream sector.
- Future outlook for midstream operations in a changing energy landscape.
- Case studies in operational safety and asset integrity.

FAQ:

Qualifications required for registering to this course?

There are no requirements.

How long is each daily session, and what is the total number of training hours for the course?

This training course spans five days, with daily sessions ranging between 4 to 5 hours, including breaks and interactive activities, bringing the total duration to 20 - 25 training hours.

Something to think about:

How will the ongoing shift towards renewable energy sources impact on the long-term viability and operational strategies of traditional hydrocarbon midstream infrastructure?

What unique qualities does this course offer compared to other courses?

This training course distinguishes itself by focusing on the practical, operational, and strategic aspects of the midstream sector, rather than just the theoretical. The content is crafted to address the real-world challenges faced by professionals in the field, with a strong emphasis on logistics and operational excellence. We incorporate up-to-date case studies that illustrate complex scenarios and the effective management of pipeline, terminal, and transportation assets. Instead of a general overview of the oil and gas industry, this program provides a specialized, deep dive into the intricacies of midstream processes. The curriculum is regularly updated to reflect the latest technological advancements, regulatory changes, and safety standards, ensuring that participants receive the most relevant information. This focus on practical application and industry-specific knowledge makes it an invaluable resource for individuals looking to advance their careers in the midstream sector. It offers a clear, actionable pathway for mastering the critical skills needed for success in this essential part of the energy business.