TECHNICAL
EDUCATION
ACADEMY

School of Business and Management

COURSE PROGRAMME

000603

IOGB003 - Oil and Gas Industry Operations and Markets

Dive into the heart of the oil and gas industry with our meticulously designed training programme, tailored to unravel the complexities of one of the world's most pivotal sectors.



Learn from the Best in the Business!

Course overview

Intermediate level

Why take this course

Dive into the heart of the oil and gas industry with our meticulously designed training programme, tailored to unravel the complexities of one of the world's most pivotal sectors. This comprehensive programme is your gateway to mastering the intricacies of oil and gas operations, markets, and the future of energy. From the fundamental geology that underpins petroleum exploration to the cutting-edge strategies governing today's global energy markets, our curriculum is engineered to equip participants with a robust understanding of the entire value chain.

Embark on a journey through the fascinating landscape of the oil and gas industry, beginning with an insightful overview that lays the groundwork for understanding its global economic and policy impacts. As you progress, delve into the technical depths of upstream fundamentals, drilling, production operations, and midstream essentials, guided by industry experts. Our programme doesn't just stop at the technicalities; it also navigates through the critical arenas of refining processes, project management, and the nuanced dynamics of energy trading and risk management. Each module is designed to build on the last, ensuring a cohesive and comprehensive learning experience.

But our programme offers more than just knowledge; it is a launchpad for innovation and sustainability in the energy sector. The final segments are dedicated to addressing the impact of climate change on the industry and exploring the transition towards renewable energy sources. This forward-thinking approach not only prepares participants for the challenges of today but also equips them with the insights to lead tomorrow's energy transformations.

Ideal for newcomers eager to make their mark, seasoned professionals seeking to deepen their expertise, or policymakers shaping the future of energy, our training programme is a unique opportunity to connect with like-minded individuals, engage with expert instructors, and gain a competitive edge in the rapidly evolving oil and gas industry. Join us to unlock a wealth of knowledge, foster sustainable practices, and propel your career to new heights in the energy sector.

Who it is for and how it helps

- Technical Specialists: Engineers, geologists, petrophysicists, and other technical specialists could enhance their understanding of their own fields and how they fit into the broader industry context, especially through modules focused on specific operations like seismic surveys, drilling processes, and gas treatment.

- Policy Makers and Regulators: Individuals involved in shaping energy policy or regulating the oil and gas industry could gain valuable insights from modules discussing global energy markets, the impact of the industry on global economics, and sustainability issues.

- Environmental Specialists and Sustainability Advocates: Those working on or interested in environmental and sustainability issues within the energy sector could benefit from the program's focus

Course overview — continued

on climate change impacts, renewable energy sources, and the transition to a sustainable energy future.

- Financial Analysts and Investment Professionals: Analysts and professionals in finance or investment who focus on the energy sector could find the modules on refinery economics, project management, and markets, trading, and risk management crucial for making informed decisions.

- Executives and Senior Management: Senior managers and executives could use the program to broaden their perspective on the industry, staying informed about the latest trends, technologies, and policies that could impact their operations and strategic planning.

- Academics and Researchers: Those involved in academic research or teaching in areas related to energy, petroleum engineering, or environmental studies could update and deepen their knowledge, facilitating better research and teaching.

- Project Managers and Engineers: Professionals involved in planning, executing, and managing projects within the oil and gas industry can deepen their understanding of cost estimation, risk management, and the technical aspects of oil and gas operations.

The program's comprehensive scope, covering everything from the basics to complex market analyses and sustainability issues, makes it ideal for a wide range of professionals who wish to deepen their understanding of the oil and gas industry, improve their skill sets, and enhance their careers.

What you will learn

- Understand the Global Impact of the Oil and Gas Industry: Participants will gain a deep understanding of how the oil and gas industry influences global economics, politics, and environmental policies. This includes insights into the roles of major organizations like OPEC and the EIA, and how geopolitical and market dynamics shape the industry
- Master Upstream and Midstream Operations: Delegates will be able to explain the entire upstream process, from exploration and drilling to production and reservoir management. Additionally, they will understand the complexities of midstream operations, including transportation, storage, and the fundamentals of LNG operations
- Navigate Downstream Processes: Participants will acquire knowledge of refining processes, including physical separation techniques, chemical conversion, and the specifics of various refinery operations. This will enable them to understand how crude oil is transformed into marketable products and the economic factors that influence refining margins
- Analyse Global Energy Markets: Delegates will learn to analyze petroleum consumption trends, supply dynamics, and the role of global energy markets. They will be equipped to assess the impact of different factors on oil prices and understand the strategies used in trading, including the use of derivatives and futures
- Implement Effective Project Management: Participants will develop the skills to manage oil and gas projects, including cost estimation, risk analysis, and economic evaluation. They will be able to apply project management principles to ensure projects are delivered on time, within budget, and to the

Course overview — continued

required quality standards

- Apply Risk Management and Trading Strategies: Delegates will be versed in identifying and managing the risks associated with oil and gas operations and markets. They will understand the mechanisms of crude oil trading, including benchmarks, pricing strategies, and the use of financial instruments
- Promote Sustainability and Environmental Stewardship: Participants will be able to discuss the impact of the oil and gas industry on the environment and climate change. They will explore renewable energy sources and the industry's role in the transition to a sustainable energy future, including strategies for reducing carbon footprints and implementing sustainable practices
- Engage in Practical Application and Analysis: Through a comprehensive project, delegates will demonstrate their ability to apply the concepts and skills learned to real-world challenges in the oil and gas industry. They will analyze current issues, develop strategic solutions, and present their findings, showcasing their readiness to tackle complex industry problems
- Critical Thinking and Decision Making: Armed with a holistic understanding of the oil and gas value chain and market dynamics, participants will be capable of making informed decisions, employing critical thinking to navigate the complexities of the industry

Curriculum

Modules 01–07

01 Introduction to the Oil and Gas Industry

- Overview of the oil and gas industry's impact on global economics and policy
- Key concepts and terminology

02 Upstream Fundamentals

- Petroleum geology and the exploration process
- Seismic surveys and their role in exploration
- Reservoir characteristics and dynamics

03 Drilling and Production Operations

- Overview of drilling processes, rig components, and wellhead equipment
- Techniques in well evaluations and completions
- Management of oil recovery mechanisms and upstream technology advances

04 Midstream Essentials

- Fundamentals of gas plants, processing, and LNG operations
- Pipelines, storage, and transportation logistics

05 Global Energy Markets

- Analysis of global petroleum consumption, supply, and energy statistics
- Understanding the roles of OPEC and EIA in global oil markets
- Distribution, transmission, and tank farm operations

06 Refining Processes and Operations

- Physical separation techniques and distillation
- Chemical conversion, blending, and refinery complexity
- Detailed examination of hydro-treating, catalytic reforming, and other refining processes

07 Seminar on Refinery Economics

- Refinery margins and economic considerations

Curriculum

Modules 07–12 · Module 07 — continued

- Hands-on seminar exercise focusing on blending and economic evaluations

08 Gas Treatment and Processing

- Inlet separation, dehydration, and dew-point control
- Amine gas sweetening and physical solvent processes

09 Sulphur Recovery and Specifications

- Sulphur recovery processes and gas compression techniques
- Understanding pipeline gas specifications and quality control

10 Oil and Gas Project Management

- Cost estimation and management of oil and gas facilities
- Economic evaluations, project risk, and uncertainty analysis

11 Markets, Trading, and Risk Management

- Crude oil benchmarks, pricing strategies, and trading mechanisms
- Derivatives, futures, options, and swaps

12 Sustainability and the Future

- Impact of climate change on the oil and gas industry
- Renewable energy sources and the transition to a sustainable energy future

Participation and contacts

Joining the programme

Contact the Academy and quote course code 000603 to confirm dates, delivery format, prices and enrolment terms.

Training for your team

Tell us your business goals, the roles and number of participants, and your preferred dates and location. This will help us discuss the right training option.

Preparing for the programme

The published programme does not specify any prerequisites. Contact us before enrolling to confirm how to prepare.

Discuss your training needs

mail@tecedu.org
www.tecedu.academy

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