MERCURY

(HSE) Health, Safety, and Environment in the Petroleum industry

18 – 22 April 2027
Amman (Jordan)



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Ref: 15291_303703 **Date:** 18 – 22 April 2027 **Location:** Amman (Jordan) **Fees:** 4200 Euro

Introduction

The HSE Health, Safety, and Environment in the Petroleum Industry course establishes a comprehensive understanding of health, safety, and environmental management within high-risk petroleum operations. The course explains what health, safety, and environment are, and how structured HSE systems protect people, assets, and ecosystems across the oil and gas value chain. It examines the importance of health, safety, and environment in preventing incidents, reducing operational losses, and sustaining business continuity.

Participants explore how to integrate HSE principles into exploration, production, processing, storage, and transportation activities. The HSE Health, Safety, and Environment in the Petroleum industry course defines health, safety, and environmental responsibilities under international and industry-recognized frameworks. It emphasizes proactive risk management, emergency preparedness, and environmental protection strategies.

Realistic industry scenarios highlight how effective HSE practices in the oil and gas industry support regulatory compliance and corporate reputation. By the end of the HSE Health, Safety, and Environment in the Petroleum industry program, participants gain a solid foundation aligned with professional health, safety, and environment training expectations in the petroleum sector.

Targeted Groups

This HSE Health, Safety, and Environment in the Petroleum Industry training targets professionals seeking knowledge and skills:

- Senior managers responsible for oil and gas health, safety, and environmental performance.
- Operations supervisors oversee hazardous petroleum activities.
- Engineers are involved in drilling, production, and processing facilities.
- HSE officers working within the oil and gas industry.
- Auditors assess compliance with health, safety, and environmental standards.
- Technical staff operating high-risk equipment and installations.
- Project managers handling petroleum development projects.
- Environmental specialists supporting sustainability initiatives.
- Contractors and subcontractors working on oil and gas sites.
- Professionals seeking a recognized health, safety, and environment certificate.

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Course Objectives

Participants will achieve the following objectives by completing the HSE Health, Safety, and Environment in the Petroleum Industry course:

- Understand the HSE oil and gas definition and its application in petroleum operations.
- Define the roles of health, safety, and environment within oil and gas organizations.
- Explain the importance of health, safety, and the environment in risk reduction.
- Apply health, safety, and environment training principles to daily operations.
- Identify workplace hazards across upstream and downstream activities.
- Analyze incident causation using structured safety theories.
- Implement preventive controls aligned with HSE oil and gas industry standards.
- Support environmental protection and pollution prevention measures.
- Contribute to emergency preparedness and response planning.
- Integrate safety management systems into operational processes.
- Reduce operational losses through proactive risk management.
- Enhance personal accountability for health and safety performance.
- Support compliance with regulatory and corporate HSE requirements.
- Promote a positive safety culture across petroleum facilities.
- Strengthen professional capability in health, safety, and environment in the oil and gas industry.

Targeted Competencies

Participants will gain the following competencies during the HSE Health, Safety, and Environment in the Petroleum Industry program:

- Ability to interpret health, safety, and environment definitions in practice.
- Competence in applying HSE oil and gas training concepts systematically.
- Skills to recognize and control petroleum industry hazards.
- Capability to participate in safety and risk assessments.
- Proficiency in using HSE management system components.
- Awareness of environmental impact mitigation measures.
- Understanding of emergency response structures and procedures.
- Confidence in applying first aid principles in workplace incidents.
- Ability to support internal audits and inspections.
- Skills to promote health, safety, and environmental benefits within teams.
- Professional readiness aligned with oil and gas health, safety, and environment expectations.

Studying Scenarios

In this HSE Health, Safety, and Environment in the Petroleum Industry training, participants develop skills through the following scenarios:

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- Analysis of drilling site hazard identification cases.
- Review of production facility incident investigations.
- Evaluation of environmental spill response situations.
- Simulation of emergency evacuation decision-making.
- Assessment of hydrogen sulphide exposure scenarios.
- Interpretation of permit-to-work failures.
- Examination of contractor safety management cases.
- Review of first aid response to industrial injuries.
- Evaluation of management of change breakdowns.
- Analysis of audit findings in HSE oil and gas operations.

Course Content

Unit 1: HSE Management in the Oil and Gas Industry

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- Foundations and HSE Principles:
  - Definition of health, safety, and environment in petroleum operations.
  - Overview of HSE oil and gas industry risk profiles.
  - Exploration and production operational hazards.
  - Loss prevention concepts in oil and gas facilities.
  - Domino theory application in accident causation.
  - Iceberg theory and hidden loss analysis.
  - Critical success factors for effective HSE systems.
  - Competence management in safety-critical roles.
  - World-class HSE performance indicators.
  - HSE maturity models and continuous improvement.
- HSE Management Systems:
  - Structure of health, safety, and environment management systems.
  - Safety culture and behavioral safety concepts.
  - Risk management frameworks in oil and gas.
  - Integration of international HSE standards.
  - Development of policies, standards, and procedures.
  - Golden rules for operational safety.
  - Roles and responsibilities within HSE systems.
  - Monitoring and performance measurement.
  - Continuous improvement mechanisms.
- Operational HSE Topics:
  - Simultaneous operations risk control.
  - Safety case development and application.
  - Equipment safety for drilling and production.
  - Pipeline and storage tank safety considerations.
  - Transportation and offloading risk management.
- HSE Tools and Techniques:
  - Hazard identification methodologies.
  - Qualitative and quantitative risk assessment.
  - Bow-tie and barrier management concepts.
  - Process safety and layers of protection.
  - Asset integrity and safety-critical elements.
  - Human factors in accident prevention.
  - Task risk analysis techniques.
- HSE Implementation:
  - Permit-to-work systems.
  - Workplace observation programs.
  - Incident investigation processes.
  - Management of change principles.
  - Performance monitoring and KPIs.

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Unit 2: Hydrogen Sulphide H2S Awareness

- Definition and characteristics of H2S.
- Sources of H2S in oil and gas operations.
- Physical and chemical properties.
- Health hazards of H2S exposure.
- Regulatory exposure limits.
- Detection and monitoring systems.
- Personal protective equipment requirements.
- Respiratory protection selection.
- Safe work practices in H2S environments.
- Emergency response and rescue procedures.

Unit 3: Emergency Response Tactics

- Life safety priorities in emergencies.
- Evacuation and shelter-in-place strategies.
- Incident stabilization principles.
- Emergency response planning structure.
- Communication during crises.
- Defined emergency roles and responsibilities.
- Training and drills for preparedness.
- Property protection considerations.
- Post-incident recovery actions.

Unit 4: Fundamental First Aid Training

- Scene assessment and personal safety.
- Primary casualty assessment.
- Respiratory and cardiac emergencies.
- Management of shock and medical conditions.
- Wound and bleeding control.
- Burn and chemical exposure treatment.
- Musculoskeletal injury management.
- Head, neck, and spine precautions.
- Environmental exposure injuries.

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Unit 5: Environmental Protection in Petroleum Operations

- Environmental aspects of oil and gas activities.
- Pollution prevention strategies.
- Waste management and disposal controls.
- Spill prevention and response planning.
- Environmental monitoring programs.
- Regulatory compliance requirements.
- Sustainability and environmental stewardship.
- Reporting and documentation practices.
- Continuous environmental performance improvement.

Final Insights & Key Takeaways

This course provides a structured understanding of health, safety, and environment in the oil and gas industry. It reinforces the importance of health, safety, and environment as core business functions rather than compliance obligations. Participants gain clarity on HSE practices in oil and gas that protect people, assets, and the environment. The program supports professional growth aligned with recognized health, safety, and environment training expectations.