

# **Health, Safety, and Environment (HSE) in Oil & Gas**

**Duration: 16 Hours**

## **Course Overview:**

A comprehensive program covering the Fundamentals of Sustainability – Grasp key sustainability concepts, challenges and opportunities in the chemical industry.

## **Course Outline:**

### **Module 1: Introduction to HSE in the Oil & Gas Industry**

- Overview of HSE and Its Importance
- Key HSE Regulations & Standards (OSHA, API, ISO 14001, ISO 45001)
- HSE Challenges in Upstream, Midstream & Downstream Operations
- Role of HSE Professionals in Oil & Gas

### **Module 2: Occupational Health & Industrial Hygiene**

- Common Occupational Hazards in Oil & Gas (Noise, Heat, Chemical Exposure)
- Personal Protective Equipment (PPE) Selection & Usage
- Ergonomics & Workplace Health Monitoring
- Fatigue Management & Occupational Illness Prevention

### **Module 3: Process Safety & Risk Management**

- Hazard Identification & Risk Assessment (HAZID, HAZOP, LOPA)
- Safety Integrity Level (SIL) & Process Hazard Analysis (PHA)
- Fire & Explosion Risk Management (ATEX, NFPA Standards)
- Case Studies of Industrial Accidents (BP Texas City, Piper Alpha)

### **Module 4: Environmental Management in Oil & Gas**

- Air, Water & Soil Pollution Control Measures
- Waste Management & Spill Prevention (Oil Spills, Hazardous Waste)
- Environmental Impact Assessment (EIA) & Compliance Reporting
- Sustainability & Carbon Footprint Reduction Strategies

### **Module 5: Emergency Response & Crisis Management**

- Emergency Preparedness & Evacuation Planning
- Firefighting Techniques & Suppression Systems (Foam, CO2, Dry Chemical)
- Oil Spill Response & Marine Pollution Control
- Incident Investigation & Root Cause Analysis (RCA)

### **Module 6: HSE Culture & Behavioral Safety**

- Developing a Strong HSE Culture
- Human Factors & Error Prevention in Safety Performance

- Behavioral-Based Safety (BBS) Programs
- Safety Leadership & Employee Engagement in HSE

#### **Module 8: Legal & Regulatory Compliance**

- Environmental & Social Governance (ESG) Reporting in Oil & Gas
- Compliance Audits & Inspections
- Corporate HSE Policies & Best Practices