

OIL AND GAS QUALIFICATIONS



Distance Learning Intermediate Certificate in Oil & Gas

Oil & Gas Industry Insight for Career Development

High-level Structure:

Module 1: Supply Chains, Organisations and Markets

Module 2: Upstream – Exploration and Production

Module 3: Natural Gas Production and Processing

Module 4: Midstream and Downstream Sectors

Learning Approach

The materials provided consist of a mixture of factual text and diagram materials, tasks to consolidate learning and video clips to explain key processes and activities. Roles and responsibilities associated with professional positions in the industry sectors covered are identified, and web links are provided to some sites offering jobs within those industry sectors.

Programme Objective

This programme aims to provide existing oil and gas industry employees with deeper insights to the sector, and to provide new recruits with sufficient knowledge and detail of the industry to understand employers' requirements. Participants, on completion of the course, should be able to actively identify roles and responsibilities associated with the career opportunities that exist in this sector of the industry. They should also be able to recognise the skill sets needed to successfully compete for and undertake specific positions typically offered within the industry.

PROGRAM CONTENTS

Module 1

- Supply Chains, Organisations and Markets
- Terminology and glossary for reference
- Long and complex supply and value chains underpin the industry
- Sources, uses and markets for oil, gas and their derivative products
- Key industry sectors and interactions between them
- Organisations operating and supporting the industry
- Government strategies, fiscal drivers and regulatory authorities
- Skill sets required to enable the industries to function
- Organisational structures and reporting lines
- Conventional and unconventional resources and their challenges
- Distinct technical and commercial issues for oil and gas
- Uncertainties requiring risk mitigation and opportunity exploitation
- Physical and paper commodity trading and the ability to hedge prices
- The need for finance, valuation, and the roles of equity and debt providers



Module 2

- Upstream – Exploration and Production
- Overview of petroleum geology and the origins of oil and gas
- Permits to explore for, develop and produce oil and gas
- Initial exploration reconnaissance techniques
- Seismic and other geophysical surveys
- Drilling equipment and borehole construction
- Types of well and reasons for drilling them
- Well logging, completion and testing
- Evaluating resource and reserves volumes of oil and gas reservoirs
- How reservoir engineering and geology help to efficiently develop resources
- Tight reservoirs and fracture stimulation
- Production technologies and operations
- Offshore production and subsea facilities
- Facilities engineering and contractual framework



Module 3

- Natural Gas Production and Processing
- Components and revenue stream of natural gas
- Natural gas liquids (NGLs) their value and uses
- Associated versus non-associated gas
- Gas processing and treatment
- Gas flaring and its prevention
- Gas compression and pipelines
- Gas hubs, pricing and trading markets
- Shale gas and coal bed methane resources
- Liquefied natural gas supply chains
- Underground gas storage (UGS)
- Gas transmission and distribution networks
- Product sale and purchase agreements
- Gas-to-power
- Gas-to-liquids (GTL) and petrochemicals



Module 4

- Midstream and Downstream Oil Sectors
- Oil storage and export terminals and stock issues
- Transporting oil: pipelines, marine shipping, rail and road
- Refineries and refining processes
- Crude oil assays and compositional issues for refiners
- Refinery operations and optimization
- Bitumen and heavy oil upgrading
- Key refinery products – wholesale and retail markets
- Refinery economics, margins and crack spreads
- Benchmark crude oils
- Petrochemicals and petrochemical products
- Distribution and marketing road fuels through retail fuel stations
- Impacts of biofuels on refinery products
- Safety, environment, community and security issues

If all four modules are taken, then a certificate can be obtained by passing a multiple choice test for each module.