

Informa Connect

Academy



Oil and Gas Exploration and Production Fundamentals

The Essential Techno-Commercial Introduction to Oil & Gas

FACE TO FACE TRAINING 6 - 7 June 2024 | Perth



Attend In-Person

REGISTER NOW

www.informaconnect.com/academy

Course Information

Key Learning Objectives

- Review the global make-up of the oil, gas and LNG-export industries, their jargon and challenges
- Discover petroleum exploration, drilling and evaluation/testing techniques and methods
- Appreciate reservoir engineering and the uncertainty surrounding resource/reserve estimation
- Understand field development planning techniques, economic assessments and reservoir management
- Gain awareness of basic petroleum geoscience, petrophysics and field appraisal
- Determine the basic components of production engineering, managing field decline, processing, and refining
- Understand petroleum economics and appreciate the balance between commercial and technical risk, uncertainty and opportunity in a project lifecycle
- Review the design, construction, commissioning, and decommissioning of facilities

Overview

Learn about oil and gas exploration and production. Build your confidence in and understanding of the petroleum business lifecycle and its technical jargon by examining the geological, physical, engineering, and commercial components of oil and gas exploration, drilling, production, and facilities management.

Who Will Benefit

This oil and gas exploration and production fundamentals course is not a basic-level introductory programme. It has a specific techno-commercial focus for technical and business-oriented professionals who are either new to the upstream oil and gas industry or experienced in one part but could benefit from a wider perspective.

- Technical (exploration and production, geoscience and engineering).
- Non-technical (commercial, finance, marketing, and legal) backgrounds.
- Those who have recently joined a petroleum market development/project.



Course Information

About the Course

What are the fundamentals of oil and gas exploration and production? This intensive course will provide participants with a solid all round grounding in the technologies, concepts, methods, and language used in upstream oil and gas projects.

The technical and commercial building blocks of oil and gas projects will be examined, and how a venture progresses, from the point of acquiring a licence, through exploration, appraisal, concept selection, and the development phase, into production, late field life and, finally, decommissioning.

The link to downstream is bridged with a discussion on refining and the LNG business.

Participants will learn to appreciate the impact of geological and reservoir uncertainty on concept selection and production management, and how the right combination of technology, business processes and decision making can improve project value.

Towards the end of this oil and gas exploration and production training programme, the critical roles of the many different disciplines and stakeholders involved in upstream projects will be discussed.

The commercial aspects of how oil and gas fields are evaluated and which profitability indicators are used to screen and rank projects will be analysed.



"Great overview with enough detail to explain the concepts even if you have no technical background."

Information Officer, NOPSA

Meet Your Course Director



Professor Peter Moore

Professor Peter Moore is a senior energy executive and has over 35 years of industry experience in the resources industry and academia. Most of his career has been spent in senior and executive management roles within the oil and gas industry, mainly at Esso Australia Ltd, Exxon Exploration Company (Houston) and Woodside Energy Ltd, although he started his career in the mining industry and with the WA Geological Survey.

At Woodside, Peter held many roles, including leading the company's geoscience technology function, and ended his executive career as an Executive Vice President responsible for Woodside's global exploration efforts. In this capacity he managed an annual budget of roughly \$500 million, was a member of Woodside's Executive Committee (ExCom) and its New Opportunities Management Committee, a leader of its Crisis Management Team and Head of the Geoscience function across the company. While at Woodside, he also served on the federal government's grant committee for geothermal energy.

Peter retired from Woodside in 2013, taking up the role of Chair of the Curtin Graduate School Advisory Board, and gradually joining the boards of various companies. For four years from 2014 until 2018, he was a Non-executive Director of Central Petroleum Ltd, Chair of Earth Sciences WA (ESWA Inc.), and Professor and Executive Director of Corporate Engagement within the Faculty of Business and Law at Curtin University. As a Professor at Curtin, he was involved in the university's industry engagement strategy and research direction for both the Curtin Business School and the Faculty of Science and Engineering.



"Industry knowledge, ability to translate difficult concepts into layman terms and relevant experience (Australia Woodside) so able to give recent examples. Overall, really enjoyed the course and will apply daily in my role. Peter Moore exceptional choice of instructor."

Associate, CT Partners

Course Outline

GLOBAL ENERGY CONTEXT: OIL AND GAS SUPPLY AND DEMAND

- Global energy and the transition to cleaner fuels
- Main producing regions – globally and locally
- Global supply vs demand – can we deliver?
- The exploration, development and production value chain – an overview of the asset management cycle

LNG

- The role of LNG
- LNG development, production and liquefaction, including case examples and videos
- LNG construction, contracting, shipping, marketing, business models, economics

THE PETROLEUM SYSTEM

- Basins, basin formation, plate tectonics
- Components of oil and gas accumulations – source, seal, reservoir, trap
- Petroleum provinces of the world – geological framework
- Gaining entry: exploration licence types and agreements
 - Production sharing contracts vs. tax and royalty systems

EXPLORATION METHODS

- Gravity and magnetics
- Seismic – 2D and 3D onshore and offshore
- Oil and gas volumetrics, reserves and risking
- Valuing a prospect – risked volumes and expected monetary value

Practical activity: Country entry problem

DRILLING SYSTEMS & TECHNIQUES

- Types of drilling rigs – onshore and offshore
- The rotary system – conventional, top drive, rotary steerable

- Drilling fluids, types and functions
- Well planning considerations
- Drilling a well including well control
- Casing and cementing
- Things that can go wrong – stuck pipe, overpressures, lost circulation, and kicks
- Mud logging

RESERVOIR DESCRIPTION

- Reservoir rock types
- Depositional environments – the use of outcrop, analogues, well, and seismic data
- Structures – faults, folds and fractures
- Diagenesis and reservoir property modifications
- Reservoir fluids and composition
- Drive mechanisms – how does a well flow
- Volumetric estimates and reserves classification
- Well testing and reservoir surveillance – data gathering activities
- Reservoir modelling and simulation

FIELD APPRAISAL

- Role of appraisal and uncertainty
- More data vs. a more flexible concept
- Appraisal planning
- The value of information

Practical activity: Designing an appraisal strategy

CONCEPT SELECTION AND FIELD DEVELOPMENT PLANNING

- Defining requirements and specifications
- HSE requirements in field development
- From reservoir to surface – well completions and artificial lift
- Basic processing equipment
- The process flow scheme – from wellhead to refinery
- Facilities options and concepts – onshore/offshore
- Evacuation options

PETROLEUM ECONOMICS

- Elements of a project cash flow and commercial indicators
- Discounting
- Production profiles into revenue
- Commercial risks, uncertainties and opportunities
- Oil vs. gas
- Profitability indicators used for oil and gas projects
- Project screening and ranking
- Economics vs. strategies – publicly traded companies vs. national oil and gas companies

MANAGING PRODUCTION

- Managing the subsurface
- Managing surface facilities and maintenance
- De-bottlenecking
- Managing the external factors

MANAGING FIELD DECLINE

- Infill drilling
- Workover activities
- Facilities and process integrity issues
- Enhanced oil recovery techniques
- Incremental projects and near-field opportunities

OIL REFINING

- Review how crude oil is refined via a short movie
- Understand the physical separation of crude via fractionation into the main fractions required for market, i.e., gases, gasoline, diesel, kerosene, residue/ heavy fractions

DECOMMISSIONING

- Legislation
- Economic vs. technical lifetime
- Decommissioning funding
- Decommissioning methods

Oil and Gas Exploration and Production Fundamentals

FACE TO FACE TRAINING | 6 - 7 June 2024 | Perth

Easy Ways to Register



www.informaconnect.com/academy



+61 (02) 9080 4399



training@informa.com.au

Oil and Gas Exploration and Production Fundamentals

Course Code	Location/ Format	Course Dates	Early Bird price valid until 17 May 24		Standard price valid after 17 May 24		Great Savings: When you book 4 or more participants! Call us today on +61 (2) 9080 4399 or email training@informa.com.au to take advantage of the discount offer.
P24GR26PE	Perth	6 - 7 June 2024	\$2,795.00 + \$279.50	\$3,074.50	\$3,095 + \$309.50 GST	\$3,404.50	

Terms, Privacy Policy & Updating Your Details: Please visit us at www.informaconnect.com/terms-and-policies for terms and conditions and privacy policy. Database amendments can be sent to database@informa.com.au or call **+61 (2) 9080 4399**.

ABOUT INFORMA CONNECT ACADEMY

Informa Connect

Academy

Informa Connect Academy is a premier provider of global education and training solutions that caters to a diverse range of professionals, industries, and educational partners. We are dedicated to promoting lifelong learning and are committed to offering learners expert guidance, training, and resources to help them stay competitive in a rapidly changing world.

Our comprehensive range of courses and programmes are tailored to meet the needs of all professionals, from aspiring specialists to seasoned experts. We partner with elite academic organisations and industry leaders with unmatched expertise in their respective fields to deliver an exceptional learning experience.

ON-SITE & CUSTOMISED TRAINING

Informa Connect Academy has a long-standing track record of delivering very successful customised learning solutions achieving real and measurable value for our clients through our senior training consultants. If you have 8+ interested people, an on-site course can be the ideal solution – giving you the opportunity to customise our course content to your specific training needs, as well as attracting significant savings compared to public course costs.

WHY CHOOSE ON-SITE WITH INFORMA CONNECT ACADEMY?

- 1. Custom design** – Together, we will identify the best blended learning solution for your culture, your people and your training objectives.
- 2. Quality assured** – We design market-leading training programs, concepts and methodologies, with a 400+ course portfolio. Our rigorously selected 900+ instructor faculty are recognised experts in their field. Quality of their content and delivery methods is assured through continuous monitoring and evolution.
- 3. On-site training** is a cost effective way to train your people and achieve your defined outcomes.

Speak with **Sushil Kunwar** on **+61 (2) 9080 4370** to discuss your customised learning solution, or email inhouse@informa.com.au



+61 (02) 9080 4399



training@informa.com.au



www.informaconnect.com/academy