

Subsurface Production and Operations Foundation

The course is a combination of input sessions from the tutors and practical exercise by participants, working in small teams on equipment selection and plant layout. An element of effective team building can be incorporated if run in a classroom setting.

By combining experienced reservoir and process engineers, TRACS has developed a course that provides a foundation level understanding of the physical processing units required to treat fluids from the wellhead to the point of delivery in a safe and cost-effective manner.

Starting with the uncertainties in composition and rate resulting from reservoir development decisions, produced fluids are followed through the processing units required for separation and further treatment to meet product or disposal specifications. This includes the selection, design and operation of equipment items to handle hydrocarbon and water streams as well as contaminants.

Using a case study throughout, participants build up a process flow scheme and design a plant layout in a series of practical exercises supported by a desktop model. TRACS has successfully run this course for multiple Middle East clients, using a land-based setting. The case study can be adapted to offshore settings if requested.

COURSE CONTENT:

Topics are covered using a detailed case study in which participants work on.

Technical topics worked on include:

- Influence of reservoir development and well completion decisions on rate, fluid type and range of uncertainty in production forecasts
- Introduction to process engineering and basis of design
- Fundamentals of chemical engineering, phase behaviour and flow equations
- Choke design
- Separator principles and equipment sizing
- Oil processing – desalting, dehydration, export and storage facilities
- Pump design
- Gas processing – dew point conditioning, cooling, compression
- Heat exchanger design and selection
- Water processing – produced water disposal, injection water treatment
- Application of TECOP principles to safety management and equipment selection
- Process safety principles, instrumentation and control
- Building the overall process flow diagram (PFD) and plant layout

Tailoring on request : offshore environment, detailed instrumentation and control, specific processing requirements

Duration

40 hours

5 full days

Or 10 half days, face-to-face or online delivery.

Learning Level

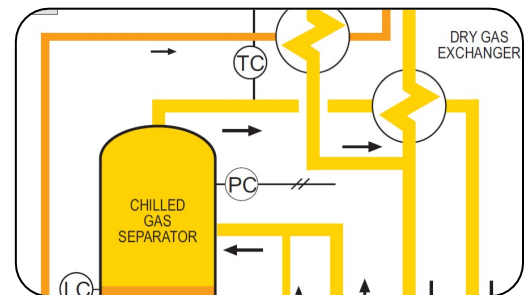
Skills ○○○○

Knowledge ●●○○

Awareness ●●●●

Designed for:

The course is designed for those working in the design and operation functions of surface facilities, from the wellhead to the terminal. It will be of interest to those interfacing with production and operations within the company.



Course Tutors



Mark Cook BSc, MBA
40+ years - reservoir engineering, economics and risk analysis
Mark develops and runs courses in Early Development, Business & Risk and Reservoir Engineering series. A career background at Shell, TRACS (Director), and AGR (VP). Author of 'Petroleum Economics and Risk Analysis' and co-author of 'Hydrocarbon Exploration and Production', an SPE distinguished lecturer, and guest lecturer at Heriot-Watt University.



Jerry Hadwin BSc, MEng
35+ years - reservoir engineering
Jerry mainly tutors courses in the Reservoir, Early Development, and Open Air Series. He has a career background at Shell, TRACS and AGR. Jerry is co-author of 'Adventure Trekking in Oman'.



Anthony M Dols MSc
40+ years - mechanical engineering, process facilities engineering, economics and finance
Anthony is a tutor in the Early Development series course. His career background includes Avantis4E DMCC, Dubai, Standard Chartered Bank, DIFC, Dubai, ABN AMRO Bank and Shell International Petroleum. Anthony is a moderator and speaker at Oil & Gas conferences around the world.



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