

Subsea Specialist Course 1

Course	Subsea Introduction and General Awareness
Trainer(s)	Mohsen Shavandi

Module	Topic	Mon	Tues	Wed	Thurs	Fri
1	Introduction and Overview <ul style="list-style-type: none"> - HSE (Fire exits, phone, restroom) - Trainer(s) Introduction - Attendee experience and - Expectations for the course 					
2	Field Economics/ Architecture <ul style="list-style-type: none"> - Field drivers and economics - Architecture considerations - Subsea standardization 					
3	System Configuration <ul style="list-style-type: none"> - Know the main building blocks forming a subsea production system - Understand the pros and cons of subsea wells - Understand the hierarchy of codes, rules and regulations 					
4	Introduction to Well Design <ul style="list-style-type: none"> - Applicable codes and standards - Reservoir Engineering - Subsea Wells - Typical subsea Well Program - Understand the main building blocks in a well 					
5	Introduction to Drilling <ul style="list-style-type: none"> - Applicable Codes and Standards - Understand the premises and interfaces to the drilling activity - To be able to participate in debates regarding drilling activity and well architecture - Subsea Wellheads 					
6	Introduction to Completions <ul style="list-style-type: none"> - Applicable codes and standards - Understand the premises and interfaces to completion activities 					
7	Xmas Tree Concepts <ul style="list-style-type: none"> - Main codes for XT equipment - XT principles and functions - Typical schematic - Main types - Building blocks <ul style="list-style-type: none"> • Valves, main principles • Chokes, main principles • Tree Connector • Tubing Hanger - Control system and monitoring 					

Subsea Specialist Course 1 (Contd.)

Module	Topic	Mon	Tues	Wed	Thurs	Fri
8	Templates and Manifolds - Purpose and basic functions of a template - Purpose and basic functions of a manifold					
9	Risers and Umbilical's - Applicable codes and standards - Configurations - Main concepts					
10	Tie-Ins - Applicable standards - Purpose of tie-ins and connections - Main concepts <ul style="list-style-type: none"> • Vertical connection • Horizontal connection - Development					
11	Production Control Systems - Basics of control Systems - Subsea control systems Components - Controls Hardware - Instrumentation - Topside Control Systems - Offshore control system					
12	Workover Systems - Why subsea Workover so important? - Types of subsea Workover (minor, major) - Workover Systems (heavy, normal, light)					
13	ROV Intervention Systems - System overview - Types of ROVTMS and deployment Systems - ROV Tooling					
14	Subsea Processing and Boosting - Processing & Boosting (Reservoir behaviour, Drivers) - System solutions - Modules and equipment (Subsea separation, Liquid boosting, Multiphase boosting, Gas compression)					
15	Subsea Codes and Standards - Important aspects with ISO 10423/ 13628-4 - Important aspects with API 6A/ 17D - API/ ISO design methods					
16	Subsea Valves - What is a valve? - How do valves function? - Types - Design criteria - Failure modes					

Subsea Specialist Course 1 (Contd.)

Module	Topic	Mon	Tues	Wed	Thurs	Fri
17	FAT, PVT and SIT <ul style="list-style-type: none"> - Applicable Codes and Standards - Factory Acceptance Testing (FAT) - Performance Verification Testing (PVT) - System Integration Testing (SIT) - Testing hierarchy (scope and purpose) 					
18	Corrosion Control <ul style="list-style-type: none"> - Why do we need Cathodic Protection? - What is Cathodic Protection? - Design for Cathodic Protection? 					
19	Subsea Foundations <ul style="list-style-type: none"> - Soil Investigation - Strength of soil - Bearing capacity - Deformation properties of soil 					
20	Subsea Integrity Management <ul style="list-style-type: none"> - Typical Subsea Production System - Subsea Production System Integrity - Overview of the core Integrity Management Process - Overview of the Integrity Management System 					
21	Plug and Abandonment <ul style="list-style-type: none"> - Applicable codes and standards - Applicable rules and regulations - Barrier design - P&A methodologies 					

Note: The outlined course schedule can be adjusted based on the audience experience and interest.