International Well Control Forum

IWCF Well Intervention Pressure Control Syllabus
Level 3 and 4

June 2018
Version 8.0

Contents

Guidance Notes

IWCF have created this revised syllabus using guidance from a variety of sources, including our stakeholders, candidates, and Well Intervention Pressure Control Taskforce. Together with the enhancements listed below, this revised syllabus aims to meet the principles outlined in IOGP Report 476 *Recommendations for enhancements to well control training, examination and certification (*August 2016) as a minimum.

The main enhancements contained within this revision provide:

- An improved structure that avoids duplication of topics in different syllabus components.
- In-depth learning outcomes to cover previously identified gaps in candidate knowledge.
- Defined progression between the levels, which ensures learning outcomes are now role-specific.
- An increased emphasis on well integrity assurance during the well life cycle with reference to ISO 16530-1:2017 *Petroleum and natural gas industries -- Well integrity -- Part 1: Life cycle governance.*
- An improved focus on the common principles of Pressure Control Equipment (PCE), which is now consolidated within the Completion Operations component.

Who takes the Well Intervention Pressure Control course?

We recommend personnel in the following positions should attend this course:

- *Level 3: Equipment Operator (Wireline, Coiled Tubing, Snubbing).*
- *Level 3-4: Single Discipline Supervisor/Engineer (on successful completion of Level 3 should progress to level 4).*
- *Level 4: Well Services Supervisor/Completion Supervisor/Service Leader.*

IOGP Report 476 Well Control Training – Levels Guidance Chart has more specific job categories.

How long is the course?

The Level 3 and Level 4 Well Intervention Pressure Control training courses must be a minimum of 28 hours - based on all options taken.

How many candidates can a Centre have on a training course?

A course can have a maximum of fifteen candidates (depending on room size/ facilities).

When can a candidate move on from Level 3 to Level 4?

IWCF recommends a minimum three-month period to build further industry experience and competence before the candidate moves onto the next level. It is unacceptable for a Level 3 candidate to be enrolled on a Level 4 course at the same time.

The Syllabus

The syllabus is designed to show progression through IWCF Levels 2, 3 and 4. If a syllabus outcome is not assessed at higher levels, IWCF assumes that the candidate will have learned this knowledge at the previous IWCF level.

Testing Understanding

IWCF expects candidates' knowledge and understanding of basic well intervention pressure control to develop so that they can competently perform their assigned well control duties. It is insufficient for any candidate on any level of the course to be coached to pass the assessment.

"The quality of teaching must evolve to ensure learning objectives are met. Training must be taught in line with the stipulated syllabus and it will not be sufficient to base training on "test-similar" or "test-identical" exam questions to help personnel pass the written exam". (IOGP Report 476).

Learning Objectives

The learning objectives in the syllabus are based on the content (subject matter) the instructor must teach to meet the requirements of this level. The use of the wording "learning objective" is in line with the IOGP Report 476. It is a broad overview statement of what the student will be taught during the course.

Example: During the course students will gain an understanding of: Standard well intervention pressure control methods.

Learning Outcomes

Learning outcomes have been developed for each of the learning objectives contained in the syllabus. The outcome indicates how each learning objective will be fulfilled with a detailed description of the skills a student must have at the end of the course. These learning outcomes are the basis for assessment questions.

Example: By the end of the course students will be able to …define and list well intervention pressure control methods.

Syllabus Division

The written test syllabus is divided into two sections:

Compulsory Modules:

Completion Operations
Completion Equipment.

Optional Modules: Note at least one optional module must be taken.
Wireline Operations.
Coiled Tubing Operations
Snubbing Operations
Subsea (refer to separate syllabus)

If a student selects Subsea as an optional module refer to separate document "Well Intervention Pressure Control Subsea Module Guidance".

Coding

Completion Operations	
Overview	WI-SF-COM-01
Well integrity Assurance	WI-SF-COM-02
Introduction to well control	WI-SF-COM-03
Barriers	WI-SF-COM-04
Barrier verification testing	WI-SF-COM-05
Influx characteristics and behaviour	WI-SF-COM-06
Shut in procedure	WI-SF-COM-07
Well kill methods	WI-SF-COM-08
Completion Equipment	
Completion Equipment	WI-SF-EQP-01

Wireline Operations	
Wireline Application and Equipment	WI-SF-WLO-01
Pressure Control	WI-SF-WLO-02
Pressure Control (Barrier Elements and Envelopes) Principles	WI-SF-WLO-03
Well Intervention Operations	WI-SF-WLO-04
Coiled Tubing Operations	
Coiled Tubing Application and Equipment	WI-SF-CTO-01
Pressure Control	WI-SF-CTO-02
Pressure Control (Barrier Elements and Envelopes) Principles	WI-SF-CTO-03
Well Intervention Operations	WI-SF-CTO-04
Snubbing Operations	
Snubbing Application and Equipment	WI-SF-SNO-01
Pressure Control	WI-SF-SNO-02
Pressure Control (Barrier Elements and Envelopes) Principles	WI-SF-SNO-03
Well Intervention Operations	WI-SF-SNO-04

Levels

All learning outcomes have been given an ‘importance’ and a reference letter from A to C. This is shown in the right-hand column on the syllabus. The importance is based on their level of ‘criticality’ in the syllabus.

Old importance level	New importance level	Explanation
5 and 10	A	Critical knowledge required to prevent major/catastrophic damage to life, limb, and environment or industry.
3-4	B	Necessary knowledge to prevent moderate/serious risk to life, limb, or environment.
1-2	C	Foundation-level knowledge to prevent minor risk to life, limb, or environment.

Assessment method

Level 3 and 4 Well Intervention Pressure Control candidates must complete must complete 1 assessment for Completion Operations, 1 assessment for Completion Equipment and separate assessment papers for all optional modules taken.

New syllabus category	Old syllabus category	Learning objective. The student will gain an understanding of:	Level 3 Learning outcome. The student will be able to:	Level 4 Learning outcome. The student will be able to:	Importance

COMPLETION OPERATIONS					
OVERVIEW					
Well Intervention Pressure Control Incidents					
WI-SF-COM-01.01.01	WA01.01	The impact of a well intervention pressure control incident.	Describe the potential impact of a well intervention pressure control incident on: - Personnel - Employment - Assets - Environment - Operations - Reputation.	Assess the potential impact of a well intervention pressure control incident on: - Personnel - Employment - Assets - Environment - Operations - Reputation.	A

WELL INTEGRITY ASSURANCE					
Principles					
WI-SF-COM-02.01.01	WA01.02	Well integrity requirements throughout the well life cycle from construction to abandonment (Reference: ISO 16530-1:2017).	Explain what is meant by “well integrity management”. Identify the common elements of the well integrity life cycle.	Explain how an effective well integrity management system (including common elements of the well integrity life cycle) can help prevent well/pressure control incidents.	B

New syllabus category	Old syllabus category	Learning objective. The student will gain an understanding of:	Level 3 Learning outcome. The student will be able to:	Level 4 Learning outcome. The student will be able to:	Importance
Annulus Pressure Monitoring in Well Intervention					
WI-SF-COM-02.02.01	WEQJ01.01	Monitoring annulus pressures.	Explain why annuli pressures are monitored: - Check for loss of integrity - Check for barrier leaks.	Explain why annuli pressures are monitored: - Check for loss of integrity - Check for barrier leaks.	C
WI-SF-COM-02.02.02	WEQJ01.02	The sources of abnormal annulus pressures and how to deal with them.	From given well data, determine the source of abnormal annulus pressure.	From given well data analyse the source of abnormal annulus pressure and explain how to bring the pressure back to normal without compromising well integrity. Explain the consequences if the annulus pressure is not brought back to normal.	C
WI-SF-COM-02.02.03	NEW	Maximum Allowable Annulus Surface Pressure (MAASP) in well intervention operations.	Explain MAASP and how it is determined.	From a given situation, explain how to determine and calculate MAASP. Explain what conditions determine a re-assessment of MAASP.	C

New syllabus category	Old syllabus category	Learning objective. The student will gain an understanding of:	Level 3 Learning outcome. The student will be able to:	Level 4 Learning outcome. The student will be able to:	Importance
Risk Management					
WI-SF-COM-02.03.01	WD01.01	Risk management principles and practices.	Explain the principles and practices of risk management including: - Identifying hazards and associated risk. - Assessing the impact and probability of an event. - Actions to mitigate and control risk.	Explain how and when to use risk management principles and practices to reduce the probability and the consequences of a well intervention pressure control incident.	B
WI-SF-COM-02.03.02	WA03.02	Well (pressure) control responsibilities of personnel involved in the task.	Explain well (pressure) control responsibilities including: - Lines of communication - Roles of personnel.	From a given situation, explain the well (pressure) control responsibilities including: - Lines of communication - Roles of personnel.	A
WI-SF-COM-02.03.03	NEW	Checklists for well (pressure) control operations.	Explain the important elements of a checklist that must be confirmed as in place and functional: - Pressure Control Equipment (PCE) - Procedures.	From a given scenario using a checklist, assess if controls are in place and functional including: - Pressure Control Equipment (PCE) - Procedures.	B

New syllabus category	Old syllabus category	Learning objective. The student will gain an understanding of:	Level 3 Learning outcome. The student will be able to:	Level 4 Learning outcome. The student will be able to:	Importance
WI-SF-COM-02.03.04	NEW	How to use risk management principles and practices in the planning and preparation phase of well intervention pressure control.	Recognise and respond to changes during the planning and preparation phase: - Well parameters - PCE configuration - Operational objectives - Simultaneous operations (SIMOPS).	From a given situation, recognise and respond to changes during the planning and preparation phase: - Well parameters - PCE configuration - Operational objectives - Simultaneous operations (SIMOPS).	C
Management of Change					
WI-SF-COM-02.04.01	WD01.02	The Management of Change (MOC) process.	Explain why and when an MOC process is required and the key steps to deliver the change.	From a given scenario, assess when to use an MOC process, and describe how to deliver the change.	B

New syllabus category	Old syllabus category	Learning objective. The student will gain an understanding of:	Level 3 Learning outcome. The student will be able to:	Level 4 Learning outcome. The student will be able to:	Importance

Well (Pressure) Control Drills					
WI-SF-COM-02.05.01	WD01.02	Well (pressure) control drills during completion and intervention operations.	Explain the purpose of, and when to complete well (pressure) control drills: - To check equipment is ready - To check team members understand their role.	Explain the purpose of, and when to complete well (pressure) control drills: - To check equipment is ready - To check team members understand their role. - To prove team competency.	B

Well Intervention Pressure Control Training and Assessment					
WI-SF-COM-02.06.01	WA02.01	Well intervention pressure control training and assessment.	Explain "why are we here?" including: - Capability to apply well intervention pressure control skills - Trust of stakeholders - Responsibility to colleagues - Reduce the severity of a well intervention pressure control incident - Prevent a well intervention pressure control incident.	Explain "why are we here?" including: - Capability to apply well intervention pressure control skills - Trust of stakeholders - Responsibility to colleagues - Reduce the severity of a well intervention pressure control incident - Prevent a well intervention pressure control incident - Regulatory requirements/pressure control requirements.	B

New syllabus category	Old syllabus category	Learning objective. The student will gain an understanding of:	Level 3 Learning outcome. The student will be able to:	Level 4 Learning outcome. The student will be able to:	Importance
Well Handover					
WI-SF-COM-02.07.01	WA04.01/ WWD01.03	The reasons for confirming well integrity status before handover/takeover of the well.	Explain why it is important to confirm the well barrier integrity status (including upstream and downstream pressure isolation) during handover/takeover of the well.	From a given situation, assess the well barrier integrity status, (including upstream and downstream pressure isolation) during handover/takeover of the well.	A
WI-SF-COM-02.07.02	NEW	How to evaluate a well handover.	Explain the critical steps required to ensure successful well handover: - Complete and correct information - Clear roles and responsibilities - Accepting well barriers - Accepting well conditions - Accepting any well parameter changes.	From a given handover situation assess the information provided focusing on: - Complete and correct information - Clear roles and responsibilities - Accepting well barriers - Accepting well conditions - Accepting any well parameter changes.	B

New syllabus category	Old syllabus category	Learning objective. The student will gain an understanding of:	Level 3 Learning outcome. The student will be able to:	Level 4 Learning outcome. The student will be able to:	Importance

INTRODUCTION TO WELL CONTROL

Hydrostatic Pressure

WI-SF-COM-03.01.01	WB01.01	Factors that affect hydrostatic pressure.	Explain hydrostatic pressure. Explain the factors that affect hydrostatic pressure: - True vertical depth - Fluid density - Temperature changes.		C
WI-SF-COM-03.01.02	NEW	Hydrostatic pressure calculations.	Complete hydrostatic and gradient calculations including: - Given a fluid density, calculate a pressure gradient - Given a pressure gradient, calculate a fluid density - Given a fluid density and True Vertical Depth (TVD) calculate a pressure - Given a pressure and a TVD, calculate a fluid density - Given a pressure and a fluid density, calculate a TVD. - Given two or more fluid densities and vertical intervals, calculate a pressure.	From a given situation, complete hydrostatic and gradient calculations including: - Given a fluid density, calculate a pressure gradient - Given a pressure gradient, calculate a fluid density - Given a fluid density and True Vertical Depth (TVD) calculate a pressure - Given a pressure and a TVD, calculate a fluid density - Given a pressure and a fluid density, calculate a TVD. - Given two or more fluid densities and vertical intervals, calculate a pressure.	B

New syllabus category	Old syllabus category	Learning objective. The student will gain an understanding of:	Level 3 Learning outcome. The student will be able to:	Level 4 Learning outcome. The student will be able to:	Importance
WI-SF-COM-03.01.03	WB01.03	The difference between tubing and annulus pressures.	Using given data, calculate the differential pressure at any point between the tubing and annulus.	Using given data, calculate the differential pressure at any point between the tubing and annulus. From a given differential pressure calculation, verify the result and identify possible errors.	C
Formation Pressure					
WI-SF-COM-03.02.01	WB02.01	Formation pore pressure.	Explain formation pore pressure.	Explain what can cause formation pore pressure changes: - Depletion - Injection.	C

New syllabus category	Old syllabus category	Learning objective. The student will gain an understanding of:	Level 3 Learning outcome. The student will be able to:	Level 4 Learning outcome. The student will be able to:	Importance
Fracture Pressure					
WI-SF-COM-03.03.01	WB03.01	Fracture pressure.	Explain fracture pressure and its impact on well integrity.	From a given situation, assess how changes in fracture pressure will impact well integrity.	C
Formation Injectivity Pressure (Leak-off pressure)					
WI-SF-COM-03.04.01	NEW	Formation injectivity pressure (leak-off pressure).	Explain formation injectivity pressure (leak-off pressure), and why fractures can begin if it is exceeded.	Explain formation injectivity pressure (leak-off pressure), and why fractures can begin if it is exceeded.	C

New syllabus category	Old syllabus category	Learning objective. The student will gain an understanding of:	Level 3 Learning outcome. The student will be able to:	Level 4 Learning outcome. The student will be able to:	Importance
Primary Well (Pressure) Control					
WI-SF-COM-03.05.01	WB04.01	Primary well (pressure) control and the difference between drilling and well intervention operations.	Explain how hydrostatic pressure and formation pore pressure can influence primary well control in drilling operations. Explain how primary well (pressure) control is used to prevent the release of fluids during well intervention operations.	Explain how hydrostatic pressure and formation pore pressure can influence primary well control in drilling operations. Explain how primary well (pressure) control is used to prevent the release of fluids during well intervention operations.	B
WI-SF-COM-03.05.02	WI01.01	The different types of surface leaks due to loss of primary well (pressure) control.	Explain how to respond to different types of surface leaks due to loss of primary well (pressure) control including: - Gas (hydrocarbon, H_2S, CO_2) - Stimulation/pumping fluids (including acids and alkalis) - Oil - Water. Explain how to mitigate exposure to these associated hazards: - Temperature - Pressure - Fire - Explosion - Toxic vapours.		B

New syllabus category	Old syllabus category	Learning objective. The student will gain an understanding of:	Level 3 Learning outcome. The student will be able to:	Level 4 Learning outcome. The student will be able to:	Importance
Secondary Well (Pressure) Control					
WI-SF-COM-03.06.01	WB05.01	Secondary well (pressure) control.	Outline the actions to achieve and maintain secondary well (pressure) control during well intervention operations.	Explain the actions to achieve and maintain secondary well (pressure) control during well intervention operations.	A
Basic Calculations					
WI-SF-COM-03.07.01	WB08.01	The impact of pressure applied to an area.	Explain what happens when pressure is applied to a surface area. From given data, calculate: - Area - Pressure - Force.	From a given situation, assess the relationship between pressure, area and force. From given data, calculate: - Area - Pressure - Force.	B

New syllabus category	Old syllabus category	Learning objective. The student will gain an understanding of:	Level 3 Learning outcome. The student will be able to:	Level 4 Learning outcome. The student will be able to:	Importance
WI-SF-COM-03.07.02	WB08.02	Internal string and annular volumes from industry-standard displacement and capacity tables.	From industry-standard displacement and capacity tables, calculate internal string and annular volumes.	From industry-standard displacement and capacity tables, calculate internal string and annular volumes. From a given data set, verify the result and identify possible errors.	B

BARRIERS

Barrier Philosophy

New syllabus category	Old syllabus category	Learning objective. The student will gain an understanding of:	Level 3 Learning outcome. The student will be able to:	Level 4 Learning outcome. The student will be able to:	Importance
WI-SF-COM-04.01.02	WC02.01	Well barrier elements and well barrier envelopes in well intervention and completion operations.	From a given static situation, identify what elements can form a well barrier envelope.	From a given changing situation, identify what elements can form a well barrier envelope.	A

New syllabus category	Old syllabus category	Learning objective. The student will gain an understanding of:	Level 3 Learning outcome. The student will be able to:	Level 4 Learning outcome. The student will be able to:	Importance
WI-SF-COM-04.01.03	WC02.07	Different well barrier element types.	Compare mechanical and hydrostatic (fluid) barriers. Hydrostatic (fluid) barriers: - Fluid hydrostatic pressure and the relationship with formation pressure (overbalance, underbalance, at balance). - The density can be maintained (ability to circulate) - Can be monitored (for losses, gains or pressure). Mechanical Barriers: - Pressure test in the direction of flow. - Any deviations from pressure testing in the direction of flow must be risk assessed and verified.	Compare mechanical and hydrostatic (fluid) barriers. Hydrostatic (fluid) barriers: - Fluid hydrostatic pressure and the relationship with formation pressure (overbalance, underbalance, at balance). - The density can be maintained (ability to circulate) - Can be monitored (for losses, gains or pressure). Mechanical Barriers: - Pressure test in the direction of flow. - Any deviations from pressure testing in the direction of flow must be risk assessed and verified.	A
WI-SF-COM-04.01.04	NEW	Barrier terminology – primary and secondary barrier elements.	From a given situation, identify primary and secondary well barriers elements during well intervention and completion operations.	From a given situation, assess the primary and secondary well barrier elements during well intervention and completion operations.	A

New syllabus category	Old syllabus category	Learning objective. The student will gain an understanding of:	Level 3 Learning outcome. The student will be able to:	Level 4 Learning outcome. The student will be able to:	Importance
WI-SF-COM-04.01.05	WC02.08	Grouping well barrier elements into primary and secondary barrier envelopes.	From a given well system diagram, identify the primary and secondary well barrier envelopes.	From a given well system diagram, identify the primary and secondary well barrier envelopes.	A
Barrier Management					
WI-SF-COM-04.02.01	WB06.01	Blow Out Preventers (BOPs) and other Pressure Control Equipment (PCE).	Explain the function of a BOP and other PCE as barrier elements.		B
WI-SF-COM-04.02.02	NEW	Shearing devices.	Explain the function and the location of a shearing device in a PCE stack including: - Single shear ram device - Shear/seal ram/valve device. Describe situations in which to activate the shearing device.	From a given situation, assess when to activate the shearing device.	B

New syllabus category	Old syllabus category	Learning objective. The student will gain an understanding of:	Level 3 Learning outcome. The student will be able to:	Level 4 Learning outcome. The student will be able to:	Importance
WI-SF-COM-04.02.03	WEQG03.03	Non-shearable (and non-sealable) equipment across the BOP.	. Explain what can happen when non-shearable and non-sealable equipment is across the BOP such as: - Sand screens - Cables - Control lines - Bottom Hole Assemblies (BHAs) including flow couplings.	Explain what can happen when non-shearable and non-sealable equipment is across the BOP such as: - Sand screens - Cables - Control lines - Bottom Hole Assemblies (BHAs) including flow couplings. From a given situation with a non-shearable (or non-sealable) across the BOP, explain what to do next.	A
WI-SF-COM-04.02.04	NEW	Maintaining BOP and associated equipment integrity during operations.	Explain the factors that can affect BOP integrity during operations: - Hydraulic pressure - Fluid composition - Maintenance.	From a given situation, explain how to prevent BOP failure during operations considering the following factors: - Hydraulic pressure - Fluid composition - Maintenance.	A
WI-SF-COM-04.02.05	WEQQA05.01	Correct connection make-up of various joint types.	From a given situation, assess the correct make-up for specific types of connections including: - Gaskets - Ring joints - Hammer unions - Swivel connections - Quick unions.	From a given situation, assess the correct make-up for specific types of connections including: - Gaskets - Ring joints - Hammer unions - Swivel connections - Quick unions.	C

New syllabus category	Old syllabus category	Learning objective. The student will gain an understanding of:	Level 3 Learning outcome. The student will be able to:	Level 4 Learning outcome. The student will be able to:	Importance
WI-SF-COM-04.02.06	NEW	Correct elastomers for the well conditions.	From given well conditions, describe the correct elastomer to use.	From a given situation, explain the correct elastomer to use, and the consequences of using the incorrect type.	C
WI-SF-COM-04.02.07	NEW	BOP control system.	Explain the operating principle of a BOP control system. Explain when to use accumulators. Explain why it is important to size accumulators for the BOP function.	Explain the operating principle of a BOP control system. Explain when to use accumulators. Explain why it is important to size accumulators for the BOP function. Using given data, calculate the required volume of accumulators.	B

New syllabus category	Old syllabus category	Learning objective. The student will gain an understanding of:	Level 3 Learning outcome. The student will be able to:	Level 4 Learning outcome. The student will be able to:	Importance

BARRIER VERIFICATION TESTING					
Verification					
WI-SF-COM-05.01.01	WC02.04	Verifying well barrier elements are in place and working.	Describe the processes to verify a well barrier element is in place and working: - Confirm that it has operated correctly - Continually monitor its integrity. Identify the reference sources for barrier verification criteria including: - The well programme - Operations manuals.	Describe the processes to verify a well barrier element is in place and working: - Confirm that it has operated correctly - Continually monitor its integrity. Identify the reference sources for barrier verification criteria including: - The well programme - Operations manuals - Industry standards - Specifications from equipment manufacturers.	B
WI-SF-COM-05.01.02	WC02.05	Documentation for well barrier tests.	Describe the key elements of well barrier test documents: - Testing procedure - Documentation sign off - Accurate records.	Verify the criteria for well barrier test documents: - Correct test procedure used - Documentation sign off by the correct person. - Accurate records maintained.	B

New syllabus category	Old syllabus category	Learning objective. The student will gain an understanding of:	Level 3 Learning outcome. The student will be able to:	Level 4 Learning outcome. The student will be able to:	Importance
WI-SF-COM-05.01.03	WP01.05/ WP01.07	The steps required for an effective barrier element test.	Outline the appropriate steps for a barrier element test and the line-up required: - Communicate with the team - Ensure every team member understands the procedure - Monitor and record test parameters for pressure and flow - Seek test documentation approval.	From a given situation, verify the appropriate steps for a barrier element test and the line-up required: - Communicate with the team - Ensure every team member understands the procedure - Monitor and record test parameters for pressure and flow - Seek test documentation approval.	A
WI-SF-COM-05.01.04	WC02.06	What to do when a well barrier element test fails.	Explain the correct action to take if a well barrier element test fails: - Ensure secondary barrier in place and working - Repair or replace the failed barrier - Re-test the barrier.	From a given situation, explain the correct action to take if a well barrier element test fails: - Ensure secondary barrier in place and working - Repair or replace the failed barrier - Re-test the barrier.	A
WI-SF-COM-05.01.05	WWE01.02	The need for equipment certification and checking if equipment is compatible for use.	Explain why equipment must be certified, and how to ensure it is compatible with other equipment and the well fluids.	From a given situation, verify if the equipment is certified, and if the required checks have been completed to ensure equipment and well fluid compatibility.	B

New syllabus category	Old syllabus category	Learning objective. The student will gain an understanding of:	Level 3 Learning outcome. The student will be able to:	Level 4 Learning outcome. The student will be able to:	Importance
WI-SF-COM-05.01.06	WEQG03.01/WWD01.01/WCD01.01/WSD01.01/ WSA04.05/WWA07.05	How to check Pressure Control Equipment (PCE).	Explain how items of a specified rig-up must be checked for: - Damages - Wear and tear - The intended use. Explain how critical sealing surfaces are prepared before they are installed. Explain the adaptors and connectors needed to ensure compatibility between equipment such as: - Pressure rating - Dimensions - Torque.	Explain how to verify that PCE is fit for purpose and ready to use: - Prepare and check equipment. - Inspect critical sealing surfaces - Check that correct seals are fitted - Ensure adaptors and connectors are compatible (pressure rating, dimensions, torque).	B
WI-SF-COM-05.01.07	WEQG03.02	The correct make-up of PCE hydraulic hoses and fittings, and how to check them.	Describe the correct way to make-up different types of PCE hydraulic hoses and fittings. Explain how to check them for damage or wear, and the consequences of not replacing them.	From a given situation, assess the potential impact of incorrect PCE hydraulic hose make-up, damage or wear.	B

New syllabus category	Old syllabus category	Learning objective. The student will gain an understanding of:	Level 3 Learning outcome. The student will be able to:	Level 4 Learning outcome. The student will be able to:	Importance
Inflow Testing					
WI-SF-COM-05.02.01	WP01.01/ WWA02.04/ WWA02.04	Inflow testing a well barrier.	Explain how to inflow test a well barrier: - Test barriers in direction of flow - When you cannot apply positive pressure upstream of the barrier - Close barrier and bleed off pressure downstream - Use the upstream pressure as the test pressure.	From a given configuration, assess the appropriate way to inflow test a well barrier: - Test barriers in direction of flow - When you cannot apply positive pressure upstream of the barrier. - Close barrier and bleed off pressure downstream - Use the upstream pressure as the test pressure Assess if the inflow test results are acceptable.	A
WI-SF-COM-05.02.02	WP01.03	How to interpret the volume and pressure changes that take place during the inflow test.	From a set of inflow test results, interpret the information including volumetric and temperature effects.	From a set of inflow test results, interpret the information including volumetric and temperature effects.	B
WI-SF-COM-05.02.03	WP01.04	What to do if a barrier inflow test fails.	Outline how you know a well barrier inflow test has failed, and explain the immediate actions to take: - Monitor for pressure and flow - Identify the consequences of the test failure - Describe the steps to regain primary well control.	From a given situation, verify if a well barrier inflow test has failed and explain the immediate actions to take: - Monitor for pressure and flow - Identify the consequences of the test failure - Describe the steps to regain primary well control.	B

New syllabus category	Old syllabus category	Learning objective. The student will gain an understanding of:	Level 3 Learning outcome. The student will be able to:	Level 4 Learning outcome. The student will be able to:	Importance
WI-SF-COM-05.02.04	WP01.06	How the different fluid densities and fluid levels in the well will affect the results of a barrier inflow test.	Explain how different fluid densities and fluid levels affect the results of a barrier inflow test.	From a given situation: - Assess the effect of different fluid densities and fluid levels in the well and their impact on the barrier inflow test. - Assess the effect of differential pressure across the barrier and how it will affect the barrier inflow test.	A
WI-SF-COM-05.02.05	WP01.08	Possible leak paths during an inflow test.	From a diagram or description, determine possible leak paths and explain the potential impact on the inflow test.	From a diagram or description, determine possible leak paths and explain the potential impact on the inflow test. From a given inflow test pressure profile, identify thermal expansion and/or flow.	A
Equipment Integrity Testing					
WI-SF-COM-05.03.01	WH01.01	Equipment integrity testing.	Explain the reasons for equipment integrity testing, and which parameters are measured during the test. From given set of equipment integrity test results, explain if the outcome is acceptable.	Explain the reasons for equipment integrity testing, and which parameters are measured during the test. From given set of equipment integrity test results, explain if the outcome is acceptable and if not, what action to take.	A

New syllabus category	Old syllabus category	Learning objective. The student will gain an understanding of:	Level 3 Learning outcome. The student will be able to:	Level 4 Learning outcome. The student will be able to:	Importance
WI-SF-COM-05.03.02	WWA02.02/WCE01.01/WCE01.02/WSE01/01/WSE01.02	Intervention (wireline, coiled tubing and snubbing) BOP pressure tests and function tests.	Explain how to do pressure tests and function tests on any type of intervention BOP. Explain the hazards and limits of low and high-pressure tests.	From a given situation, verify how to do pressure tests and function tests on any type of intervention BOP and assess if the test results are acceptable. Explain the hazards and limits of low and high-pressure tests.	B
WI-SF-COM-05.03.03	WH01.02	How to do integrity tests on specific well components/barrier elements.	Explain the correct rig-up/line-up and procedures for testing the integrity of the following components/barrier elements: - Plugs - Sliding sleeves - Downhole safety valves - Xmas Trees - Gate valves - Packers - The wellhead - The annulus.	From a given situation, verify the correct rig-up/line-up and procedures for testing the integrity of the following components/barrier elements: - Plugs - Sliding sleeves - Downhole safety valves - Xmas Trees - Gate valves - Packers - The wellhead - The annulus.	B

New syllabus category	Old syllabus category	Learning objective. The student will gain an understanding of:	Level 3 Learning outcome. The student will be able to:	Level 4 Learning outcome. The student will be able to:	Importance
INFLUX CHARACTERISTICS AND BEHAVIOUR					
Principles					
WI-SF-COM-06.01.01	WI01.01	The different types of influx.	Explain how to respond to the different types of influx: - Gas (hydrocarbon, H_2S, CO_2) - Oil - Water.	From a given influx scenario, assess how to respond to: - Gas (hydrocarbon, H_2S, CO_2) - Oil - Water.	B
WI-SF-COM-06.01.02	WI01.03	Basic gas law.	From given well conditions, calculate pressure and volume using simple gas law: P1 x V1 = P2 x V2.	From given well conditions, calculate pressure and volume using simple gas law: P1 x V1 = P2 x V2. Explain why basic gas law is important for understanding influx behaviour.	C
WI-SF-COM-06.01.03	WI01.02	How an influx can change as it is circulated up a well.	Describe how different types of influx can change as they are circulated up a well.	From a given situation, explain how an influx can change as it is circulated up a well.	C

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WI-SF-COM-06.01.04	WJ06.01/W01.04	The principles of gas migration.	Explain the principles of gas migration in: - An open well - A shut-in well.	From a given situation, assess the impact of gas migration on the wellbore conditions.	C
WI-SF-COM-06.01.05	WJ06.02	The effect of gas migration on surface and well bore pressure.	Explain why it is important to monitor surface and well bore pressure immediately after the well is shut-in.	From a given shut-in well situation, explain the change in surface and wellbore pressure due to gas migration. Explain why it is important to monitor for trends in surface and wellbore pressure after the well is shut in.	C

New syllabus category	Old syllabus category	Learning objective. The student will gain an understanding of:	Level 3 Learning outcome. The student will be able to:	Level 4 Learning outcome. The student will be able to:	Importance

SHUT-IN PROCEDURES

Principles

WI-SF-COM-07.01.01	WJ01.01	Why it is important to have a shut-in procedure.	Explain why it is important to have a shut-in procedure which is: - Known by the well intervention crew - Possible to implement - Regularly practiced.		B

Procedures

WI-SF-COM-07.02.01	WJ02.01	How to shut in the well.	From a given situation, (primary barrier failure) explain the shut-in steps including valve sequence: - With tools in the well - Without tools in the well Explain why it is important to count the number of valve turns required to open and to close.		B

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WI-SF-COM-07.02.02	WJ02.02	How to confirm if the well is shut in.	Explain how to confirm the well is shut in, and what to do if it is not, including: - Monitor fluid volumes - Check valve line-up - Monitor flow meter - Monitor pressures.	From a given situation, verify if the well is shut in, and explain what to do if it is not, including: - Monitor fluid volumes - Check valve line-up - Monitor flow meter - Monitor pressures.	B
WI-SF-COM-07.02.03	WJ02.03	The reasons for pressure change over time in a shut-in well.	Explain the causes of pressure change in a shut-in well: - Pressure build up - Thermal expansion - Gas migration.	From a given situation, assess the causes of pressure change in a shut-in well: - Pressure build up - Thermal expansion - Gas migration.	B
WI-SF-COM-07.02.04	WJ02.05	Opening valves under differential pressure.	Explain the precautions to take when opening a valve under differential pressure including: - Xmas tree valves - Use of quick test subs leading to differential pressures. - Stinging of gate valves - Correct use of low torque valves - Limitations of spring/pressure assist valves closing under low pressure.	Explain the precautions to take when opening a valve under differential pressure including: - Xmas tree valves - Use of quick test subs leading to differential pressures. - Stinging of gate valves - Correct use of low torque valves - Limitations of spring/pressure assist valves closing under low pressure.	C

New syllabus category	Old syllabus category	Learning objective. The student will gain an understanding of:	Level 3 Learning outcome. The student will be able to:	Level 4 Learning outcome. The student will be able to:	Importance
WI-SF-COM-07.02.05	WWE01.01	Removing (bleeding-down) hydrocarbons safely from Pressure Control Equipment (PCE).	Describe how to safely remove (bleed-down) hydrocarbons from PCE into the atmosphere or use a temporary or fixed flare stack.		C
Interpretation					
WI-SF-COM-07.03.02	WJ04.02	The reasons for differences between shut-in tubing (or string) pressure and shut-in casing (or annulus) pressure.	For either completion or live well pipe deployment explain: Why there may be a difference between shut-in tubing (or string) pressure and shut-in casing (or annulus) pressure: - Varying fluid properties - Inaccuracy of the gauge - Well deviation - Tubing shoe depth - Packer setting depth - Circulating depth.	From a given situation (for either completion or live well pipe deployment), assess why there may be a difference between shut-in tubing (or string) pressure and shut-in casing (or annulus) pressure: - Varying fluid properties - Inaccuracy of the gauge - Well deviation - Tubing shoe depth - Packer setting depth - Circulating depth.	B

New syllabus category	Old syllabus category	**Learning objective. The student will gain an understanding of:**	**Level 3 Learning outcome. The student will be able to:**	**Level 4 Learning outcome. The student will be able to:**	Importance
WI-SF-COM-07.03.03	WJ05.01	The limits of pressure gauges, and how to correctly interpret gauge readings.	From a given diagram or data set, interpret possible incorrect gauge readings, and explain the possible reasons including: - Range - Temperature rating - Calibration.	From a given diagram or data set, interpret possible incorrect gauge readings, and explain the possible reasons including: - Range - Temperature rating - Calibration.	B
WI-SF-COM-07.03.04	WN02.01	Problems with pressure gauge readings.	From a given example, verify that pressure gauges are not working properly and explain the correct action to take.	From a given example, verify that pressure gauges are not working properly and explain the correct action to take.	B

New syllabus category	Old syllabus category	Learning objective. The student will gain an understanding of:	Level 3 Learning outcome. The student will be able to:	Level 4 Learning outcome. The student will be able to:	Importance
WELL KILL METHODS					
Principles					
WI-SF-COM-08.01.01	WK02.01/WK02.02/Wk02.03/ WN01.01	The different well kill methods.	Describe the well kill methods, and outline the advantages and disadvantages: - Bullheading - Forward circulation - Reverse circulation - Lubricate and bleed - Volumetric.	Explain the advantages and disadvantages of the different well kill control methods: - Bullheading - Forward circulation - Reverse circulation - Lubricate and bleed - Volumetric. From a given scenario of well bore conditions and well data, assess the most appropriate kill method to use.	A
WI-SF-COM-08.01.02	WK02.04	The factors that affect the kill pump rate.	Describe the factors that affect the choice of kill pump rate such as: - Formation strength - Annular friction loss - Well-bore conditions - Fluid-handling capacity of the surface disposal system - Pump limitations - Choke operator reaction time.	From a given situation, assess the factors that affect the choice of kill pump rate such as: - Formation strength - Annular friction loss - Well-bore conditions - Fluid-handling capacity of the surface disposal system - Pump limitations - Choke operator reaction time. Explain the possible consequences of choosing the incorrect kill pump rate.	B

New syllabus category	Old syllabus category	Learning objective. The student will gain an understanding of:	Level 3 Learning outcome. The student will be able to:	Level 4 Learning outcome. The student will be able to:	Importance
WI-SF-COM-08.01.03	WG01.01	A kill system.	Describe the function of the following items in a kill system: - Pump unit - Storage tank - Mixing tank - Choke unit - Fluid disposal - Gas handling - Bleed off system - Pipework.	From a given scenario, assess the kill system requirements including set-up.	B
WI-SF-COM-08.01.04	WCD01.06	Use of chokes to control flow.	Explain when different chokes are used: - Fixed - Adjustable.	For adjustable and fixed chokes: - Explain when they would be used - From a given situation, determine where they should be positioned.	B
Forward Circulation					
WI-SF-COM-08.02.01	WK03.01A	The forward circulation well control method.	From a given forward circulation well kill graph (either completion or live well pipe deployment) explain the reasons for any change in line gradient.	From a given forward circulation well kill graph (either completion or live well pipe deployment) interpret pressure changes with time (or pump rate).	B

New syllabus category	Old syllabus category	Learning objective. The student will gain an understanding of:	Level 3 Learning outcome. The student will be able to:	Level 4 Learning outcome. The student will be able to:	Importance
Reverse Circulation					
WI-SF-COM-08.03.01	WK03.01	The reverse circulation well control method.	From a given reverse circulation well kill graph, explain the reasons for any change in line gradient.	From a given reverse circulation well kill graph, interpret pressure changes with time (or pump rate).	B
Well Kill Calculations					
WI-SF-COM-08.04.01	WK04.01/ WK04.02/ WK04.02/ WK04.05	Annulus and tubing displacement calculations.	Using given data, calculate: - The tubing/string volume - The annulus volume - The total circulating volume. - The pump rate.	Using given data, calculate: - The volume pumped to displace tubing - The volume pumped to displace the annulus - The total circulating volume - The pump rate required to complete circulation.	B

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WI-SF-COM-08.04.02	WK04.07/ WK04.08/ WK04.09 WK04.09/ WK04.11/ WK04.12	Pressure and fluid density well kill calculations.	Using given data, calculate each of the following: - The bottom hole pressure (BHP)/formation pressure - The shut-in wellhead pressure (SIWHP) - The kill fluid density - The maximum allowable surface pressure - The Initial Circulating Pressure (ICP) - The Final Circulating Pressure (FCP) - The pressure change per volume pumped. - The tubing and annulus volumes - The maximum pump rate. Determine the correct working pressure for the PCE.	From a given situation, calculate each of the following: - The bottom hole pressure (BHP)/formation pressure - The shut-in wellhead pressure (SIWHP) - The kill fluid density - The maximum allowable surface pressure - The Initial Circulating Pressure (ICP) - The Final Circulating Pressure (FCP) - The pressure change per volume pumped - The tubing and annulus volumes - The maximum pump rate. Determine the correct working pressure for the PCE.	B
Bullheading					
WI-SF-COM-08.05.01	WK05.01	How to prepare for the bullheading method.		For a given bullheading situation, that includes well configuration and well data: - Explain how to prepare a pumping schedule. Calculate the maximum allowable surface pressure.	B

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WI-SF-COM-08.05.02	NEW	The risk of starting a fracture during bullheading.		From a given bullheading situation, assess the impact of increasing formation injectivity pressure (leak-off pressure) and the risk of starting a fracture.	C
Lubricate and Bleed					
WI-SF-COM-08.06.01	WK06.04/WK06.05/WK06.06	The lubricate and bleed method.		Explain the procedure for the lubricate and bleed method: - Establish the safety margin (within the equipment rating - Lubricate fluid into the well - Bleed of the equivalent hydrostatic pressure of the lubricated fluid - Repeat the process.	B

New syllabus category	Old syllabus category	Learning objective. The student will gain an understanding of:	Level 3 Learning outcome. The student will be able to:	Level 4 Learning outcome. The student will be able to:	Importance
Surface Failures					
WI-SF-COM-08.07.01	WN04.01/WI01.05	The source of surface failures and how to prevent them.	From a given scenario analyse surface failures, including the following: - Leaking flange connections - Leaking o-ring connections - Leaking weep holes - Damaged seals - Damaged hydraulic control line/hoses. Explain the correct action to take before starting the job.		B
WI-SF-COM-08.07.02	WWA07.06	Explosive decompression.	Explain: - What is meant by explosive decompression - How to recognise it - How to prevent it.	From a given situation, identify explosive decompression and assess actions to take to prevent it.	C

New syllabus category	Old syllabus category	Learning objective. The student will gain an understanding of:	Level 3 Learning outcome. The student will be able to:	Level 4 Learning outcome. The student will be able to:	Importance
Hydrates					
WI-SF-COM-08.08.01	LWN05.01/WN05.02	Hydrates, how they form and how to prevent and remove them.	Describe how hydrates form: - Availability of free water - Combine with natural gas - High pressure - Low temperature. Explain where hydrates can form and how to prevent and remove them: - Avoid pressure drop across blockage or partly closed valves - Use chemical inhibitors to prevent and remove them.	From a given situation, assess if hydrates are likely to form.	B
WI-SF-COM-08.08.02	NEW	The risks associated with hydrates.	Identify the risks associated with hydrates and their treatment: - Restricted access - Toolstring cannot be pulled out of the hole - Failed/blocked completion - Unable to circulate - Misinterpreting barriers - Mismanagement of hydrate removal.	From a given situation, identify high risk operations where hydrates can form.	B

New syllabus category	Old syllabus category	Learning objective. The student will gain an understanding of:	Level 3 Learning outcome. The student will be able to:	Level 4 Learning outcome. The student will be able to:	Importance
Blockage in the well					
WI-SF-COM-08.09.01	WN10.01	Detecting possible blockages in the well.	From given well data, identify possible blockages in the well.	From given well data, identify possible blockages in the well and assess what to do next.	B
WI-SF-COM-08.09.02	WN10.02	A blockage in the well during well circulation.	From given well data, identify possible blockages in the well while circulating.	From given well data, identify possible blockages in the well while circulating and assess what to do next.	B
WI-SF-COM-08.09.03	WN10.03	A blockage in the well during a well intervention operation.	From given well data, identify possible blockages in the well during a well intervention operation, and assess what to do next.	From given well data, identify possible blockages in the well during a well intervention operation, and assess what to do next.	B

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COMPLETION EQUIPMENT

Introduction to Well Completion

WI-SF-EQP-01.01.01	NEW	The purpose of a well completion.	Explain the different methods of completing a well across the production or injection zone: - Open hole compared to cased hole - Use of liner system - Vertical/highly deviated/horizontal - Use of artificial lift.	From a given situation, assess the different methods of completing a well across the production or injection zone: - Open hole compared to cased hole - Use of liner system - Vertical/highly deviated/horizontal - Use of artificial lift.	C
WI-SF-EQP-01.01.02	NEW	Preparing for a well completion	Explain the consequences if the well is not properly cleaned before running a completion: - Equipment failure - Damage to the reservoir - Potential for blocked lines and incorrect gauge readings.	From a given situation, assess the impact if a well is not properly cleaned before running a completion: - How the reservoir could become damaged - How equipment might fail to function - How equipment could be damaged - How test information/gauge readings could be incorrect - The potential of proven barrier failure.	A

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Xmas Tree					
WI-SF-EQP-01.02.01	WEQG01.01A	The function of the Xmas Tree in pressure control.	From a given diagram or description, identify the Xmas Tree barrier elements and shearing devices and explain their function: - Master, swab and wing valves - Wireline cutting ability.	From a given diagram or description with a Xmas Tree in place: - Assess if a barrier element or shearing devices has failed. - Explain what to do if it has failed.	A
Wellhead and Tubing Hanger					
WI-SF-EQP-01.03.01	WEQG01.01B/ WEQG01.05	The function of the wellhead and tubing hanger in pressure control.	Explain the primary function of the wellhead and tubing hanger and how they work including: - Hanger nipple sealing mechanisms - Sealing off the annulus - Support the tubing weight and tubing stresses - Locking or threaded profile for hanger plug - Conduit for downhole functions, communications and data. From a given diagram or description, identify the wellhead and tubing hanger barrier elements: - Wellhead body and seals - Annulus ports/valves - Casing seal assemblies - Tubing hanger seals - Control line connections.	Explain the primary function of the wellhead and tubing hanger and how they work including: - Hanger nipple sealing mechanisms - Sealing off annulus - Support tubing weight and tubing stresses - Locking or threaded profile for hanger plug - Conduit for downhole functions, communications and data. From a given situation with a wellhead and tubing hanger made-up and in place, assess if a barrier element has failed and explain what to do next.	B

New syllabus category	Old syllabus category	Learning objective. The student will gain an understanding of:	Level 3 Learning outcome. The student will be able to:	Level 4 Learning outcome. The student will be able to:	Importance
Tubing, Including. Flow Couplings and Tubing Movement.					
WI-SF-EQP-01.04.01	WEQG01.05	Tubing selection, movement (compression and tension) and the use of flow couplings.	Explain: - Why it is important to select the correct tubing size, weight and material type - Why tubing moves, and the consequences of tubing movement. - The methods used to manage the consequences of tubing movement - Why flow couplings are installed in a completion.	From a given situation assess: - The consequences of using the incorrect tubing size, weight and material type - The consequences of tubing movement and how to manage it. - Where to install flow couplings in a completion.	C
Subsurface Safety Valve and Annular Safety Valve					

WI-SF-EQP-01.05.01	WEQG01.03	The function of Sub Surface Safety Valves (SSSVs) and Annular Safety Valves (ASVs).	Explain the primary function, use, and location of:
			- Surface Controlled Sub-Surface Safety Valves (SCSSSV)
			  - Tubing Retrievable SSSVs
			  - Wireline Retrievable SSSVs
			- Sub-Surface Controlled Sub-Surface Safety Valves (SSCSSSV)
			- Annular Safety Valves (ASVs).
			
			Explain the procedure for:
			- Opening non-equalising valves
			- Opening self-equalising SSSVs and ASVs
			- Testing control lines
			- How and when to test the valves.
				Explain the primary function, use, and location of:
				- Surface Controlled Sub-Surface Safety Valves (SCSSSV)
				  - Tubing Retrievable SSSVs
				  - Wireline Retrievable SSSVs
				- Sub-Surface Controlled Sub-Surface Safety Valves (SSCSSSV)
				- Annular Safety Valves (ASVs).
				
				Explain the procedure for:
				- Opening non-equalising valves
				- Opening self-equalising SSSVs and ASVs
				- Testing control lines
				- How and when to test the valves.
				
				From a given a situation with an SSSV or ASV in place, assess a failure and explain what to do next.
					B

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Side Pocket Mandrels					
WI-SF-EQP-01.06.01	WEQG01.07	The function of side pocket mandrels.	Explain the primary function of side pocket mandrels: - With a working valve (gas lift, circulation, equalising and chemical injection) installed - With a dummy valve installed.	Explain the primary function of side pocket mandrels: - With a working valve (gas lift, circulation, equalising and chemical injection) installed - With a dummy valve installed. From a given situation, assess which valve to use, and explain what to do if the valve fails.	B

Sliding Sleeves, Circulation and Flow Control Devices					
WI-SF-EQP-01.07.01	WEQG01.08/ WEQG01.09	The function of other circulating, communication and flow control devices.	Describe the operation of different types of circulating, communication and flow control devices and their position in the completion string: - Sliding sleeves - Tubing punches - Flow control valve.	Describe the operation of different types of circulating, communication and flow control devices and their position in the completion string: - Sliding sleeves - Tubing punches - Flow control valve. From a given well situation, assess how these devices work, and explain what to do if the device fails.	B

New syllabus category	Old syllabus category	Learning objective. The student will gain an understanding of:	Level 3 Learning outcome. The student will be able to:	Level 4 Learning outcome. The student will be able to:	Importance
Packers and Associated Equipment (Polished Bore Receptacle (PBR) and Extra Long Tubing Seal Receptacle (ELTSR))					
WI-SF-EQP-01.08.01	WEQG01.10	The function and types of downhole packers.	Explain the function of each type of downhole packer, how they operate, and when they are used: - Retrievable - Permanent - Straddles - Bridge plugs.	Explain the function of each type of downhole packer, and when they are used: - Retrievable - Permanent - Straddles - Bridge plugs. From a given well situation, assess which packer type to use, and explain what to do if the packer fails.	B
WI-SF-EQP-01.08.02	WEQG01.11	Installing and retrieving hydraulically and mechanically set downhole packers.	Explain how to choose the process to install hydraulically and mechanically set packers. Explain the risks during this operation of: - Surging - Swabbing - Pre-set failure. Explain the critical success factors for packer installation: - Well conditions - Well geometry vs packer sizing - Installation speed - Shear pin rating - Elastomer compatibility - Preparation and handling at surface.	Explain how to choose the plug and/or process to install hydraulically and mechanically set packers. From a given packer installation or retrieval situation, explain the risks of: - Surging - Swabbing - Pre-set failure - Incorrect positioning.	B

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WI-SF-EQP-01.08.03	WEQG01.06	The function of permanent packer accessories.	Explain the primary function and positioning of: - A Polished Bore Receptacle (PBR) - A Tubing Seal Receptacle(TSR) - An Extra Long Tubing Seal Receptacle (ELTSR) - Travel joints - Seal assemblies - Anchor latch. From a given diagram or description, identify the packer barrier elements.	Explain the primary function and positioning of: - A Polished Bore Receptacle (PBR) - A Tubing Seal Receptacle(TSR) - An Extra Long Tubing Seal Receptacle (ELTSR) - Travel joints - Seal assemblies - Anchor latch. From a given a situation with a permanent packer, assess the barrier element failure and explain what to do next.	B
Landing Nipples, Plugs and Wireline Entry Guides (WEGs)					
WI-SF-EQP-01.09.01	WEQG01.04	The function of landing nipples, plugs and wireline entry guides (WEG).	Explain the primary function and position of completion: - Landing nipples - Differential plugs - Positive plugs - Pump through plugs. Explain the limitations of each plug type, and their use as a barrier element. Explain how plugs lock into nipples and how they maintain their integrity from above and/or below when differentials are applied. Explain why the position and the condition of the WEG is important.	From a given situation explain which device to use: - Landing nipples - Differential plugs - Positive plugs - Pump through plugs. Explain how plugs lock into nipples and how they maintain their integrity from above and/or below when differentials are applied. From a given situation, recognise if the plug has failed as a barrier element, and explain how this can affect operational integrity. Explain why the position and the condition of the WEG is important.	B

New syllabus category	Old syllabus category	Learning objective. The student will gain an understanding of:	Level 3 Learning outcome. The student will be able to:	Level 4 Learning outcome. The student will be able to:	Importance

OPTIONAL TOPICS

WIRELINE (WL)

Application WL

WI-SF-WLO-01.01.01	NEW	When wireline is used and the different types available.	Compare the different types of wireline available: - Slickline - Braided line - Electric line - Fibre optic cable - Digital slickline. For each type of wireline, explain the uses and limitations.		B

Equipment WL

WI-SF-WLO-01.01.02	NEW	Wireline equipment in different operating environments.	Explain why it is important to use the correct wireline equipment for different parameters: - Pressure ratings - Flow - Fluid composition - Temperature - Connection compatibility. - Explain why compatibility with external equipment systems is important: - Drilling rig - Production facility - Remote.	From a given situation assess if the wireline equipment is suitable for different parameters: - Pressure ratings - Flow - Fluid composition - Temperature - Connection compatibility. Explain why compatibility with external equipment systems is important: - Drilling rig - Production facility - Remote.	B

New syllabus category	Old syllabus category	Learning objective. The student will gain an understanding of:	Level 3 Learning outcome. The student will be able to:	Level 4 Learning outcome. The student will be able to:	Importance

PRESSURE CONTROL

Surface PCE Stack WL

WI-SF-WLO-02.01.01	WWA01.01/WWA01.02	PCE required for wireline operations.	Explain the function and positioning of the surface PCE components required for different wireline operations: - Slickline - Braided line - Electric line - Fibre optic cable - Digital slickline.	From a given situation, assess the surface PCE components required and explain their function for different wireline operations: - Slickline - Braided line - Electric line - Fibre optic cable - Digital slickline.	A

Primary Barrier Elements WL

WI-SF-WLO-02.02.01	WWA01.06/ WWA01.08	Primary barrier elements used during wireline operations.	Describe the function and positioning of primary barrier elements used during different wireline operations: - Slickline - Braided line - Electric line - Fibre optic cable - Digital slickline. Outline the operating limits of wireline primary barrier elements: - Height limitations - Access for maintenance.		A

New syllabus category	Old syllabus category	Learning objective. The student will gain an understanding of:	Level 3 Learning outcome. The student will be able to:	Level 4 Learning outcome. The student will be able to:	Importance
WI-SF-WLO-02.02.02	NEW/WWF01.01	Slickline primary barrier sealing elements and how to operate them correctly.	Explain how the slickline primary barrier sealing element will operate: - Using operating pressures - With hydraulic connections - With the risk of contamination/chemical issues. Explain how the internal stuffing box BOP or plunger will operate.		A
WI-SF-WLO-02.02.03	WWA07.01	Braided line/electric line primary barrier sealing elements and how to operate them correctly.	Explain how the braided line/electric line barrier sealing element will operate: - Using operating pressures - With hydraulic connections - With the risk of contamination/chemical issues including grease injection. Explain how the internal grease injection head BOP or ball check valve will operate.		A
WI-SF-WLO-02.02.04	WWA02.06	Primary barrier element integrity during wireline operations.	Explain the factors that can affect the primary barrier element integrity during wireline operations: - Hydraulic pressure - Roughness of the wireline - Fluid composition - Maintenance - Running speeds.	From a given situation, explain how to prevent primary barrier element failure considering the following factors: - Hydraulic pressure - Roughness of the wireline - Fluid composition - Maintenance - Running speeds.	A

New syllabus category	Old syllabus category	Learning objective. The student will gain an understanding of:	Level 3 Learning outcome. The student will be able to:	Level 4 Learning outcome. The student will be able to:	Importance
Secondary Barrier Elements – BOPs (Ram Type Preventers) WL					
WI-SF-WLO-02.03.01	WWA01.03	Secondary barrier elements (wireline BOPs) used during wireline operations.	Describe the function and positioning of secondary barrier elements (wireline BOPs) used during wireline operations, and its operating limits including potential for failure: - Slickline - Braided line - Electric line - Fibre optic cable - Digital slickline.	From a given diagram, assess if the wireline BOP space-out and configuration is suitable for the operation.	A
WI-SF-WLO-02.03.02	WWA01.04/ WWA07.03	BOP ram configurations for different types of wireline.	From a given situation, identify the required changes to the wireline BOP ram configuration for: - Changes to cable diameter and type. - Different fluid composition - Changes to pressure and temperature.	From a given situation, assess the required changes to the wireline BOP ram configuration for: - Changes to cable diameter and type. - Different fluid composition - Changes to pressure and temperature.	A
WI-SF-WLO-02.03.03	WWA02.01	How to operate secondary barrier elements (slickline BOPs).	Explain how to operate secondary barrier elements (slickline BOPs) during wireline operations.	From a given situation, explain the actions to take if the secondary barrier elements (slickline BOPs) fail to seal or function.	A

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WI-SF-WLO-02.03.04	WWA02.03	How to operate secondary barrier elements (braided line/electric line BOPs).	Explain how to operate secondary barrier elements (braided line/electric line BOPs) during wireline operations. Explain why rams are inverted.	From a given situation, explain the actions to take if the secondary barrier elements (braided line/electric line BOPs) fail to seal or function.	A
Shearing Devices WL					
WI-SF-WLO-02.04.01	WWA02.08/ WWA07.07	Wireline shearing devices.	Explain the function, positioning and operating limits of wireline: - Shear ram - Shear/seal ram/valve - Wire cutting valve. Explain when to use wireline: - Shear ram - Shear/seal ram/valve - Wire cutting valve.	Explain the function, positioning and operating limits of wireline: - Shear ram - Shear/seal ram/valve - Wire cutting valve. Explain the consequences of wire fall-back and the tool string straddling the tree valves or the SSSV. From a given situation, assess why and when to use wireline: - Shear ram - Shear/seal ram/valve - Wire cutting valve.	B

New syllabus category	Old syllabus category	Learning objective. The student will gain an understanding of:	Level 3 Learning outcome. The student will be able to:	Level 4 Learning outcome. The student will be able to:	Importance
PRESSURE CONTROL (BARRIER ELEMENTS AND ENVELOPES) PRINCIPLES WL					
WI-SF-WLO-03.01.01	WWF01.03/WWA02.05	Grouping barrier elements into barrier envelopes during wireline operations.	From a given wireline situation or surface rig-up diagram, identify which are primary and secondary barrier elements and group them into envelopes.	From a given changing wireline situation or surface rig-up diagram, identify which are primary and secondary barrier elements and group them into envelopes. Assess from a given barrier configuration and PCE design if the wireline operation can be completed safely. Assess where potential leak paths may develop.	A
Other operations - PCE Stack WL					
WI-SF-WLO-03.02.01	WWA01.01	The PCE rig-up during wireline fishing operations.	Explain the function of surface PCE specific for wireline fishing operations.	From a given situation, assess the specific PCE required for wireline fishing operations.	B

New syllabus category	Old syllabus category	Learning objective. The student will gain an understanding of:	Level 3 Learning outcome. The student will be able to:	Level 4 Learning outcome. The student will be able to:	Importance

Safely repair or replace a failed primary barrier element WL					
WI-SF-WLO-03.03.01	WWA01.07	Secondary barrier elements and envelopes for slickline operations if a primary barrier element fails.	Explain the correct actions to take if a primary barrier element fails during slickline operations. Describe how and when to apply the secondary barrier elements/envelopes considering: - Equipment operating limits - Testing after closure - Monitoring for pressure - Double barrier protection.	From a given situation, explain the correct actions to take if a primary barrier element fails during slickline operations considering: - How to maintain double barrier protection - Operating limits of secondary barrier element - Ability to verify barrier envelope integrity	A
WI-SF-WLO-03.03.02	WWA01.06	Secondary barrier elements and envelopes for braided line/electric line operations if a primary barrier element fails.	Explain the correct actions to take if a primary barrier element fails during braided line/electric line operations. Describe how and when to apply the secondary barrier elements/envelopes considering: - Equipment operating limits - Testing after closure - Monitoring for pressure - Double barrier protection.	From a given situation, explain the correct actions to take if a primary barrier element fails during braided line/electric line operations considering: - How to maintain double barrier protection - Operating limits of secondary barrier element - Ability to verify barrier envelope integrity.	A

New syllabus category	Old syllabus category	Learning objective. The student will gain an understanding of:	Level 3 Learning outcome. The student will be able to:	Level 4 Learning outcome. The student will be able to:	Importance
PCE Rig Up WL					
WI-SF-WLO-03.04.01	WWD01.02	The equipment required for a safe and compatible wireline PCE rig-up.	Explain which PCE is required to complete a safe and compatible wireline rig-up.	Analyse given information on the PCE stack, and explain which equipment is required to complete a safe and compatible wireline rig-up.	A
PCE Testing WL					
WI-SF-WLO-03.05.01	WWE01.03	The specific requirements for pressure testing/function testing PCE including wireline BOPs, shear/seal BOPs and valves.	Explain how to do pressure tests and function tests on the PCE with wire in place.	From a given situation, verify how to do pressure tests and function tests on the PCE with wire in place, and assess if the test results are acceptable.	A
WI-SF-WLO-03.05.02	WWL01.01	Testing the BOP with test rods.	Explain how to test the wireline BOP with test rods. Explain why it is important to use the correct test rods.	From a given situation, verify how to test the wireline BOP with test rods, and assess if the test results are acceptable. Explain why it is important to use the correct test rods.	A

New syllabus category	Old syllabus category	Learning objective. The student will gain an understanding of:	Level 3 Learning outcome. The student will be able to:	Level 4 Learning outcome. The student will be able to:	Importance

WELL INTERVENTION OPERATIONS WL

Operational Considerations (with well control consequences) WL

WI-SF-WLO-04.01.01	WWK01.01	The reason for wireline drift runs.	Explain why it is important to run a suitable wireline drift (gauge cutter) when first entering the well.		C
WI-SF-WLO-04.01.02	WWK01.02	Surface Controlled Sub Surface Safety Valve (SCSSSV) integrity during a wireline operation.	Explain why it is important that the SCSSSV is held open, and why it must it must be monitored throughout the operation.	From a given situation, explain what actions to take to maintain SCSSSV integrity.	B

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WI-SF-WLO-04.01.03	NEW	Use and limitations of wireline cutter bars.	Explain how to use wireline cutter bars. Explain what to do if there is not enough tool string weight to act against the well pressure.	From a given situation, explain when and how to use wireline cutter bars. Explain what to do if there is not enough tool string weight to act against the well pressure.	C
WI-SF-WLO-04.01.04	NEW	Force created by well pressure, flow and conditions compared to tool string/cable weight.	Explain the force created by well pressure, flow and conditions. Identify when this could be a problem.	Explain the effects of flow and well condition changes on the tool string. Describe the steps required to manage the problem.	B

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Controlled Well Shut in WL					
WI-SF-WLO-04.02.01	WWA01.03	Tool string positioning across the wireline BOP.	From a given diagram or description, assess wireline BOP space-out considering tool string positioning, and identify potential problems.	From a given diagram or description, assess a tool string position/wireline BOP space out problem and what actions to take.	A
WI-SF-WLO-04.02.02	WWA01.05	Operating a wireline BOP.	Outline how to operate a wireline BOP when: - Installing a wireline cutter bar - Managing a wireline fish at surface.	From a given situation, assess how to operate a wireline BOP when: - Installing a wireline cutter bar - Managing a wireline fish at surface.	A
WI-SF-WLO-04.02.03	NEW	How to shut in the well quickly and safely with or without wireline in the hole.	Explain how to safely shut in the well during a wireline operation: - With wireline in the hole - Without wireline in the hole - With tools positioned at surface.	From a given situation assess how to safely shut in the well during a wireline operation: - With wireline in the hole - Without wireline in the hole - With tools positioned at surface.	A

New syllabus category	Old syllabus category	Learning objective. The student will gain an understanding of:	Level 3 Learning outcome. The student will be able to:	Level 4 Learning outcome. The student will be able to:	Importance
Loss of Pressure Control During Well Intervention Operations WL					
WI-SF-WLO-04.03.01	WWA07.04	What to do if there are defects that could affect BOP function during a wireline operation.	From a given diagram or description of a wireline BOP, explain what to do when a defect occurs: - Leaking flange/fitting connections - Leaking o-ring connections - Leaking weep holes - Damaged seals - Grease system in braided line.	From a given diagram or description of a wireline BOP, explain what to do when a defect occurs: - Leaking flange/fitting connections - Leaking o-ring connections - Leaking weep holes - Damaged seals - Grease system in braided line. Explain the further actions required once the situation is made safe.	A
WI-SF-WLO-04.03.02	WWG01.02/ WWG01.01	What to do if there is a failure in one component of the PCE during a slickline operation.	Explain how to make the situation safe while maintaining control of the well if there is a failure in one component of the PCE during a slick line operation.	Assess what to do if there is a failure in one component of the PCE during a slickline operation, and explain the further actions required once the situation is made safe.	A
WI-SF-WLO-04.03.03	WWG01.03	What to do if there is a failure in one component of the PCE during a braided line/electric line operation.	Explain how to make the situation safe while maintaining control of the well if there is a failure in one component of the PCE during a braided line/electric line operation.	Assess what to do if there is a failure in one component of the PCE during a braided line/electric line operation, and explain the further actions required once the situation is made safe.	A

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WI-SF-WLO-04.03.04	WWG01.04	What to do if the wire is damaged during a wireline operation.	Explain how to make the situation safe while maintaining control of the well if the wire is damaged during a wireline operation.	From a given situation, assess what to do if the wire is damaged during a wireline operation, and explain the further actions required once the operation is made safe.	B
WI-SF-WLO-04.03.05	WWG01.05	What to do if there is a hydraulic control line leak on the Xmas Tree hydraulic master valve during a wireline operation.	Explain how to make the situation safe while maintaining control of the well if there is a hydraulic control line leak on the Xmas Tree hydraulic master valve during a wireline operation.	From a given situation, assess what to do if there is a hydraulic control line leak on the Xmas Tree hydraulic master valve during a wireline operation, and explain the further actions required once the operation is made safe.	B
WI-SF-WLO-04.03.06	WWG01.06	What to do if the hydraulic control line of the Surface Controlled Sub Surface Safety Valve (SCSSSV) leaks during a wireline operation.	Explain how to make the situation safe while maintaining control of the well if there is a leak on the SCSSSV hydraulic control line during a wireline operation.	From a given situation, assess what to do if there is a leak on the SCSSSV hydraulic control line during a wireline operation, and explain the further actions required once the operation is made safe.	B

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WI-SF-WLO-04.03.07	WWG01.07	What to do if the BOP hydraulic control unit or hoses fail during a wireline operation.	Explain how to make the situation safe while maintaining control of the well if the BOP hydraulic control unit or hoses fail during a wireline operation.	From a given situation, assess what to do if the BOP hydraulic control unit or hoses fail during a wireline operation and explain the further actions required once the operation is made safe.	A
WI-SF-WLO-04.03.08	WWG01.08	What to do if wire or cable breaks and falls downhole during a wireline operation.	Explain how to make the situation safe while maintaining control of the well if wire or cable breaks and falls down hole during a wireline operation.	From a given situation, assess what to do if wire or cable breaks and fall downhole during a wireline operation, and explain the further actions required once the operation is made safe.	B
WI-SF-WLO-04.03.09	NEW	What to do if an alarm sounds when wireline is in the well and you are required to muster in a safe area.	Explain how to make the operation safe while maintaining control of the well if an alarm sounds and you are required to muster in a safe area when wireline is in the well.	From a given situation, assess what to do if an alarm sounds and you are required to muster in a safe area when wireline is in the well and explain the further actions required once the operation is made safe.	B

New syllabus category	Old syllabus category	Learning objective. The student will gain an understanding of:	Level 3 Learning outcome. The student will be able to:	Level 4 Learning outcome. The student will be able to:	Importance
COILED TUBING (CT)					
Application CT					
WI-SF-CTO-01.01.01	NEW	When coiled tubing is used.	Explain the uses and limitations of coiled tubing.		B
Equipment CT					
WI-SF-CTO-01.02.01	NEW	The coiled tubing equipment in different operating environments.	Explain why it is important to use the correct coiled tubing equipment for different parameters: - Pressure ratings - Flow - Fluid composition - Temperature - Connection compatibility. Explain why compatibility with external equipment systems is important: - Drilling rig - Production facility - Remote.	From a given situation assess if the coiled tubing equipment is suitable for different parameters: - Pressure ratings - Flow - Fluid composition - Temperature - Connection compatibility. - Explain why compatibility with external equipment systems is important: - Drilling rig - Production facility - Remote.	B

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PRESSURE CONTROL

Surface PCE Stack CT

WI-SF-CTO-02.01.01	NEW	PCE required for coiled tubing operations.	Explain the function and positioning of the surface PCE components required for coiled tubing operations.	From a given situation, assess the surface PCE components required and explain their function for coiled tubing operations.	A

Primary Barrier Elements CT

WI-SF-CTO-02.02.01	WCA01.04	Primary barrier elements (strippers) used during coiled tubing operations.	Describe the function and positioning of primary barrier elements (strippers) used during coiled tubing operations: - Side door - Radial. Outline the operating limits of coiled tubing strippers: - Exposed to buckling - Height limitations - Access for maintenance.		A

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WI-SF-CTO-02.02.02	WCD01.03	Coiled tubing primary barrier sealing elements (strippers) and how to operate them correctly.	Explain how the coiled tubing primary barrier sealing element will operate: - Using well pressure assistance on closing - Using operating pressures - With hydraulic connections.		A
WI-SF-CTO-02.02.03	WCA01.05	Primary barrier element integrity during coiled tubing operations.	Explain the factors that can affect primary barrier elements integrity during coiled tubing operations: - Hydraulic pressure - Roughness of the coiled tubing - Fluid composition - Maintenance - Running speeds.	From a given situation, explain how to prevent primary barrier element failure during coiled tubing operations considering the following factors: - Hydraulic pressure - Roughness of the coiled tubing - Fluid composition - Maintenance - Running speeds.	A

New syllabus category	Old syllabus category	Learning objective. The student will gain an understanding of:	Level 3 Learning outcome. The student will be able to:	Level 4 Learning outcome. The student will be able to:	Importance
Secondary Barrier Elements – BOPs (Ram Type Preventers) CT					
WI-SF-CTO-02.03.01	WCA04.01	Secondary barrier elements (coiled tubing BOPs) used during coiled tubing operations.	Describe the function and positioning of secondary barrier elements (coiled tubing BOPs) used during coiled tubing operations and their operating limits, including potential for failure: - Combi - Triple - Quad.	From a given diagram, assess if the coiled tubing BOP space-out and configuration is suitable for the operation.	A
WI-SF-CTO-02.03.02	NEW	BOP ram configurations for different coiled tubing operations.	From a given situation, identify the required changes to the coiled tubing BOP ram configuration for: - Changes to coil tubing diameter and type - Different fluid composition - Changes to pressure and temperature.	From a given situation, assess the required changes to the coiled tubing BOP ram configuration for: - Changes to coil tubing diameter and type - Different fluid composition - Changes to pressure and temperature.	A

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WI-SF-CTO-02.03.03	WCA02.01	How to operate secondary barrier elements (coiled tubing BOPs).	Explain how to operate secondary barrier elements (coiled tubing BOPs) during coiled tubing operations including: - Closing and operating sequences - With operating pressures - Lining up with hydraulic connections.	From a given situation, explain the correct actions to take if the secondary barrier elements (coiled tubing BOPs) fail to seal or function.	A
Shearing Devices CT					
WI-SF-CTO-02.04.01	WCA02.02	Coiled tubing shearing devices.	Explain the function, positioning and operating limits of coiled tubing - Shear ram - Shear/seal ram/valve. Explain when to use coiled tubing - Shear ram - Shear/seal ram/valve.	Explain the function, positioning and operating limits of coiled tubing: - Shear ram - Shear/seal ram/valve. From a given situation, assess why and when to use - Shear ram - Shear/seal ram/valve.	B

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Other Well Control Devices CT					
WI-SF-CTO-02.05.01	WCA01.02/ WCD01.05	Downhole check valves (back pressure valves) in a Bottom Hole Assembly (BHA) during coiled tubing operations.	Explain the positioning of downhole check valves (back pressure valves) in a coiled tubing BHA and how to test them. Outline the advantages and disadvantages of using downhole check valves (back pressure valves) in a coiled tubing BHA.	From a given situation assess the positioning of downhole check valves (back pressure valves) in a coiled tubing BHA and how to test them. Outline the advantages and disadvantages of using downhole check valves (back pressure valves) in a coiled tubing BHA.	A
PRESSURE CONTROL (BARRIER ELEMENTS AND ENVELOPES) PRINCIPLES CT					
WI-SF-CTO-03.01.01	NEW	Grouping barrier elements into barrier envelopes during coiled tubing operations.	From a given coiled tubing situation or surface rig-up diagram, identify which are primary and secondary barrier elements and group them into envelopes.	From a given changing coiled tubing situation or surface rig-up diagram, identify which are primary and secondary barrier elements and group them into envelopes. Assess from a given barrier configuration and PCE design if the coiled tubing operation can be completed safely. Assess where potential leak paths may develop.	A

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Other operations - PCE Stack CT					
WI-SF-CTO-03.02.01	WCA01.01	A coiled tubing pressurised deployment system.	Describe when a coiled tubing pressurised deployment system is used. Explain the barrier configuration and PCE design required to maintain the double barrier philosophy.	From a given situation, assess when a coiled tubing pressurised deployment system is used. Explain the barrier configuration and PCE design required to maintain the double barrier philosophy.	B
WI-SF-CTO-03.02.02	NEW	Annular preventer use during coiled tubing operations.	Describe when an annular preventer would be used during a coiled tubing operation.	Explain how and why an annular preventer is used during a coiled tubing operation, and its operating limits.	B

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Safely repair or replace a failed primary barrier element CT					
WI-SF-CTO-03.03.01	WCD01.07	Maintaining a double barrier when changing a coiled tubing stripper rubber during intervention operations.	Explain the requirements for maintaining a double barrier when changing coiled tubing stripper rubbers during intervention operations.	From a given situation, assess how to maintain a double barrier when changing coiled tubing stripper rubbers during intervention operations.	A
WI-SF-CTO-03.03.02	NEW/ WCD01.07	Secondary barrier elements and envelopes for coiled tubing operations if a primary barrier element fails.	Explain the correct actions to take if a primary barrier element fails during coiled tubing operations. Describe how and when to apply the secondary barrier elements/envelopes considering: - Equipment operating limits - Testing after closure - Monitoring for pressure - Double barrier protection.	From a given situation, explain the correct actions to take if a primary barrier element fails during coiled tubing operations considering: - How to maintain double barrier protection - Operating limits of secondary barrier element - Ability to verify barrier envelope integrity.	A

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PCE Rig Up CT					
WI-SF-CTO-03.04.01	WCD01.02	The equipment required for a safe and compatible coiled tubing PCE rig-up.	Explain which PCE is required to complete a safe and compatible coiled tubing rig-up.	Analyse given information of the PCE stack, and explain which equipment is required to complete a safe and compatible coiled tubing rig-up.	A
PCE Testing CT					
WI-SF-CTO-03.05.01	WCE01.03	PCE pressure tests and function tests with coiled tubing in place.	Explain how to do pressure tests and function tests on the PCE with coiled tubing in place.	From a given situation, verify how to do pressure tests and function tests on the PCE with coiled tubing in place, and assess if the test results are acceptable.	A

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WELL INTERVENTION OPERATIONS CT					
Operational Considerations (with well control consequences) CT					
WI-SF-CTO-04.01.01	WCA01.07	The operational limits of coiled tubing.	Explain the operational limits of coiled tubing due to: - Wear and fatigue by cycling - Different well conditions - Pull and drag due to well geometry.	From a given situation, assess if the coiled tubing is suitable to use by considering: - Wear and fatigue by cycling - Different well conditions - Pull and drag due to well geometry.	B
WI-SF-CTO-04.01.02	WCH01.02	The forces on coiled tubing created by well pressure.	Explain the forces on the coiled tubing caused by well pressure, flow and conditions to create: - Buckling - Collapse.	Explain the effects of flow and well condition changes on the coiled tubing. Describe the steps required to manage the forces produced during: - Buckling - Collapse.	B

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Controlled Well Shut in CT					
WI-SF-CTO-04.02.01	WCA04.05	Coiled tubing shear ram equipment operating limits.	From a given diagram or description, identify the coiled tubing non-shearable components - Sand screens - Perforating guns - BHA tools and components.	From a given diagram or description, assess what action to take if there is a non-shearable component across the BOP: - Sand screens - Perforating guns - BHA tools and components.	A
WI-SF-CTO-04.02.02	WCH01.01	How to shut in the well quickly and safely with or without coiled tubing in the hole.	Explain how to safely shut in the well during a coiled tubing operation: - With coiled tubing in the hole - Without coiled tubing in the hole - With BHA tools and components positioned at surface.	From a given situation, assess how to safely shut in the well during a coiled tubing operation: - With coiled tubing in the hole - Without coiled tubing in the hole - With BHA tools and components positioned at surface.	A
Loss of Pressure Control During Well Intervention Operations CT					
WI-SF-CTO-04.03.01	WCA04.03	How to identify defects that could affect BOP function during a coiled tubing operation.	From a given diagram or description of a coiled tubing BOP, explain what to do when a defect occurs: - Leaking flange/fitting connections - Leaking o-ring connections - Leaking weep holes - Damaged seals.	From a given diagram or description of a coiled tubing BOP, explain what to do when a defect occurs: - Leaking flange/fitting connections - Leaking o-ring connections - Leaking weep holes - Damaged seals. Explain the further actions required once the situation is made safe.	A

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WI-SF-CTO-04.03.02	WCG01.01	What to do if the power unit, injector head, tubing reel or control system fails during a coiled tubing operation.	Explain how to make the situation safe while maintaining control of the well if the power unit, injector head, tubing reel or control system fails during a coiled tubing operation.	From a given situation, assess what to do if the power unit, injector head, tubing reel or control system fails during a coiled tubing operation, and explain the further actions required once the situation is made safe.	B
WI-SF-CTO-04.03.03	WCG01.02	What to do if the pumping or circulation system fails during a coiled tubing operation.	Explain how to make the situation safe while maintaining control of the well if the pumping or circulation system fails during a coiled tubing operation.	From a given situation, assess what to if the pumping or circulation system fails during a coiled tubing operation, and explain the further actions required once the situation is made safe.	B

WI-SF-CTO-04.03.04	WCG01.03	What to do if the coiled tubing leaks at surface.	Explain how to make the situation safe while maintaining control of the well if the coiled tubing leaks at surface during a coiled tubing operation:
			
			- Between the stripper and the injector
			- Between the gooseneck and the reel
			    - With corrosive fluids
			    - With non-corrosive fluids.
				From a given situation, assess how to make the situation safe while maintaining control of the well if the coiled tubing leaks at surface during a coiled tubing operation:
				
				- Between the stripper and the injector
				- Between the gooseneck and the reel
				    - With corrosive fluids
				    - With non-corrosive fluids.
					B

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WI-SF-CTO-04.03.05	WCG01.04	What to do if there is an external leak between the safety head and the Xmas Tree while coiled tubing is below the Sub Surface Safety Valve (SSSV).	Explain how to make the situation safe while maintaining control of the well if there is an external leak between the safety head and the Xmas Tree while coiled tubing is below the SSSV.	From a given situation, assess what to do if there is an external leak between the safety head and the Xmas Tree while coiled tubing is below the SSSV, and explain the further actions required once the operation is made safe.	B
WI-SF-CTO-04.03.06	WCG01.05	What to do if the coiled tubing down hole check valves (back pressure valves) leak while in the hole during a coiled tubing operation.	Explain how to make the operation safe while maintaining control of the well if the coiled tubing down hole check valves (back pressure valves) leak while in the hole during a coiled tubing operation	From a given situation, assess what to do if the coiled tubing down hole check valves (back pressure valves) leak while in the hole during a coiled tubing operation and explain the further actions required once the operation is made safe.	B
WI-SF-CTO-04.03.07	WCG01.06	What to do if the coiled tubing leaks below the stripper during a coiled tubing operation.	Explain how to make the operation safe while maintaining control of the well if the coiled tubing leaks below the stripper during a coiled tubing operation.	From a given situation, assess what to do if the coiled tubing leaks below the stripper during a coiled tubing operation and explain the further actions required once the operation is made safe.	B

New syllabus category	Old syllabus category	Learning objective. The student will gain an understanding of:	Level 3 Learning outcome. The student will be able to:	Level 4 Learning outcome. The student will be able to:	Importance
WI-SF-CTO-04.03.08	WCG01.07	What to do if an alarm sounds when coiled tubing is in the well and you are required to muster in a safe area.	Explain how to make the operation safe while maintaining control of the well if an alarm sounds and you are required to muster in a safe area when coiled tubing is in the well.	From a given situation, assess what to do if an alarm sounds and you are required to muster in a safe area when coiled tubing is in the well and explain the further actions required once the operation is made safe.	B
WI-SF-CTO-04.03.09	WCG01.08	What to do if the coiled tubing breaks on surface or downhole during a coiled tubing operation.	Explain how to make the operation safe while maintaining control of the well if the coiled tubing breaks during a coiled tubing operation: - On surface - Downhole.	From a given situation, assess what to do if the coiled tubing breaks during a coiled tubing operation and explain the further actions required once the operation is made safe: - On surface - Downhole.	A
WI-SF-CTO-04.03.10	WCG01.09	What to do if there is a leak at the rotating joint during a coiled tubing operation.	Explain how to make the operation safe while maintaining control of the well if there is a leak at the rotating joint during a coiled tubing operation.	From a given situation, assess what to do if there is a leak at the rotating joint during a coiled tubing operation, and explain the further actions required once the operation is made safe.	B

New syllabus category	Old syllabus category	Learning objective. The student will gain an understanding of:	Level 3 Learning outcome. The student will be able to:	Level 4 Learning outcome. The student will be able to:	Importance

SNUBBING (SN)

Application SN

WI-SF-SNO-01.01.01	NEW	When snubbing is used.	Explain the uses and limitations of snubbing.		B

Equipment SN

WI-SF-SNO-01.02.01	WSA02.04	The snubbing equipment in different operating environments.	Explain why it is important to use the correct snubbing equipment for different parameters: - Pressure ratings - Flow - Fluid composition - Temperature - Connection compatibility. Explain why compatibility with external equipment systems is important: - Drilling rig - Production facility - Remote.	From a given situation assess if the snubbing equipment is suitable for different parameters: - Pressure ratings - Flow - Fluid composition - Temperature - Connection compatibility. Explain why compatibility with external equipment systems is important: - Drilling rig - Production facility - Remote.	B

New syllabus category	Old syllabus category	Learning objective. The student will gain an understanding of:	Level 3 Learning outcome. The student will be able to:	Level 4 Learning outcome. The student will be able to:	Importance

PRESSURE CONTROL

Surface PCE Stack SN

WI-SF-SNO-02.01.01	NEW	PCE required for snubbing operations.	Explain the function and positioning of the surface PCE components required for snubbing operations.	From a given situation, assess the surface PCE components required and explain their function for snubbing operations.	A

Primary Barrier Elements SN

WI-SF-SNO-02.02.01	NEW	Primary barrier elements used during snubbing operations.	Describe the function and positioning of primary barrier elements used during snubbing operations: - Stripper bowl or annular preventer - Stripper BOP. Outline the operating limits of snubbing primary barrier elements: - Potential for buckling - Height limitations - Access for maintenance.		A

New syllabus category	Old syllabus category	Learning objective. The student will gain an understanding of:	Level 3 Learning outcome. The student will be able to:	Level 4 Learning outcome. The student will be able to:	Importance
WI-SF-SNO-02.02.02	WSA05.02 /WSA05.01	Snubbing primary barrier sealing elements and how to operate them correctly	Explain how the snubbing primary barrier sealing elements will operate: - With well pressure assistance on closing - With operating pressures - With operating temperature - Type of fluid (oil, gas or water) - Condition of tubulars and connections - Pipe Rotation - With running speeds.		A
WI-SF-SNO-02.02.03	WSA06.01	Primary barrier element integrity during snubbing operations.	Explain the factors that can affect primary barrier elements integrity during snubbing operations: - Hydraulic pressure - Roughness of the workstring - Fluid composition - Maintenance - Running speeds.	From a given situation, explain how to prevent primary barrier element failure during snubbing operations considering the following factors: - Hydraulic pressure - Roughness of the workstring - Fluid composition - Maintenance - Running speeds.	A

New syllabus category	Old syllabus category	Learning objective. The student will gain an understanding of:	Level 3 Learning outcome. The student will be able to:	Level 4 Learning outcome. The student will be able to:	Importance
Secondary Barrier Elements – BOPs (Ram Type Preventers) SN					
WI-SF-SNO-02.03.01	WSA04.02	Secondary barrier elements (snubbing BOPs) used during snubbing operations.	Describe the function and positioning of secondary barrier elements (snubbing BOPs) used during snubbing operations, and their operating limits, including potential for failure: - Annular BOPs - Pipe ram/safety BOPs.	From a given diagram, assess if the snubbing BOP space-out and configuration is suitable for the operation.	A
WI-SF-SNO-02.03.02	NEW	BOP ram configurations for different snubbing operations.	For a given situation, identify the required changes to the snubbing BOP ram configuration for: - Changes to tubular diameter and type - Different fluid composition - Changes to pressure and temperature.	For a given situation, assess the required changes to the snubbing BOP ram configuration for: - Changes to tubular diameter and type - Different fluid composition - Changes to pressure and temperature.	A
WI-SF-SNO-02.03.03	WSA02.01	How to operate secondary barrier elements (snubbing BOPs) including annular BOPs and pipe ram/safety BOPs.	Explain how to operate the secondary barrier elements (snubbing/annular/pipe ram/safety BOPs) during snubbing operations including: - Closing and operating sequences - Operating pressures - Lining up and hydraulic connections.	From a given situation, explain the correct actions to take if the secondary barrier elements (snubbing/annular/pipe ram/safety BOPs) fail to seal or function.	A

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Shearing Devices SN					
WI-SF-SNO-02.04.01	WSA02.03	Snubbing shearing devices.	Explain the function, positioning and operating limits of snubbing: - Shear ram - Shear/seal ram/valve. Explain when to use a snubbing: - Shear ram - Shear/seal ram/valve.	Explain the function, positioning and operating limits of snubbing: - Shear ram - Shear/seal ram/valve. From a given situation, explain why and when to use a snubbing: - Shear ram - Shear/seal ram/valve.	B
Other Well Control Devices SN					
WI-SF-SNO-02.05.01	WSA06.02	Downhole check valves (back pressure valves) used during snubbing operations.	Explain the positioning of downhole check valves (back pressure valves) in a snubbing BHA and how to test them. Outline the advantages and disadvantages of using downhole check valves (back pressure valves) in a snubbing BHA.	From a given situation assess the positioning of downhole check valves (back pressure valves) in a snubbing BHA and how to test them. Outline the advantages and disadvantages of using downhole check valves (back pressure valves) in a snubbing BHA.	A
WI-SF-SNO-02.05.02	WSA06.03	The need for and the use of alternative and additional internal well control devices in snubbing operations.	Explain the use and positioning of various alternative and additional internal well control devices including: - Stab-in safety valves - Internal BOPs - Pump down plugs - Pump out devices.	From a given situation compare the use of various internal well control devices including: - Stab-in safety valves - Internal BOPs - Pump down plugs - Pump out devices. Explain where to position the devices in the string and justify reasoning.	B

New syllabus category	Old syllabus category	Learning objective. The student will gain an understanding of:	Level 3 Learning outcome. The student will be able to:	Level 4 Learning outcome. The student will be able to:	Importance
PRESSURE CONTROL (BARRIER ELEMENTS AND ENVELOPES) PRINCIPLES SN					
WI-SF-SNO-03.01.01	NEW	Grouping barrier elements into barrier envelopes during snubbing operations.	From a given snubbing situation or surface rig-up diagram, identify which are primary and secondary barrier elements and group them into envelopes.	From a given changing snubbing situation or surface rig-up diagram, identify which are primary and secondary barrier elements and group them into envelopes. Assess from a given barrier configuration and PCE design if the snubbing operation can be completed safely. Assess where potential leak paths may develop.	A
Other Operations - PCE Stack SN					
WI-SF-SNO-03.02.01	NEW	A snubbing pressurised deployment system.	Describe when a snubbing pressurised deployment system is used. Explain the barrier configuration and PCE design required to maintain the double barrier philosophy.	From a given situation, assess when a snubbing pressurised deployment system is used. Explain the barrier configuration and PCE design required to maintain the double barrier philosophy.	B

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WI-SF-SNO-03.02.02	WSA04.03	Changes to ram equipment for different pipe sizes including tapered string.	Describe the ram equipment required for different pipe sizes including tapered string, Explain how to change the rams at the changeover from one size to another.	From a given description or diagram, assess the ram equipment required for a specific tapered string operation. Explain how to change the rams at the changeover from one size to another.	B
Safely repair or replace failed primary barrier element SN					
WI-SF-SNO-03.03.01	WSA02.02	The reasons for changing worn elastomers.	Explain the steps to make the well safe when changing out sealing elements within the stack. Explain why it is important to maintain two barriers.	Explain the steps required to make the well safe when changing out sealing elements within the stack. Explain why it is important to maintain two barriers.	A
WI-SF-SNO-03.03.02	NEW	Secondary barrier elements and envelopes for snubbing if a primary barrier element fails.	Explain the correct actions to take if a primary barrier element fails during snubbing operations. Describe how and when to apply the secondary barrier elements/envelopes considering: - Equipment operating limits - Testing after closure - Monitoring for pressure - Double barrier protection.	From a given situation, explain the correct actions to take if a primary barrier element fails during snubbing operations considering: - How to maintain double barrier protection - Operating limits of secondary barrier element. - Ability to verify barrier envelope integrity	A

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WI-SF-SNO-03.03.03	WSA05.04	Maintaining a double barrier when changing the annular element during intervention.	Explain how to maintain double barriers when changing the annular element during intervention. From a diagram or description of changing the annular element, identify the barriers.	Explain how to maintain double barriers when changing the annular element during intervention. From a diagram or description of changing the annular element, identify the barriers.	A
PCE Rig Up SN					
WI-SF-SNO-03.04.01	WSD01.02	The equipment required for a safe and compatible snubbing PCE rig-up.	Explain which PCE is required to complete a safe and compatible snubbing rig-up.	Analyse given information of the PCE stack, and explain which equipment is required to complete a safe and compatible snubbing rig-up.	A

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PCE Testing SN

WI-SF-SNO-03.05.01	WSE01.03	PCE pressure tests and function tests with the workstring in place.	Explain how to do pressure tests and function tests on the PCE with the workstring in place	From a given situation, verify how to do pressure tests and function tests on the PCE with the workstring in place, and assess if the test results are acceptable.	A

WELL INTERVENTION OPERATIONS SN

Operational Considerations (with well control consequences) SN

WI-SF-SNO-04.01.01	WSI01.01	The forces on the workstring created by well pressure.	Explain the forces on the workstring created by well pressure, flow and conditions to produce: - Pipe light and pipe heavy - Buckling. Explain the procedure of transition from pipe light to pipe heavy and from pipe heavy to pipe light.	Explain the effects of flow and well condition changes on the work string. Describe the steps required to manage the forces produced during: - Pipe light and pipe heavy - Buckling. Explain the procedure of transition from pipe light to pipe heavy and from pipe heavy to pipe light.	B

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WI-SF-SNO-04.01.02	NEW	Snubbing pipe in and out of a live well (with square collars/ram to ram).	Explain the process of snubbing pipe with square collars by opening and closing the stripper rams in sequence.	Explain the process of snubbing pipe with square collars by opening and closing the stripper rams in sequence.	B
Controlled Well Shut in SN					
WI-SF-SNO-04.02.01	WSH01.01	How to shut in the well quickly and safely with or without work-string in the hole.	Explain how to safely shut in the well during a snubbing operation: - With workstring in the hole - Without workstring in the hole - With BHA tools and components positioned at surface.	From a given situation, assess how to safely shut in the well during a snubbing operation: - With workstring in the hole - Without workstring in the hole - With BHA tools and components positioned at surface.	A
WI-SF-SNO-04.02.02	WSA04.06	Snubbing shear ram equipment operating limits.	From a given diagram or description, identify the non-shearable BHA tools and components.	From a given diagram or description, assess what action to take if there are non-shearable BHA tools and component across the BOP.	A

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Loss of Pressure Control During Well Intervention Operations SN					
WI-SF-SNO-04.03.01	WSA04.04/ WSA05.03	How to identify defects that could affect BOP function during a snubbing operation.	From a given diagram or description of a snubbing BOP, explain what to do when there is a defect: - Leaking flange/fitting connections - Leaking weep holes - Damaged seals.	From a given diagram or description of a snubbing BOP, explain what to do when a defect occurs: - Leaking flange/fitting connections - Leaking weep holes - Damaged seals. Explain the further actions required once the situation is made safe.	B
WI-SF-SNO-04.03.02	WSG01.01	What to do if surface equipment fails while the work string is in the well during a snubbing operation.	Explain how to make the operation safe while maintaining control of the well if surface equipment fails while the work string is in the well during a snubbing operation.	Assess what to do if surface equipment fails while the work string is in the well during a snubbing operation, and explain the further actions required once the operation is made safe.	B
WI-SF-SNO-04.03.03	WSG01.02	What to do if the slip bowl fails during a snubbing operation.	Explain how to make the operation safe while maintaining control of the well if the slip bowl fails during a snubbing operation when in: - Pipe light - Pipe heavy.	From a given situation, assess what to do if the slip bowl fails during a snubbing operation, and explain the further actions required once the operation is made safe when in: - Pipe light - Pipe heavy.	B

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WI-SF-SNO-04.03.04	WSG01.04/ WSG01.06	What to do if there is a leak from the surface equipment to the atmosphere during a snubbing operation.	Explain how to make the operation safe while maintaining control of the well if there is a leak from the surface equipment to the atmosphere during a snubbing operation: - Below the stripper BOPs - Below the safety BOP - Above the shear/seal BOP - Below the blind/shear BOP.	From a given situation, assess what to do if there is a leak from the surface equipment to the atmosphere during a snubbing operation, and explain the further actions required once the operation is made safe: - Below the stripper BOPs - Below the safety BOP - Above the shear/seal BOP - Below the blind/shear BOP.	A
WI-SF-SNO-04.03.05	WSG01.05	What to do if pressure is seen at surface inside the work string during a snubbing operation.	Explain how to make the operation safe while maintaining control of the well if pressure is seen at surface inside the work string during a snubbing operation.	From a given situation, assess what to do if pressure is seen at surface inside the work string during a snubbing operation, and explain the further actions required once the operation is made safe.	A
WI-SF-SNO-04.03.06	NEW	What to do if an alarm sounds when the workstring is in the well and you are required to muster in a safe area.	Explain how to make the operation safe while maintaining control of the well if an alarm sounds and you are required to muster in a safe area when the workstring is in the well.	From a given situation, assess what to do if an alarm sounds and you are required to muster in a safe area when the workstring is in the well and explain the further actions required once the operation is made safe.	B

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WI-SF-SNO-04.03.07	NEW	What to do if the workstring down hole check valves (back pressure valves) leak while in the hole during a snubbing operation.	Explain how to make the operation safe while maintaining control of the well if the workstring down hole check valves (back pressure valves) leak while in the hole during a snubbing operation.	From a given situation, assess what to do if the workstring down hole check valves (back pressure valves) leak while in the hole during a snubbing operation and explain the further actions required once the operation is made safe.	A