Lesson plan 5 Wire line operation Level 2					
Time	Lecture	Content	Delivery Method	teaching Aids	Assessing Understanding
8: 00 - 8: 30		**Homework revision**	Check the answers for yesterday homework with students and discuss the correct answers.	Verbal White board	**Discussion**
08: 30 - 09: 00	5.1	**Application WL** When wireline is used and the different types Available	Explain when wireline is used and the different types of wireline available: - Slickline - Braided line - Electric line - Fibre optic cable - Digital slickline	Verbal Power Point	**Open Question Q & A**
	5.2	**Equipment WL** Wireline equipment in different operating Environments	From a given surface layout diagram, identify the wireline equipment components used in well intervention	White board Power Point	Discussion
9: 00 - 10: 00	5.3	**Surface PCE Stack WL** CE required for wireline operations	From a given diagram or description, identify the function and positioning of the surface PCE components required for different wireline operations: - Slickline PCE required for wireline operations - Braided line - Electric line - Fibre optic cable - Digital slickline	White board Power Point Video	Open Question Q& A

	5.4	**Primary Barrier Elements WL** Primary barrier elements used during wireline operations	From a given diagram or description, identify the function and positioning of primary barrier elements used during different wireline operations: - Slickline - Braided line - Electric line - Fibre optic cable - Digital slickline	Power Point Video Manual	Open Question Q& A
10: 00 - 10: 15		Coffee Break			
10.: 15 - 10: 45	5.5	**Primary Barrier Elements WL** Primary barrier element integrity during wireline operations	Outline the factors that can affect the integrity the primary barrier element during wireline operations. - Hydraulic pressure - Roughness of the wireline - Fluid composition - Maintenance - Running speeds	Power Point Manual	Group discussion
10: 45 - 12: 00	5.6	**Secondary Barrier Elements – BOPs (Ram Type Preventers) WL** Secondary barrier elements (wireline BOPs) used during wireline operations	From a given diagram or description, identify the function and positioning of secondary barrier elements (wireline BOPs) used during different wireline operations: - Slickline - Braided line - Electric line - Fibre optic cable - Digital slickline. Explain why it is	Power point Video	Open Question Q & A

			important to consider equipment access for loading various tool string configurations		
12: 00 - 12: 30		Lunch Break			
12: 30 - 14: 00	5.7	**Secondary Barrier Elements – BOPs (Ram Type Preventers) WL** BOP ram configurations for different types of wireline	Explain why BOP ram configurations must change when using different types of wireline	Power point	Open Question Q& A
14: 00 - 14: 15	5.8	**Shearing Devices WL** Wireline shear/seal BOPs and the wire cutting valve	Explain the function and positioning of the wireline: - Shear ram - Shear/seal ram/valve - Wire cutting valve	Power point Video	Discussion
14:15 - 14:30	5.9	**PRESSURE CONTROL (BARRIER ELEMENTS and ENVELOPES) PRINCIPLES WL** Grouping barrier elements into barrier envelopes during wireline operations	From a given wireline situation or surface rig-up diagram, identify primary barrier elements and group them into envelopes	Power point White board	Open Question Q& A
14:30 - 14:45		Coffee Break			
14:45 - 15:00	5.10	**Other operations - PCE Stack WL** The PCE rig-up during wireline fishing operations	Explain why PCE rig-up must change for wireline fishing operations	Power point	Open Question Q& A
15:00 - 15:30	5.11	**Safely repair or replace a failed primary barrier element WL** Secondary barrier elements and envelopes for slickline operations if a primary barrier element fails	Describe the use of equipment as secondary barrier elements/envelopes during slickline operations. From a given diagram or description identify double barrier protection while	Power point Manual	Group discussion

			repairing and/or replacing failed components		
15:30 - 16:00	5.12	**Safely repair or replace a failed primary barrier element WL** Secondary barrier elements and envelopes for braided line/electric line operations if a primary barrier element fails	Describe the use of equipment as secondary barrier elements/envelopes during braided line/electric line operations. From a given diagram or description, identify double barrier protection while repairing and/or replacing failed components	Power point	Open Question Q& A
16:00 - 16:15	5.13	**PCE Testing WL** Testing the BOP with test rods	Explain why test rods are used to test the wireline BOP instead of cables. Explain why it is important to test correctly	Power point White board	Discussion
16:15 - 16:30	5.14	**Operational Considerations (with well control consequences) WL** The reason for wireline drift runs	Explain what a wireline drift run is, and why it is done before other well intervention operations.	Power point	Open Question Q& A
16:30 - 16:45	5.15	**Operational Considerations (with well control consequences) WL** Surface Controlled Sub Surface Safety Valve (SCSSSV) integrity during a wireline operation	Explain why the integrity of the SCSSSV is important during a wireline operation	Power point video	Open Question Q& A
16:45 - 17:00	5.16	**Controlled Well Shut in WL** Tool string positioning across the wireline BOP	Describe the correct positioning of wireline BOPs in the pressure control rig-up including: - Equipment access for loading various tool string configurations	Power point Manual	Group discussion
	5.17	**Controlled Well Shut in WL** How to shut in the well quickly and safely	Outline why it is important to safely shut	Power point	Open Question Q& A

		with or without wireline in the hole	in the well during a wireline operation: - With wireline in the hole - Without wireline in the hole	White board	
	30 min	Homework (multi-choices) exercises		Exercise Book	To be discussed next day