

LEARNING MODULE SYLLABUS

No	Topic	Course Outline	Learning Outcome
Introduction & Basic Knowledge			
1	Orientation	<ul style="list-style-type: none"> • Learning Outcome • Steps to complete the learning material • Meeting with FSM • Company Organization • DB Policies & Management Standard • Employee Handbook • Q&A 	<p>By the end of the course, JFEs should be able to:</p> <ul style="list-style-type: none"> • Understand and describe the aims of this training program and how to complete the steps. • Clarify the objectives, goal, JD and KPI with FSM. • Be assigned to Mentor Engineer and Mentor Crew-Chief • Understand the DBSB organization and CHS specifically. • Identify the roles of key people: FSM, LAB, SONDE, FOREMAN, STOREMAN, OE, HO PEXS and etc. • Identify Muster Point and Emergency procedures of the location. • Complete the safety briefings with Safety Health Officer (SHO). • Define DBSB Policies and Standards. • Describe HSSE Management Standard.
2	HSE	<ul style="list-style-type: none"> • Learning Outcome • Explosives Operation • Pressure Operation • Radiation Operation • Risk Management • Job Safety Analysis (JSA) • Permit to Work (PTW) • Q&A 	<p>By the end of the course, JFEs should be able to:</p> <ul style="list-style-type: none"> • List down the hazards and risk involved in CHS • Define Explosives, its types and the placard. • Define Pressure, and dangers associated with pressure. • Define Radiation, sources and its effect and the placard. • Describe what is ALARA • Explain on the function of the Survey Meter and Dosimeter. • Define Risk Management and its tool i.e. JSA, PTW.
3	Wellsite Trip	<ul style="list-style-type: none"> • Learning Outcome • Wellsite Facilities • Classified Zone Offshore Facilities • Wellsite Safety 	<p>By the end of the course, JFEs should be able to:</p> <ul style="list-style-type: none"> • List down type of Wellsite Facilities offshore. • Describe the role of the people on the platform • List down Classified Zone Offshore Facilities and its characteristics. • Explain on wellsite safety, H2S Safety, Hand Signals, Well Control Drills.

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		<ul style="list-style-type: none"> • Personal Protective Equipment (PPE) • H2S Safety • Hand Signals • Well Control Drills • Stop Work Authority • References 	<ul style="list-style-type: none"> • List out basic PPE and the importance of it. • Explain why pre-job site planning and the Stop Work Authority are so important.
4	Basic of Petroleum Geology	<ul style="list-style-type: none"> • Learning Outcomes • Life Cycle of Oil & Gas Well • Origins of Petroleum • Petroleum System • Reservoir Rock Properties • Petroleum Traps • Common Logging Applications • References • Q&A 	<p>By the end of the course, JFEs should be able to:</p> <ul style="list-style-type: none"> • Explain on the life cycle of oil & gas well • Understand the origins of petroleum and its system. • Describe the reservoir rock properties in terms of its porosity and permeability. • List down types of petroleum traps • Describe and list down common logging applications especially in our operation.
5	Fundamental of Wireline	<ul style="list-style-type: none"> • Learning Outcome • Well Intervention Structure • Wireline History • Introduction to DB • Introduction of Well Intervention Conveyance • Slickline Services (SLS) • Braided Line Services (SLS) • E-Line Services (CHS) • Coiled Tubing Services (CTS) • Comparison of E-Line & Slickline • Summary 	<p>By the end of the course, JFEs should be able to:</p> <ul style="list-style-type: none"> • Explain the wireline history, its development and well intervention structure • Explain on type of Well Intervention Conveyance System • Differentiate between Slickline, Braided Line, E-Line operation and Coiled Tubing. • Explain on each conveyance the principle, basic equipment and its application • Explain the importance of well intervention and role of wireline in general. • Define the comparison between all these conveyances.

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Well Integrity			
6	Basic Well Control	<ul style="list-style-type: none"> • Course Outline • Learning Outcome • Well Control Incidents • Definition of Well Integrity • Wellbore Phases • Pressure Definition • Barriers • Testing Barriers • Well Intervention Well Control • Well Killing methods • Hydrates • Well Shut-In • Management of Operation • References • Q&A 	<p>By the end of the course, JFEs should be able to:</p> <ul style="list-style-type: none"> • Describe the negative impact and effects of a well control incident. • Define the term “well integrity management” and explain why this is important • Define the term hydrostatic pressure, formation pressure and fracture pressure, overbalance and under balance pressure. • Define the term “barrier” and principle of barrier envelopes. • Explain the principles of different barrier types. • Define the terms “primary” and “secondary” barriers. • Understand testing barriers concept: Inflow test, pressure test and why integrity testing is used. • Explain the principles of the different well control methods • Describe how hydrates form and how to prevent them • Explain about Well Shut In and needs for operation. • Define the management of operation regarding the well control.
7	Well Completion Equipment	<ul style="list-style-type: none"> • Learning Outcome • Definition of completion • Well Completion Activities • Type of Completion • Completion Component • Wellhead and its component • Christmas Tree and its component • Completion Method • Completion Equipment • References • Q&A <p>Completion Equipment:</p> <ol style="list-style-type: none"> 1. Tubing 2. Landing Nipples 	<p>By the end of the course, JFEs should be able to:</p> <ul style="list-style-type: none"> • Define the completion • Explain one by one well completion activities. • List down type of completion and the reason behind it. • Explain the configuration of casing in well completion. • Describe well concept and resources data needed • Describe wellhead and its component. • Describe the Tubing Hanger and purpose of Plug for Tubing Hanger. • Describe Christmas Tree, its valves and difference with wellhead. • Explain about completion method; Single String and Dual String Type. • List down completion equipment and explain one by one its function. • Describe the type of tubing and its properties classification. • Describe the application and different types of Down Hole Safety Valves (DHSV). • Describe the Annulus Safety Valve.

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		<ol style="list-style-type: none"> 3. Perforated Production Tubing 4. Production Packers 5. Circulation Equipment (SPM, SSD, Nipple with Port) 6. Downhole Safety Valves (DHSV) 7. Annulus Safety Valve 8. Wireline Entry Guides (WEG) 9. Expansion Joint 10. Flow Coupling 11. Blast Joints 12. Tubing Hanger 13. Plug in tubing hanger 14. Christmas Tree 	<ul style="list-style-type: none"> • Describe the purpose and positioning of landing nipples and explain about nipple profiles. • Describe the basic function of a production packer and the different types that are commonly used. • Describe what a circulation device is and explain why circulation can be required (SPM, SSD and etc.). • Identify WEG, Expansion Joint, Flow Coupling and Blast Joints and explain each purpose of it.
Basic Surface Equipment			
8	PCE (Slickline)	<ul style="list-style-type: none"> • Course Outline • Learning Outcome • Introduction • Pressure Definition • Job Planning • PCE Component • PCE Connections • Slickline Well Barriers • PCE Equipment Identification • Certification • Wellsite Pressure Testing • Safety Consideration • Summary • References • Q&A 	<p>By the end of the course, JFEs should be able to:</p> <ul style="list-style-type: none"> • Explain on the pressure definition and differentiate every one of it. • List out job planning prior to slickline operation • Explain the basic principle and application of PCE component. • List down type of PCE connection and identify the measurement. • Describe about PCE identification, certification process and use of approved equipment. • Describe in detail on Wellsite Pressure Testing and hazards involved. • Describe safety consideration in PCE operation and general PCE safety rules. • List the dangers associated with pressure operation. • Summarize the pressure test policy

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9	Slickline Operation	<ul style="list-style-type: none"> • Learning Outcome • Slickline Basic Surface Equipment • Slickline Downhole Toolstring • Designing toolstring • Toolstring Guideline and Maintenance • Slickline Wire & Depth Counter • Common Problem with Slickline • Slickline Equipment Check • Safety precautions • Summary • References • Q&A 	<p>By the end of the course, JFEs should be able to:</p> <ul style="list-style-type: none"> • List down slickline basic surface equipment. • Describe each basic downhole toolstring in slickline and relevant tools in EMITE operation. • Explain on the important factors in designing the toolstring and the maintenance. • Understand on the toolstring changes due to well conditions and limitations. • Explain in detail about type of slickline wire and fracture in slickline. • List out type of wire testing and explain on wire management. • Understand about common problems with slickline. • Describe slickline equipment check. • Explain about safety precaution in slickline.
Memory Services (EMITE)			
10	Ultralink & Ultrawire	<ul style="list-style-type: none"> • Learning outcomes • Introduction of Ultralink - Ultrawire • Hardware Description/System Assembly • Theory of Operation Ultralink - Ultrawire • Steps and Procedures • Safety measures / Precaution of Equipment Handling • Appendix • References 	<p>By the end of the course, JFEs should be able to:</p> <ul style="list-style-type: none"> • Describe the equipment required for UL/UW. • Understand the theory of operation for UL/UW. • Interpret the steps in operating UL/UW. • Know the applications of UL/UW. • Explain the safety measures when handling UL/UW.
11	EMITE Memory Services	<ul style="list-style-type: none"> • Learning Outcome • Introduction & Overview • Memory Equipment • Downhole Accessories • Acquisition Software • Electronic Memory Recorder (EMR) • Production Logging Tool (PLT) 	<p>By the end of the course, JFEs should be able to:</p> <ul style="list-style-type: none"> • Explain on the purpose of EMITE Memory Services; advantages & disadvantages. • List down Memory Surface Equipment (DTR, UMU, UMT, Splitter etc.) and describe the purpose and its function. • Explain on the basic principle, function and application of EMITE services: <ol style="list-style-type: none"> 1) Electronic Memory Recorder (EMR)

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		<ul style="list-style-type: none"> • Multi-Array Production Suites (MAPS) • Multi-finger Imaging Tool (MIT) • Magnetic Thickness Tool (MTT) • Noise Tools (NTO) • Radial Bond Tool (RBT) • Example of BHA • Equipment & Personnel Safety • Summary • References • Q&A 	<ol style="list-style-type: none"> 2) Production Logging Tool (PLT) 3) Multi-Array Production Suites (MAPS) 4) Multi-finger Imaging Tool (MIT) 5) Magnetic Thickness Tool (MTT) 6) Noise Tools (NTO) 7) Radial Bond Tool (RBT) <ul style="list-style-type: none"> • Design BHA for actual run. Understand the purpose of using downhole accessories. • Perform program, download and merge the data.
12	Job Planning and Preparation	<ul style="list-style-type: none"> • Learning Outcome • Operation Phases • Job Design/Planning/Preparation • Job Execution • Post-Job • Summary • References • Q&A 	<p>By the end of the course, JFEs should be able to:</p> <ul style="list-style-type: none"> • Explain on the operation phases. • List down people involved on the operation from the top management until base support team. • List down operation procedures in CHS • Explain in detail on job design/planning/preparation and what document needed for briefing • Explain in detail on job execution and the importance of SSP. • Explain in detail on the post job and document needed. • Summarize the whole operation from beginning until end.
13	Log Interpretation	<ul style="list-style-type: none"> • Learning Outcome • Software • EMR Gauges Interpretation • Log Correlation with GR CCL • Production Logging (PLT) Interpretation • Multifinger Imaging Tool (MIT) Interpretation • References 	<p>By the end of the course, JFEs should be able to:</p> <ul style="list-style-type: none"> • List out software that will be used for interpretation. • Explain step by step for EMR gauges interpretation. • Explain on the basic concept of GR-CCL Correlation. • Explain on basic PLT QC and interpretation. • Explain on the purpose of MAPS with PLT. • Understand the basic interpretation of MIT.

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Explosive Services			
14	Basic Explosive Services	<ul style="list-style-type: none"> • Learning Outcome • Introduction of Explosives and its type. • Perforation Basic Component (Detonators, Shaped Charges, Detonating Cord, Booster, Perforating Gun) • Setting Tools • Pipe Recovery • Slickline Trigger Tool • Point of Consideration • References 	<p>By the end of the course, JFEs should be able to:</p> <ul style="list-style-type: none"> • Define Explosives, its types and the placard. • Define the following terms: High Explosives, Low Explosives, Primary High Explosives and Secondary Low Explosives. • Demonstrate basic knowledge of explosive usage • Describe the components, construction and detonation sequence of a perforation system • Explain conventional and RF Safe detonator • Explain on the DB's available perforating services • Explain the various components of a gun • Explain the main differences between an exposed gun and casing gun • Explain what types of explosives are used in the following oilfield accessories: detonators, shaped charges, prima-cord and boosters • Explain point of consideration when doing perforation operation.