COURSE OVERVIEW DE1002(KO2)
IADC WellSharp Driller Level (Basic)

Course Title
IADC WellSharp Driller Level (Basic)

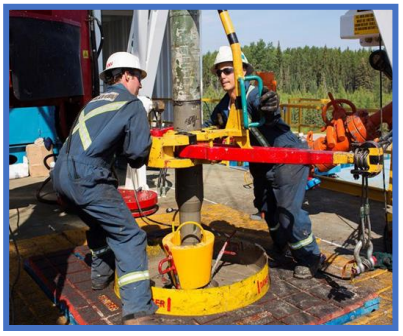
Course Reference
DE1002(KO2)

Course Duration/Credits
Five days/3.0 CEUs/30 PDHs

Course Date/Venue

Session(s)	Date	Venue
1	February 05-09, 2024	Ajman Meeting Room, Grand Millennium Al Wahda Hotel, Abu Dhabi, UAE
2	May 05-09, 2024	Al Aziziya Hall, The Proud Hotel Al Khobar, KSA
3	August 04-08, 2024	Club B Meeting Room, Ramada Plaza By Wyndham Istanbul City Center, Istanbul, Turkey
4	November 03-07, 2024	Boardroom 1, Elite Byblos Hotel Al Barsha, Sheikh Zayed Road, Dubai, UAE

Course Description



This practical and highly-interactive course includes various practical sessions and exercises. Theory learnt will be applied using our state-of-the-art simulators.

This course is designed to provide participants with a detailed and up-to-date overview of IADC WellSharp. It covers the fracture gradients, kick tolerance and pore pressures; the casing, cementing and fluids program; the well control terminology and formation characteristics; the hydrostatic pressure, gradient, pump pressure and equivalent mud weights; the principle of U-tube; the capacities, displacements, strokes, formation stresses and strength; the maximum anticipated surface pressure and maximum allowable annular surface pressure (MAASP); the ballooning, gas behavior and tapered drill string; the functions and types of wellbore fluid; the potential contaminants and their effects; the causes of kicks; and the philosophy and operation of barrier systems.

During this interactive course, participants will learn the shallow gas, water flows and top-hole drilling; the abnormal pressure warning signs; the well control drills comprising of pit, trip, stripping, choke, diverter and hang-off drills; the importance of early response, stop work authority and empowerment act; the kick detection; the shut-in procedures and verification; the post-shut-in monitoring and activities; and the change management during a well kill.

Course Objectives

Upon the successful completion of this course, each participant will be able to:-

- Apply and gain a basic knowledge on IADC WellSharp
- Effectively recognize and react to a kick in all operations
- Effectively shutting in kicked well and kill it successfully theoretically and practically
- Be aware with the testing, operating principles and functional problems of well control equipment
- Safe the people, equipment and environment by prevent blow out
- Discuss fracture gradients, kick tolerance and pore pressures
- Employ a casing, cementing and fluids program as well as manage barrier in a systematic manner
- Explain the well control terminology and formation characteristics including pressure, force and area
- Describe hydrostatic pressure, gradient, pump pressure and equivalent mud weights
- Apply the principle of U-tube as well as determine surge and swab pressures including the equivalent circulating density and bottom hole pressure
- Identify the capacities, displacements, strokes, formation stresses and strength
- Discuss the maximum anticipated surface pressure and maximum allowable annular surface pressure (MAASP)
- Describe ballooning, gas behavior and tapered drill string as well as employ well control in high angle wells
- Identify the functions and types of wellbore fluid using fluid density measuring techniques
- Recognize potential contaminants and their effects that include temperature
- Manage pit and pre-record data covering slow circulating rates, choke and kill line friction, volumes and strokes, choke and kill line densities and kill sheet
- Determine the causes of kicks comprising of abnormal formation fluid pressure, mud wight and contamination by formation fluids, improper mud wight control at surface and etc.
- Discuss the philosophy and operation of barrier systems as well as identify the number of barriers for safe operation and test barriers
- Describe shallow gas, water flows and top-hole drilling covering the definitions and causes of pressure in top-hole formations, underbalance in top-hole as well as carryout diverting and top-hole drilling/tripping practice
- Recognize abnormal pressure warning signs that include abnormal pressure, shaker evidence, changes to mud properties and changes in drilling data/parameters trends
- Employ well control drills comprising of pit, trip, stripping, choke, diverter and hang-off drills
- Explain the importance of early response, stop work authority and empowerment act
- Detect kick via well flow with pumps off, pit gain and increase in flow rate

- Carryout shut-in procedures and verification that include drilling, tripping, out of hole, running casing and cementing, wireline, shut-in methods, blind and blind shear rams and diverting
- Employ post-shut-in monitoring and activities as well as well control methods, casing and cement consideration and equipment
- Manage change during a well kill in a professional manner

Exclusive Smart Training Kit - H-STK®

*Participants of this course will receive the exclusive "Haward Smart Training Kit" (**H-STK®**). The **H-STK®** consists of a comprehensive set of technical content which includes **electronic version** of the course materials, sample video clips of the instructor's actual lectures & practical sessions during the course conveniently saved in a **Tablet PC**.*

Who Should Attend

This course provides an overview of all significant aspects and considerations of IADC WellSharp driller for drillers and assistant drillers.

Training Methodology

All our Courses are including **Hands-on Practical Sessions** using equipment, State-of-the-Art Simulators, Drawings, Case Studies, Videos and Exercises. The courses include the following training methodologies as a percentage of the total tuition hours:-

30% Lectures
20% Practical Workshops & Work Presentations
30% Hands-on Practical Exercises & Case Studies
20% Simulators (Hardware & Software) & Videos

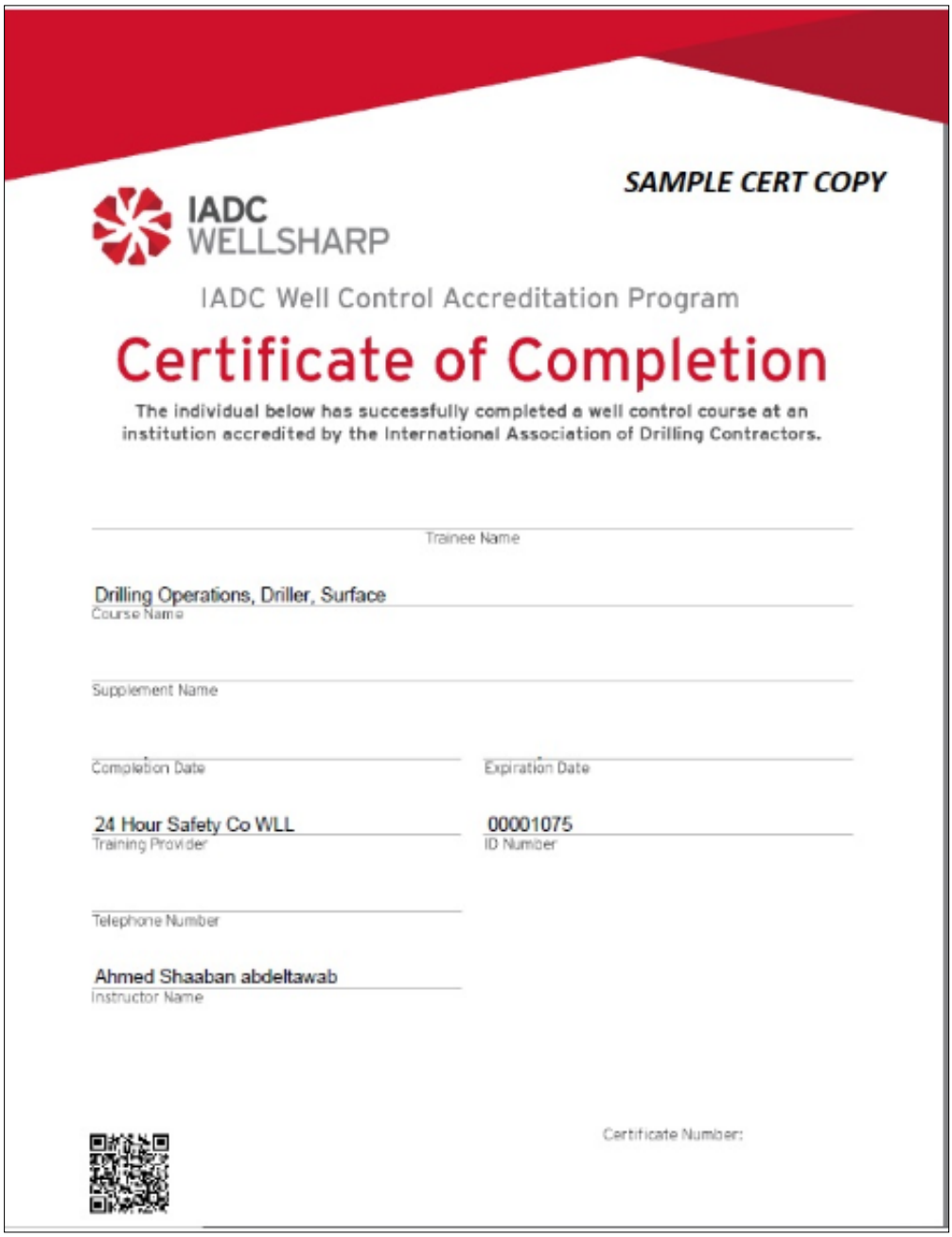
In an unlikely event, the course instructor may modify the above training methodology before or during the course for technical reasons.

Course Fee

Abu Dhabi	**US$ 8,000** per Delegate + **VAT**. This rate includes H-STK® (Haward Smart Training Kit), buffet lunch, coffee/tea on arrival, morning & afternoon of each day.
Al Khobar	**US$ 8,000** per Delegate + **VAT**. This rate includes H-STK® (Haward Smart Training Kit), buffet lunch, coffee/tea on arrival, morning & afternoon of each day.
Istanbul	**US$ 8,500** per Delegate + **VAT**. This rate includes Participants Pack (Folder, Manual, Hand-outs, etc.), buffet lunch, coffee/tea on arrival, morning & afternoon of each day.
Dubai	**US$ 8,000** per Delegate + **VAT**. This rate includes H-STK® (Haward Smart Training Kit), buffet lunch, coffee/tea on arrival, morning & afternoon of each day.

Course Certificate(s)

IADC WellSharp certificates will be issued to participants who have successfully completed the course and passed the exam at the end of the course.



SAMPLE CERT COPY

IADC WELLSHARP

IADC Well Control Accreditation Program

Certificate of Completion

The individual below has successfully completed a well control course at an institution accredited by the International Association of Drilling Contractors.

Trainee Name

Drilling Operations, Driller, Surface
Course Name

Supplement Name

Completion Date

Expiration Date

24 Hour Safety Co WLL
Training Provider

00001075
ID Number

Telephone Number

Ahmed Shaaban abdeltawab
Instructor Name

Certificate Number:

Certificate Accreditations

Certificates are accredited by the following international accreditation organizations:-

- The International Association of Drilling Contractors (IADC WELLSHARP)

This course is accredited by **IADC WellSharp**. IADC's WellSharp accreditation program provides comprehensive well control training standards for the global drilling industry, emphasizing rigorous training for every person with well control responsibilities. WellSharp provides trainees with in-depth knowledge, well-honed role-specific skills, and greater confidence that they know what to do to prevent and handle well control incidents.

- The International Accreditors for Continuing Education and Training (IACET - USA)

Haward Technology is an Authorized Training Provider by the International Accreditors for Continuing Education and Training (IACET), 2201 Cooperative Way, Suite 600, Herndon, VA 20171, USA. In obtaining this authority, Haward Technology has demonstrated that it complies with the **ANSI/IACET 2018-1 Standard** which is widely recognized as the standard of good practice internationally. As a result of our Authorized Provider membership status, Haward Technology is authorized to offer IACET CEUs for its programs that qualify under the **ANSI/IACET 2018-1 Standard**.

Haward Technology's courses meet the professional certification and continuing education requirements for participants seeking **Continuing Education Units** (CEUs) in accordance with the rules & regulations of the International Accreditors for Continuing Education & Training (IACET). IACET is an international authority that evaluates programs according to strict, research-based criteria and guidelines. The CEU is an internationally accepted uniform unit of measurement in qualified courses of continuing education.

Haward Technology Middle East will award **3.0 CEUs** (Continuing Education Units) or **30 PDHs** (Professional Development Hours) for participants who completed the total tuition hours of this program. One CEU is equivalent to ten Professional Development Hours (PDHs) or ten contact hours of the participation in and completion of Haward Technology programs. A permanent record of a participant's involvement and awarding of CEU will be maintained by Haward Technology. Haward Technology will provide a copy of the participant's CEU and PDH Transcript of Records upon request.

- British Accreditation Council (BAC)

Haward Technology is accredited by the **British Accreditation Council** for **Independent Further and Higher Education** as an **International Centre**. BAC is the British accrediting body responsible for setting standards within independent further and higher education sector in the UK and overseas. As a BAC-accredited international centre, Haward Technology meets all of the international higher education criteria and standards set by BAC.

Course Instructor(s)

This course will be conducted by the following instructor(s). However, we have the right to change the course instructor(s) prior to the course date and inform participants accordingly:

Mr. Moammar Khallouf, is a **Senior Petroleum & Process Safety Engineer** with over **25 years** of integrated experience within the **Oil & Gas, Petroleum** and **Refinery** industries. His specialization widely covers in the areas of **Rig Contracting,** Inspection & Selection, **Rig Sizing**, **Hoisting** System, **Completion Design & Perforation**, **Completion & Production** Engineering, **Oil Wells Drilling** Engineering, **Oil Production Equipment** Maintenance, **Well Services**, **Well Head Design**, **Wellhead Valves**, Well Head Management (**WHM**), **Well Test Analysis & Rod Pumping** Operation, **Well Integrity** Investigations, **Well Perforation**, **Well Control**, Advanced **Well Completion**, **Artificial Lift** System, **Production** Technology, **Production Logging** Interpretation, **Production** Operation, **Oil Production** Optimization, **Fracturing Oil Wells** Factors Determining, **Extend Reach Drilling**, **Drill String Design**, **Drilling** Supervision, **Well Drilling** Operations, **Drilling** Technology, **Drilling & Initial Completion**, **Well Completion & Workover** Operation, **Completion & Safety**, **Completion** Design, **Well Test** Data Gathering, **Wireline & Coiled Tubing** Operation, Advanced **Coiled Tubing** & Stimulation, Electrical Submersible Pump (**ESP**), **Beam Pump** Operation & Troubleshooting, **Mud Logging** Interpretation Technique, **Bits**, **Casing**, **Tubing & Drilling** Milling Tools, **Fishing & Milling** Tools, **Directional Drilling** Technology & Tools, Water Shut Off, **Water Injection**, **Acid Stimulation**, **Sand & Cement Plug** Calculation and Ultra-Low Sulphur Diesel Production & VGO Deep Hydro Treatment. Further, he is also well-versed in **Vessel Traffic** Management System, Oil & Gas Marine Terminals, **Tank Farm & Storage Tank** Design, Inspection Procedure, Operation, Repair & Maintenance, **Liquid & Gas Flow Metering** & Meter Proving, **HSE Risk** Assessment, **HSE** Induction, **Accident & Incident** Investigation, Job Hazards Analysis (**JHA**), Maintenance Planning, **Firefighting**, **Permit to Work**, Safety Skills, **H2S**, Unsafe Acts/Conditions, **Emergency Response** and Work Environment.

During his career life, Mr. Moammar held significant positions and dedication as the **Artificial Lift Section Head**, **Drilling & Completion Materials Supervisor**, **Drilling Safety Supervisor**, **Well Services/Intervention Supervisor**, **Production Technology Engineer**, **Safety Engineer**, **Petroleum Engineering Consultant & Instructor** and **Senior Instructor/Trainer** for various international companies like the Alfurat Petroleum Company (Shell JV), TUV Nord, ASASA, CMC, GTFG, **ARAMCO**, UNICO, etc, just to name a few.

Mr. Moammar has a **Bachelor's** degree in **Petroleum Engineering**. Further, he is a **Certified Instructor/Trainer** and has delivered numerous trainings, workshops, courses, seminars and conferences internationally.

Accommodation

Accommodation is not included in the course fees. However, any accommodation required can be arranged at the time of booking.

Course Program

The following program is planned for this course. However, the course instructor(s) may modify this program before or during the course for technical reasons with no prior notice to participants. Nevertheless, the course objectives will always be met:

Day 1

0730 – 0800	*Registration & Coffee*
0800 – 0815	***Welcome & Introduction***
0815 – 0830	***PRE-TEST***
0830 – 0900	***Drilling, Workover & Completion Plan – Awareness*** *Well Work Objectives ● Fracture Gradients, Kick Tolerance & Pore Pressures ● Casing & Cementing Program ● Fluids Program ● Barrier Management*
0900 – 1000	***Well Control Concepts*** *Well Control Terminology & Formation Characteristics ● Pressure, Force, Area ● Hydrostatic Pressure & Gradient ● Principle of U-Tube ● Pump Pressure ● Pressure & Equivalent Mud Weights ● Surge & Swab Pressures ● Equivalent Circulating Density & Bottom Hole Pressure*
1000 – 1015	*Break*
1015 – 1100	***Well Control Concepts (cont'd)*** *Capacities, Displacements & Strokes ● Formation Stresses & Strength ● Maximum Anticipated Surface Pressure ● Maximum Allowable Annular Surface Pressure (MAASP) ● Ballooning ● Gas Behavior ● Well Control in High Angle Wells ● Tapered Drill String*
1100 – 1145	***Mud & Pit Management*** *Functions & Types of Wellbore Fluid ● Fluid Density Measuring Techniques ● Potential Contaminants & their Effects (including Temperature) ● Pit Management*
1145 – 1200	*Break*
1215 – 1300	***Pre-Recorded Data*** *Slow Circulating Rates ● Choke & Kill Line Friction ● Volumes & Strokes ● Choke & Kill Line Densities ● Kill Sheet*
1300 – 1330	***Causes of Kicks*** *Abnormal Formation Fluid Pressure ● Mud Weight & Contamination by Formation Fluids ● Improper Mud Weight Control at Surface ● Loss of Circulation ● Tripping & Improper Hole Fill ● Running/Pulling Liners & Casing ● Barrier Failure ● Riser Disconnect & Riser Gas*
1330 – 1420	***Practical Training on Simulator for Lesson Plan 5 & Lesson Plan 6***
1420 – 1430	***Recap*** *Using this Course Overview, the Instructor(s) will Brief Participants about the Topics that were Discussed Today and Advise Them of the Topics to be Discussed Tomorrow*
1430	*Lunch & End of Day One*

Day 2

0730 – 0845	***Barriers*** *Philosophy & Operation of Barrier Systems ● Number of Barriers for Safe Operation ● Testing Barriers*
0845 – 0930	***Shallow Gas, Water Flows & Top-Hole Drilling*** *Definitions & Causes of Pressure in Top-hole Formations ● Causes of Underbalance in Top-hole ● Diverting ● Top-hole Drilling/Tripping Practice*
0930 - 0945	*Break*

0945 – 1030	***Abnormal Pressure Warning Signs*** *Abnormal Pressure ● Shaker Evidence ● Changes to Mud Properties ● Changes in Drilling Data/Parameters Trends*
1030 – 1115	***Well Control Drills*** *Pit Drills ● Trip Drills ● Stripping Drills ● Choke Drills ● Diverter Drill ● Hang-off Drill ● Importance of Early Response, Stop Work Authority & Empowerment to Act*
1115 - 1230	***Kick Detection*** *Well Flow with Pumps Off ● Pit Grain ● Increase in Flow Rate*
1230 - 1245	*Break*
1245 – 1345	***Shut-in Procedures & Verification*** *Drilling ● Tripping ● Out of Hole ● Running Casing & Cementing ● Wireline ● Shut-in Methods ● Blind & Blind Shear Rams ● Diverting*
1345 - 1420	***Training on Simulator for Lesson Plan 9, Lesson Plan 11 & Lesson Plan 12***
1420 – 1430	***Recap*** *Using this Course Overview, the Instructor(s) will Brief Participants about the Topics that were Discussed Today and Advise Them of the Topics to be Discussed Tomorrow*
1430	*Lunch & End of Day Two*

Day 3

0730 – 0845	***Post Shut-in Monitoring & Activities*** *Kick Log ● Gas Migration ● Trapped Pressure ● Handling Ballooning*
0845 – 0930	***Post Shut-in Monitoring & Activities (cont'd)*** *Opening (Bumping) the Float Valve ● Line-up*
0930 - 0945	*Break*
0945 - 1115	***Well Control Methods*** *Principles of Constant Bottomhole Pressure Methods ● Pre-Killing Planning & Meeting ● Pump Start Up Procedure ● The Driller's Method ● The Wait & Weight Method ● Kill Problems*
1115 - 1230	***Well Control Methods (cont'd)*** *Stripping ● Volumetric Method ● Lube & Bleed ● Stack Gas Clearing Procedure ● Displacing Riser Post Kill*
1230 - 1245	*Break*
1245 – 1345	***Casing & Cement Consideration*** *Procedure when Running or Pulling Casing ● Cement Waiting Time ● Monitoring the Well during & after Cementing Operation ● Cement Testing Procedure – Positive & Negative*
1345 - 1420	***Practical Test on Simulator*** *(While Practical Test is Running, the Other Candidates have Exercises & Kill Sheets to Solve)*
1420 – 1430	***Recap*** *Using this Course Overview, the Instructor(s) will Brief Participants about the Topics that were Discussed Today and Advise Them of the Topics to be Discussed Tomorrow*
1430	*Lunch & End of Day Three*

Day 4

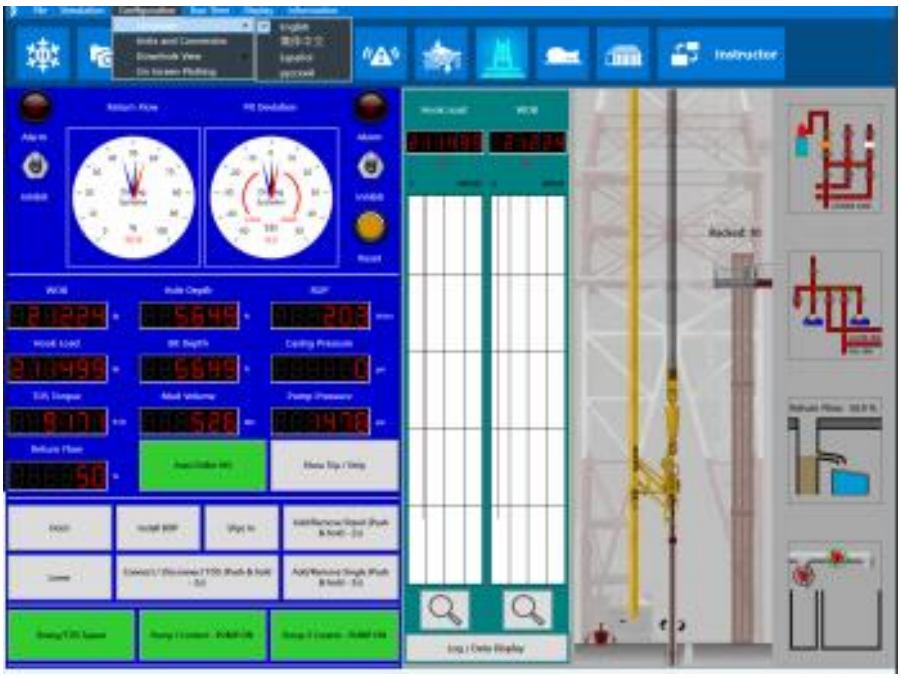
0730 – 0845	***Risk Management*** *Managing Change during a Well Kill*
0845 – 0930	***Equipment*** *Diverters ● Well Control Equipment Alignment & Stack Configuration ● BOP Stack Stack Valves & Wellhead Components ● Manifolds, Piping & Valves ● Drill String Valves*
0930 - 0945	*Break*
0945 - 1115	***Equipment (cont'd)*** *Instrumentation & Auxiliary Well Control Equipment ● Gas Detection Equipment ● BOP Closing Unit & Control Panels ● Function Tests & Pressure Tests ● Monitoring Equipment Failure/Erroneous Readings*
1115 - 1230	***Equipment (cont'd)*** *Dead Man, Autoshear & Emergency Disconnect System ● Mud-Gas Separator ● Control Chokes (Manual and/or Hydraulic) ● ROV Hot Stab Capability ● Riser Gas Handling Equipment ● Stripping & Tripping Tanks ● Rules & Regulations*
1230 - 1245	*Break*
1245 - 1420	***Practical Test on Simulator*** *(While Practical Test is Running, the Other Candidates have Exercise to Solve)*
1420 – 1430	***Recap*** *Using this Course Overview, the Instructor(s) will Brief Participants about the Topics that were Discussed Today and Advise Them of the Topics to be Discussed Tomorrow*
1430	*Lunch & End of Day Four*

Day 5

0730 – 0930	***Knowledge Assessment***
0930 – 0945	*Break*
0945 – 1115	***Knowledge Assessment (cont'd)***
1115 – 1230	***Practical Assessment***
1230 – 1245	*Break*
1245 - 1345	***Practical Assessment (cont'd)***
1345 – 1400	***Course Conclusion***
1400 – 1415	***POST-TEST***
1415 – 1430	*Presentation of Course Certificates*
1430	*Lunch & End of Course*

Simulator (Hands-on Practical Sessions)

Practical session will be organized during the course for delegates to practice the theory learnt. Delegates will be provided with an opportunity to carryout various exercises using the simulator "iDrillSIM".



iDrillSIM Simulator

Course Coordinator

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