HRODC Postgraduate Training Institute

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175

Drilling Operation: On-Shore and Deepwater Oil and Gas Drilling Operations, Incorporating Shale Gas Drilling

PROGRAMME

Leading To:

POSTGRADUATE DIPLOMA IN

Petroleum – Oil and Gas – On-Shore and Deepwater Drilling Operations

Progressing To MSc

Petroleum – Oil and Gas – On-Shore and Deepwater Drilling Operations

A Division of HRODC Ltd. UK Reg. No. 6088763. V.A.T. Reg. No. 8958 765 38
Prof. Dr. R.B. Crawford - Director HRODC Postgraduate Training Institute
PhD (London), MEd.M. (Bath), Adv. Dip. Ed. (Bristol), PGCIS (TVU), ITC (UWI), MAAM, MAOM, LESAN, MSCOS, MISGS, Visiting Prof. P.U.P.
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UKRLP Registration No. 10019585
UKRLP Verification: http://www.ukrlp.co.uk
Postgraduate Full-Time and Short Courses
London, UK & International Locations

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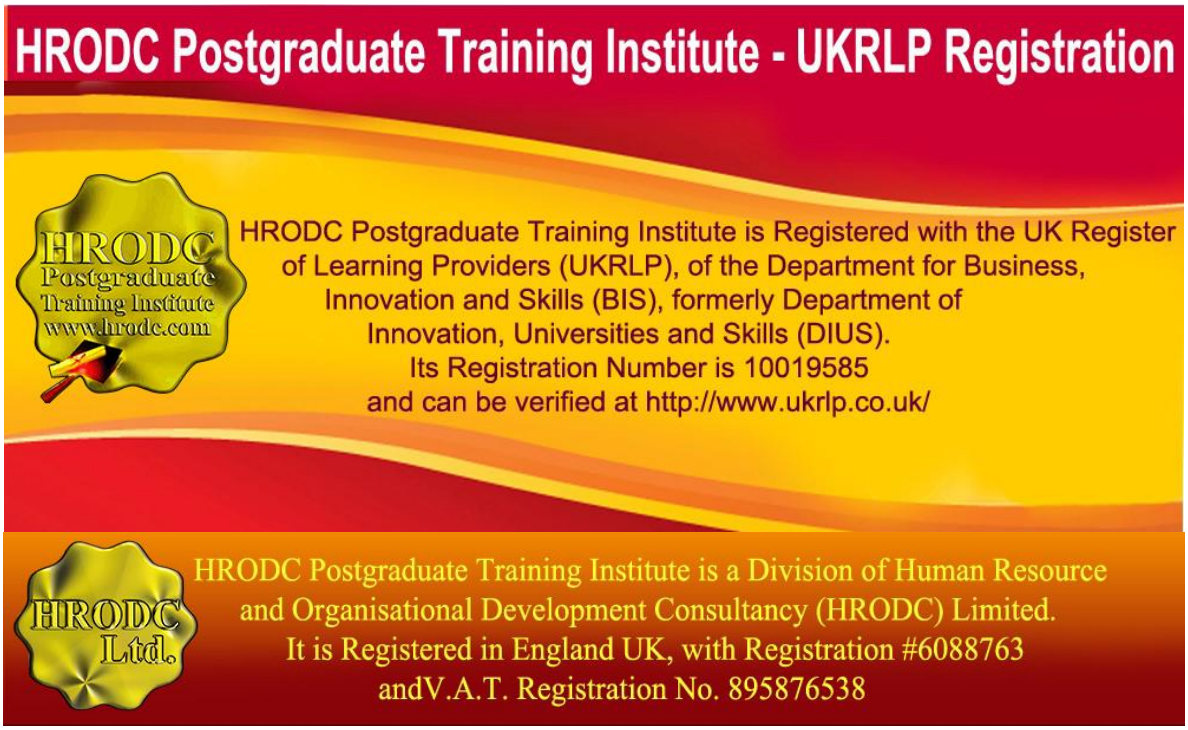

For Whom This Programme is Designed

This Programme is Designed For:

- Drilling Engineers;
- Process Engineers;
- Journeyman;
- Well Engineers;
- Geologists;
- Workover Personnel;
- Petroleum – Oil and Gas – Engineers;
- Petroleum – Oil and Gas – Accountants;
- Petroleum – Oil and Gas – Value Engineers;
- Petroleum – Oil and Gas – Strategic Planning Officers;
- Petroleum – Oil and Gas – Venture Capitalists;
- Shale Gas Drilling Experts;
- Oil and Gas Mineral Rights Holders;

- Oil and Gas Mineral Rights Leasers;
- Petroleum – Oil and Gas – Human Resource management (HRM) Personnel;
- National and State Mineral (Oil and Gas) Officials);
- Petroleum – Oil and Gas – Fund Managers;
- All others with a genuine Interest In Petroleum – Oil and Gas – On-Shore and Deepwater Drilling Operations.

Programme Co-ordinator:
Prof. Dr. R. B. Crawford – Director HRODC Postgraduate Training Institute

- PhD (University of London);
- MEd. M. (University of Bath);
- Adv. Dip. Ed. (University of Bristol);
- PGCIS (Thames Valley University);
- ITC (UWI);
- Member of the Standing Council of Organisational Symbolism (MSCOS);
- Member of the Asian Academy of Management (MAAM);
- Member of the International Society of Gesture Studies (MISGS);
- Member of the Academy of Management (MAOM);
- LESAN;
- Professor, HRODC Postgraduate Training Institute;
- Visiting Professor, Polytechnic University of the Philippines (PUP).

Duration:

3 Months Intensive Full-Time (5 Days Per Week) or
6 Months Full-Time (2-2.5 Days Per Week)

Cost: **£45,000.00 Per Delegate**

Please Note:

- V.A.T. (Government Tax) does not apply to Corporate Sponsored Individuals, taking Programmes or Courses in any location - within or outside the UK.
- It applies only to Individuals and Corporations based in the UK and to Non-UK Individual Residents taking courses in the UK.

Cost includes:

- Free Continuous snacks throughout the Event Days;
- Free Hot Lunch on Event Days;
- Free City Tour;
- Free Stationery;
- Free On-site Internet Access;
- **Postgraduate Diploma in Petroleum – Oil and Gas – On – Shore and Deepwater Drilling Operations**; or
- Certificate of Attendance and Participation – if unsuccessful on resit.

HRODC Postgraduate Training Institute's Complimentary Products include:

1. HRODC Postgraduate Training Institute's **Leather Conference Folder**;
2. HRODC Postgraduate Training Institute's **Leather Conference Ring Binder/ Writing Pad;**
3. HRODC Postgraduate Training Institute's **Key Ring/ Chain**;
4. HRODC Postgraduate Training Institute's **Leather Conference (Computer – Phone) Bag** – Black or Brown;
5. HRODC Postgraduate Training Institute's **8GB USB Flash Memory Drive**, with Programme Material;
6. HRODC Postgraduate Training Institute's **Metal Pen;**
7. HRODC Postgraduate Training Institute's **Polo Shirt,** at Programme Start and End.

Please see product images, as a separate file - Complimentary Products For Students and Delegates, from HRODC Postgraduate Training Institute.

Location: **Central London – UK** and International Locations

Dates: Schedule attached or at:

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Leading to Postgraduate Diploma in Petroleum – Oil and Gas – Shore and Deepwater Drilling Operations, Progressing to MSc				
Module Number	**Pre-existing Course #**	**Module Title**	**Page #**	**Credit Value**
1	090	Oil and Gas Operation for Non-Technical Oil and Gas Staff-Incorporating Oil and Gas Safety	08	Single
2	137	Deepwater Drilling Operations and Well Control	18	Quad
3	199.M2	Petroleum – Oil and Gas – Reservoir Engineering Practice	30	Quad
4	199.M3	Petroleum – Oil and Gas - Well Testing	34	Triple

Programme Objectives

By the conclusion of the specified learning and development activities, delegates will be able to:

- Be familiar and gain notable understanding on the different oil and gas concepts;
- Determine the importance of 3D and 4D seismic in locating oil and gas reserves;
- Understand the basic of joint venture contract;
- Differentiate upstream, midstream and downstream oil and gas industry;
- Identify what constitute horizontal, vertical and full integration activities;
- Know the procedures involved in oil and gas exploration and production;
- Enumerate the different downstream activities;
- Specify the advantages and disadvantages of exploring vertical integration;
- Ascertain the factors favouring horizontal integration;
- Establish the governing policy among the parties in oil well lease;
- Describe the nature of long-term explicit contracts;
- Learn the basic of franchise agreement in the oil and gas sector;
- Realise the importance of joint ventures in the oil and gas exploration and production;
- Explain the rules on co-allocation of facilities;
- Understand the underlying concepts of implicit contract;
- Learn some techniques in conducting geological research and oil exploration;
- Discover the basic of drilling and mining operation;
- Distinguish natural and artificial lifts in the oil and gas production;
- Explain the principles of gas processing;
- Differentiate between Successful Efforts (SE) and Full Cost (FC) Accounting;
- Discover how oil and gas are marketed;
- Discuss the oil and gas production separator principles;
- Explain “Amine Sweetening” and “Glycol Dehydration” principles;
- Discuss the principle of Emulsion and Vertical Heater Treater;
- Learn the basic of health and safety in the oil and gas industry;
- Categorise fatal or major injuries;

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- Identify the different types of accidents;
- Discover the applicable rule for over-three-day injuries to offshore workers;
- Name the different institutions and their corresponding regulations for the heasafety of workers;
- Specify the functions of safety release valves and ruptured disc;
- Explain how Pressure Safety Valve (PSV) are operated and tested;
- Be familiar with gaswell blowouts;
- Discuss the principle of Hydrogen Sulfide in relation to worker"s safety;
- Gain familiarity of Blow-Out Preventers (BOP);
- Recognise the new generation BOPs;
- Know how to deal with BOP"s malfunctioning;
- Analyse BP oil disaster.

Programme Contents, Concepts and Issues

Module 1
Oil and Gas Operation for Non-Technical Oil and Gas Staff – Incorporating Oil and Gas Safety

M1. Part 1: Oil and Gas Conceptual and Contextual Exploration

- 3-D Seismic
- 4-D Seismic
- Acidizing a well
- AFE (Authorization For Expenditure)
- Annular space
- Annulus of a well
- Anticline
- API gravity
- Associate gas
- Barrel Standard
- Basement rock
- BCF (billion cubic feet)
- Behind pipe
- Biomass
- Bleeding core
- Blind pool
- Blowout
- Blowout insurance
- Blue Sky Law
- Bonus Money
- BOP (blowout preventer)
- Bottom-hole pressure
- Bottom-hole pump
- Brent Crude
- Bridle

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- BS&W - (basic sediment and water)
- Btu (British thermal unit)
- Butane
- Cable drilling
- CAOF (calculated absolute open flow)
- Capital Funds
- Capital asset
- Capital costs (Oil & Gas Tax Usage)
- Capital expenditure
- Capitalization
- Carried Interest
- Casing Pipe
- Casinghead
- Casinghead gas
- Casinghead gasoline
- Cavings Rock
- Cement
- Cement squeeze
- Christmas tree
- Choke
- Clean oil
- CO2 injection
- Coal gasification
- Coal liquefaction
- Cogeneration
- Commissions
- Common carrier
- Completed well
- Condensate
- Confirmation well
- Connate water
- Conventional energy sources
- Conveyance or Conveyancing
- Core
- Cracking
- Crude oil
- Crude oil equivalent
- Cuttings
- Deductions
- Deed
- Deepwater port
- Delay rental
- Deliverability
- Development
- Diesel oil
- Differential-pressure sticking
- Directional drilling
- Distillate
- Distillate fuel oil
- Distributor
- Division Order
- Domestic production
- Down hole
- Downstream
- Drill bit
- Drill string
- Drilling
- Drilling break
- Drilling fund
- Drilling mud
- Drilling platform
- Drilling rig
- Drill stem test
- Dry hole
- Dry natural gas
- Dual completion
- Due Diligence
- Economic interest
- Electrical well logging
- Ethanol
- Expenses (Tax Usage)
- Exploration
- Exploratory well
- External casing packer
- Extraction plant
- Farm in

- Farm out agreement
- Farmer's oil
- Fault
- Fault trap
- Fee lands
- Feet of pay
- Field
- Filter cake
- Fishing
- Fishing tools
- Five-spot water flood program
- Flange up
- Flaring
- Flooding
- Flow Through concept
- Flowing well
- Formation
- Fossil fuels
- Fracturing
- Front-end costs
- Fuel oil
- Gamma-ray logging
- Gas cap
- Gas condensate
- Gas lift
- Gas-cut mud
- Gas-oil ratio
- Gasoline
- General partner
- Geophones –
- Geophysicist
- Geothermal energy
- Gravimeter
- Gross income
- Groundwater
- Guaranteed payments
- Gun perforation
- Gusher
- Hang the rods
- Heating oil
- Heavy oil
- Held by production
- Jones Act
- History of a well
- Horizon
- Horizontal drilling
- Horsehead
- Hydraulic fracturing
- Hydrocarbons
- Hydrometer
- Hydrostatic head
- In situ
- Independent producer
- Infill drilling
- Initial potential
- Injection well
- Intangible drilling
- Investment Tax Credit (ITC)
- Isopachous map
- Jack or Unit
- Jet fuel
- Jetting
- Joint
- Joint Operating Agreement
- Joint venture
- Junk basket
- Kelly bushing
- Kerogen
- Kerosene
- Keyseating
- Kick Occurs
- Lag time
- Landman
- Landowner royalty
- Law of capture
- Lead lines
- Lease (Oil and Gas)
- Lease acquisition costs
- Lease broker
- Lease hound

- Lease offering (lease sale)
- Lease or Sublease
- Lifting costs
- Lignite
- Limestone
- Limited partner
- Limited partnership
- LNG (liquefied natural gas)
- Logs
- Lost circulation
- LPG (liquefied petroleum gases)
- Mid-continent crude
- Midstream or Middle distillates
- Migration
- Milling
- Mineral Rights
- MMCF Million cubic feet
- Monocline
- Mud
- Mud engineer
- Mud logger
- Multiple completion
- Natural gas
- Naval petroleum reserves
- Net profits interest
- Net Revenue Interest (NRI)
- NGL (natural gas liquids)
- OCS (outer continental shelf)
- Octane
- Octane number
- Offering memorandum
- Offset well
- Offshore platform
- Oil column
- Oil gravity
- Oil in place
- Oil pool
- Oil rig
- Oil run
- Oil shale
- Oilfield services
- On the pump
- OPEC (Organization of Petroleum Exporting Countries)
- Operator
- Organization costs
- Outcrop
- Overriding Royalty (ORRI)
- Overthrust belt
- Packer
- Pay zones
- Payoff
- Payout
- Perforating gun
- Perforation
- Permeability
- Petrochemicals
- Petroleum
- Petroleum engineer
- Petroleum geologist
- Pipeline
- Pipeline gas
- Plug back
- Plugged & Abandoned (P&A)
- Plugging a well
- Pool
- Pooling
- Porosity
- Possible reserves
- Present net value
- Primary recovery

- Primary term
- Private Placement Offering
- Probable reserves
- Producing horizon
- Producing platform
- Production
- Production test
- Proppants
- Prospect
- Proved behind-pipe reserves
- Proved developed reserves
- Proved reserves
- Proved undeveloped reserves
- Public lands
- Public Offering
- Pump
- Pump off
- Pumping well
- Quad
- Quitclaim deed
- R&D
- Ram
- Re-entry
- Reamer
- Reclamation
- Recoverable resources
- Reef
- Refiner
- Refining
- Relief well
- Reserve
- Reserve (pool)
- Reservoir
- Reservoir pressure
- Retained Interest
- Reversionary interest
- Risk
- Roof rock
- Rotary drilling
- Round trip
- Roustabout
- Royalty
- Royalty Funds
- Run ticket
- Running the tools
- Salt dome
- Salt-bed storage
- Sample
- Sample log
- Sandstone
- Saturation
- Schlumberger (slumber-jay)
- Scout
- Secondary recovery
- Section
- Securities
- Securities Act of 1933
- Securities Exchange Act of 1934
- Sedimentary basin
- Sedimentary rock
- Seismic exploration
- Seismograph.
- Selling Expenses
- Separator
- Service well
- Set casing
- Severance
- Severance tax
- Shale
- Shale oil
- Shale shaker
- Sharing arrangement
- Shoestring sands
- Shoot a well
- Show

- Shut-down well/shut-in well
- Shut-in
- Shut-in pressure
- Shut-in Royalty
- Side track
- Skidding the rig
- Solution
- Sour Crude or Gas
- Source rock
- Spacing unit
- Spot market
- Spud
- Squeeze
- Steel reef
- Step-out well
- Stipper oil well
- Stock tank barrel
- Stratigraphic test
- Stratigraphic trap
- Structural trap
- Structure
- Submersible drilling barge
- Submersible pump
- Subscription
- Substructure
- Supervisory fee
- Surface rights
- Swab
- Sweet crude
- Syncline
- Syndication expenses
- Synfuels
- Synthetic crude oil (syncrude)
- Synthetic gas
- Take-or-pay contract
- Tank bottoms
- Tanker
- Tar sand
- Tar sands
- Tax preference items
- TCF
- Tectonic map
- Tender
- Tertiary recovery
- Therm
- Third for a quarter
- Tight formation
- Tight hole
- Tight sand
- Time value of money
- Title
- Tool pusher
- Top lease
- Total depth (TD)
- Township
- Transfer rule
- Trap
- Trip
- Tubing
- Turnkey
- ULCC (Ultra large crude carrier)
- Unassociated gas
- Underwriter
- Undiscovered recoverable resources
- Up dip well
- Upstream
- Vapour pressure
- Viscosity
- VLCC (very large crude carrier)
- Wall sticking
- Wasting assets
- Water drive
- Water-drive reservoir
- Water flooding
- Well program
- Wellbore
- Wellhead
- West Texas Intermediate

- Wet
- Wet gas
- Whip stock
- Wildcat
- Wildcatter
- Working interest
- Work over
- Work over rig
- Write-off
- Zone
- Zone Isolation

M1. Part 2: Introducing the Oil Subsectors

- Horizontal, Vertical and Full Integration activities, including:
  - Exploring For Oil and Gas;
  - Developing Fields;
  - Producing Oil and Gas;
  - Mining Oil Sands;
  - Extracting Bitumen;
  - Liquefying Gas by Cooling (LNG);
  - Regasifying LNG;
  - Converting Gas to Liquid Products (GTL);
  - Generating Wind Energy.
- Downstream activities including:
  - Refining Oil into Fuels and Lubricants:
    - Producing Petrochemicals;
    - Developing Bio Fuels;
    - Trading;
    - Retail Sales.
  - Managing CO2 Emission:
    - Supply and Distribution Business-To-Business Sales.
- Exploring Vertical Integration in Relation to the Following Potentially Advantages:
  - Reduction in transportation costs, where common ownership results in closer geographic proximity;
  - Improvement in the supply chain coordination;
  - Provision of more opportunities to differentiate by means of increased control over inputs;

- Capturing of upstream or downstream profit margins;
- Increasing entry barriers to potential competitors, for example, sole access to a scarce resource;
- Gaining access to downstream distribution channels that otherwise would be inaccessible;
- Facilitating investment in highly specialised assets in which upstream or downstream players may be reluctant to invest;
- Exploiting core competencies;
- Capacity balancing issues, i.e., building excess upstream capacity to ensure that its downstream operations have sufficient supply under all demands;
- Increased flexibility to coordinate vertically-related activities may increase.

➢ Addressing Vertical Integration, with respect to the following potential disadvantages:

- Potentially higher costs due to low efficiencies resulting from lack of supplier competition;
- Decreased flexibility due to previous upstream or downstream investments;
- Decreased ability to increase product variety if significant in-house development is required;
- Developing new core competencies may compromise existing competencies.
- Increased bureaucratic costs.

➢ Factors favouring horizontal integration, including:

- Taxes and regulations on market transactions are simplified;
- Obstacles to the formulation and monitoring of contracts;
- Strategic similarity between the vertically-related activities;
- Sufficiently large production quantities so that the firm can Benefit from economies of scale;
- Creation of barriers of entry, resulting in the reluctance of other firms to make investments specific to the sector of the industry larger firms operate in.

➢ Other factors relevant to Oil and Gas Production, incorporating:

- Oil Well Lease;
- Long-term explicit contracts;

- Franchise agreements;
- Joint ventures;
- Co-location of facilities;
- Implicit contracts (relying on firms' reputation);
- Geological Research and Oil Exploration;
- Drilling or Mining;
- Basic Drilling Operation;
- Natural vs. Artificial Lifts in Oil and Gas Production;
- Coalbed methane drilling technology;
- Principles of Gas Processing;
- Oil Well Drilling;
- Spudding Oil and Gas Wells;
- Oil and Gas Rig Operation;
- Offshore Oil Rig Operation;
- Successful Effort Accounting;
- Horizontal Drilling;
- Marketing Oil and Gas;
- Oil and Gas Production Separator Principles;
- Oil -Water Separator Offshore;
- Oil Separator;
- Principles of Amine Sweetening;
- Production Separator Principles;
- Glycol Dehydration Principles;
- Emulsions and Vertical Heater Treater Principles.

M1. Part 3: Oil and Gas Safety

- HSE Offshore Statistics:
  - Hydrocarbon Releases (HCRs)5;
  - Fatal and major injuries to offshore workers;
  - Types of Accidents;

- Over- 3-day injuries to offshore workers;
- Dangerous Occurrences offshore;
- Incidence of ill health to workers offshore.

- Oil and Gas Industry Safety Regimes/ Institutions and Their Safety Regulation and Monitoring System:
  - American Petroleum Institute: Environmental Health & Safety;
  - Enform;
  - A Step Change in Safety;
  - Fire and Blast Information Group;
  - National Offshore Petroleum Safety Authority;
  - OSHA Oil and Gas Well Drilling and Servicing Worksafe;
  - BC Health & Safety Centre for Petroleum;
  - Health and Safety Executive (HSE);
  - Petroleum Industry's Annual Safety Seminar.
- Safety Relief Valves and Rupture Discs;
- Pressure Safety Valves (PSV), Operation and Testing;
- Gaswell blowouts;
- Hydrogen Sulfide;
- Hydrogen Sulfide Principles;
- Hydrogen Sulfide (H2S) Safety for Oil and Gas;
- Rig Accidents;
- Actinia Oil Rig Blowout;
- Blow-Out preventers – (BOP);
- New Generation of BOPs;
- Malfunctioning of BOPs;
- Dealing with Blowouts;
- Analysing the BP Oil Disaster.

Module 2
Deepwater Drilling Operations and Well Control

M2. Part 1: Deepwater Drilling Operations (1)

- Exploring the Deepwater;
- Identifying the Prospect;
- Drilling a Wildcat;
- Deepwater Plays in Context;
- Geology the Shelf vs. the Deepwater;
- Drilling and Completing Wells;
- The Well Plan;
- Rig Selection;
- Drilling;
- Completing the Well;
- Special Problems;
- Development Systems;

M2. Part 2: Deepwater Drilling Operations (2)

- Development Systems Choices;
- Choosing Development Systems;
- Fixed Structures;
- The Concrete Platform;
- The Compliant Tower;
- Installing Platforms;
- Installing Concrete Gravity Platform;
- Setting the Pipeline Riser;
- Floating Production Systems;
- Tension Leg Platforms (TLP);
- Monocolumn Tension Leg Platforms (TLP);

- Floating Production Storage and Offloading Unit (FPSO);

M2. Part 3: Deepwater Drilling Operations (3)

- Floating, Drilling, Production, Storage Offloading Unit (FDPSO);
- Floating Production Storage Vessel (FPS);
- Spars;
- Mooring Spreads;
- Subsea Systems;
- Wells;
- Manifold And Sleds;
- Flowline Jumpers and Gathering;
- Umbilicals and Flying Leads;
- Control Systems;
- Flow Assurance;
- System Architecture and Installation;
- Remote Operated Vehicles (ROVs);
- Topsides;

M2. Part 4: Deepwater Drilling Operations (4)

- Oil Treatment;
- Water Treatment;
- Gas Treatment;
- Safety Systems;
- Auxiliary Systems;
- Pipelines Flowlines and Risers;
- The Boon and Bane of Buoyancy;
- Laying Pipe;
- Bottom Conditions;
- Risers;

- Pipeline System Operations;
- Technology and Third Wave.

M2. Part 5: Equipment in Well Control Operations

- Pressure, Erosion, Corrosion and Vibration:
  - Pressure;
  - Vibration;
  - Erosion;
  - Corrosion.
- Threaded Connections;
- The Stack;
- The Choke Line;
- The Choke Manifold:
  - The Valves;
  - The Drilling Choke.
- The Panic Line:
  - The Header.
- The Separator;
- The Kill Line;
- The Stabbing Valve.

M2. Part 6: Classic Pressure Control Procedures While Drilling

- Causes of Well Kicks and Blowouts:
  - Mud Weight Less Than Formation Pore Pressure;
  - Failure To Keep The Hole Full And Swabbing While Tripping;
  - Lost Circulation;
  - Mud Cut.
- Indications of a Well Kick:
  - Sudden Increase In Drilling Rate;
  - Increase In Pit Level Or Flow Rate;

- Change In Pump Pressure;
- Reduction In Drill Pipe Weight;
- Gas, Oil Or Water-Cut Mud.

- Shut-In Procedure;
- Circulating Out The Influx:
  - Theoretical Considerations;
  - Gas Expansion;
  - The U-Tube Model;
  - The Driller's Method;
  - The Wait And Weight Method.

M2. Part 7: Pressure Control Procedures While Tripping

- Causes of Kicks While Tripping:
  - Trip Sheets and Filling Procedures;
  - Periodic Filling Procedure;
  - Continuous Filling Procedure;
  - Tripping in the Hole.
- Shut-In Procedure:
  - Well Kicks While Tripping;
  - Stripping in the Hole.

M2. Part 8: Special Conditions, Problems and Procedures in Well Control (1)

- Significance of Surface Pressures:
  - A Kick Is Taken While Drilling;
  - Influx Migration.
- Safety Factors in Classical Pressure Control Procedures;
- Circulating a Kick Off Bottom;
- Classical Procedures - Plugged Nozzle Effect;

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- Classical Procedures – Drill String Washout Effect;
- Determination of Shut-In Drill Pipe Pressures;
- Determination of the Type of Fluid That Entered the Wellbore;
- Frictional Pressure Losses;
- Annulus Pressure Profiles With Classical Procedures;

M2. Part 9: Special Conditions, Problems and Procedures in Well Control (2)

- Constant Casing Pressure, Constant Drill Pipe Pressure and Modification of the Wait and Weight Method;
- The Low Choke Pressure Method;
- Reverse the Bubble Out Through the Drill Pipe;
- The Overkill Wait and Weight Method;
- Slim Hole Drilling - Continuous Coring Considerations;
- Stripping With Influx Migration;
- Oil-Base Mud in Pressure and Well Control Operations:
  - Fire;
  - Solubility of Natural Gas in Oil-base Mud.
- Floating Drilling and Subsea Operation Considerations:
  - Subsea Stack;
  - Spacing Out;
  - Shut-In Procedures;
  - Floating Drilling Well Control Problems;
  - Fluctuations in Flow Rate and Pit Volume;
  - Frictional Loss in the Choke Line;
  - Reduced Fracture Gradient;
  - Trapped Gas after Circulating Out a Kick;
  - Deep Water Floating Drilling;
  - Shallow Gas Kicks.

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M2. Part 10: Fluid Dynamics in Well Control

- Kill-Fluid Bullheading;
- Kill-Fluid Lubrication - Volumetric Kill Procedure;
- Dynamic Kill Operations;
- The Momentum Kill.

M2. Part 11: Selection of Drilling Practices

- Surface Equipment;
- When And How To Close The Well;
- Gas-Cut Mud;
- The Closed Well;
- Kick Control Procedures:
  - Driller's Method;
  - Engineer's Method;
  - Volumetric Method.
- Maximum Casting Pressure;
- Maximum Borehole Pressure.

M2. Part 12: Fishing Operations and Equipment (1)

- Causes and Prevention;
- Pipe Recovery And Free Point;
- Parting The Pipe:
  - Chemical Cut;
  - Jet Cutter;
  - Internal Mechanical Cutter;
  - Outside Mechanical Cutter;
  - Multi-String Cutter;
  - Severing tool;

- Washover Back-off Safety Joint/Washover Procedures.

- Jars, Bumper Subs And Intensifiers:
  - Drill Collars in a Jarring Assembly;
  - Fluid Accelerator or Intensifier.
- Attachment Devices:
  - Cutlip Screw-in Sub;
  - Skirted Screw-in Assembly;
  - External Engaging Devices;
  - Series 150 Releasing and Circulating Overshot.
  - High-Pressure Pack-Off
  - Oversize Cutlip Guide
  - Wallhook Guide
  - Hollow Mill Container and Hollow Mill
  - Bowen Series 70 Short Catch Overshot
  - Internal Engaging Devices
  - Box Taps and Taper Taps

M2. Part 13: Fishing Operations and Equipment (2)

- Fishing For Junk
  - Poor Boy Junk Basket
  - Boot Basket
  - Core Type Junk Basket
  - Jet Powered Junk Baskets and Reverse Circulating Junk Baskets
  - Hydrostatic Junk Baskets
  - Milling Tools
  - Mill Design
  - Impression Block
  - Fishing Magnets
  - Junk Shots
- Abandonment

- Wirelines
  - Wireline Construction
  - Electrical Conductors
  - Simple Armored Wirelines
  - Armored Wirelines with Electrical Conductors
  - Wireline Operating and Breaking Strength
  - Wireline Stretching

M2. Part 14: Casing and Casing String Design

- Types Of Casing;
- Casing Data:
  - Process of Manufacture;
  - Material Requirements (Section 7, API Specification 5CT);
  - Dimensions, Masses, Tolerances (Section, 8 API Specification 5CT);
  - Elements of Threads;
  - Extreme-Line Casing (Integral Connection);
  - Thread Protectors;
  - Joint Strength (Section 9 of API 5C3).
- Combination Casing Strings:
  - Design Consideration;
  - Surface and Intermediate Strings;
  - Production String;
  - Tension Load;
  - Compression Load.
- Running And Pulling Casing:
  - Preparation and Inspection Before Running;
  - Drifting of Casing;
  - Stabbing, Making Up, and Lowering;
  - Field Makeup;
  - Casing Landing Procedure;

- Care of Casing in Hole;
- Recovery of Casing;
- Causes of Casing Troubles.

M2. Part 15: Well Cementing

- Chemistry of Cements;
- Cementing Principles;
- Standardization And Properties Of Cements;
- Properties Of Cement Slurry And Set Cement:
  - Specific Weight;
  - Thickening Time;
  - Strength of Set Cement.
- Cement Additives:
  - Specific Weight Control;
  - Thickening Setting Time Control;
  - Filtration Control;
  - Viscosity Control;
  - Special Problems Control.
- Primary Cementing:
  - Normal Single-Stage Casing Cementing;
  - Large-Diameter Casing Cementing;
  - Multistage Casing Cementing;
  - Liner Cementing.
- Secondary Cementing:
  - Squeeze Cementing.

M2. Part 16: Tubing and Tubing String Design

- API Physical Property Specifications:
  - Dimensions, Weights and Lengths;
  - Performance Properties.
- Running and Pulling Tubing;
- Preparation and Inspection Before Running:
  - Stabbing, Making Up and Lowering;
  - Field Makeup;
  - Pulling Tubing;
  - Causes of Tubing Trouble;
  - Selection of Wall Thickness and Steel Grade of Tubing;
  - Tubing Elongation/Contraction Due to the Effect of Changes in Pressure and Temperature;
  - Packer-To-Tubing Force;
  - Permanent Cockscrewing.
- Packers:
  - Protecting the Casing;
  - Safety;
  - Energy Conservation;
  - Improve Productivity;
  - Piston Effect;
  - Buckling Effect;
  - Ballooning Effect;
  - Temperature Effect;
  - Total Effect;
  - Coiled Tubing.

M2. Part 17: Special Services in Well Control

- Snubbing:
  - Equipment and Procedures:
    - The Snubbing Stack;
    - The Snubbing Procedure;
    - Snubbing Equipment;
    - Theoretical Considerations.
  - Equipment Specifications;
  - Buckling Considerations;
  - Special Buckling Considerations.
- Fire Fighting and Capping:
  - Fire Fighting;
  - Extinguishing the Fire;
  - Capping the Well.
- Freezing;
- Hot Tapping;
- Jet Cutting.

M2. Part 18: Relief Well Design and Operations

- History:
  - Ulsel and Magnetic Interpretation Introduced;
  - Schad's Contribution;
  - Magrange Developed;
  - Wellspot Developed;
  - Magrange and Wellspot Compared.
- Reliability of Proximity Logging;
- Reliability of Commercial Wellbore Survey Instruments;
- Subsurface Distance Between Relief Well and Blowout;
- Surface Distance Between Relief Well and Blowout;

- Relief Well Plan Overview.

M2. Part 19: The Underground Blowout

- Casing Less Than 4000 Feet;
- Pipe Below 4000 Feet;
- Charged Intervals - Close Order Seismic - Vent Wells;
- Shear Rams;
- Cement and Barite Plugs.

M2. Part 20: Case Study: The E.N. Ross No. 2

- Analysis of the Blowout:
  - The Drilling and Fishing Operation;
  - The Kick;
  - The Snubbing Procedure;
  - The Significance of the Surface Pressures;
  - The Snubbing Operation to July 14;
  - The Snubbing Operation, July 15;
  - The Circulating Procedure, July 15;
  - Alternatives.
- Observations and Conclusions.

M2. Part 21: The Al-Awda Project: The Oil Fires of Kuwait

- Overview of the Project;
- The Problems:
  - The Wind;
  - Logistics;
  - Water;
  - Ground Fires;
  - Oil Lakes;

- The Coke piles.

- Control Procedures:
  - The Stinger;
  - The Capping Spool;
  - The Capping Stack.
- Extinguishing the Fires:
  - Water;
  - Nitrogen;
  - Explosives;
  - Novel Techniques.
- Cutting;
- Statistics;
- Safety.

Module 3
Petroleum – Oil and Gas – Reservoir Engineering Practice

M3. Part 1: Porosity of Reservoir Rocks

- Total Porosity and Effective Porosity;
- Sources of Porosity Data;
- Applications of Porosity Data.

M3. Part 2: Permeability and Relative Permeability

- Sources of Permeability Data;
- Relative Permeability;
- Sources of Relative Permeability;
- Three-Phase Relative Permeability;
- Applications of Permeability and Relative Permeability.

M3. Part 3: Reservoir Fluid Saturations

- Determination of Water Saturations;
- Determination of Reservoir Productive Intervals.

M3. Part 4: Pressure – Volume – Temperature (PVT) Properties of Reservoir

- Gas and Gas-Condensate Properties;
- Pseudo-critical Properties of Gas Mixtures;
- Wet Gas and Gas Condensate;
- Correlations for Gas Compressibility Factor;
- Gas Formation Volume Factor (FVF);
- Gas Density;
- Gas Viscosity;
- Gas Coefficient of Isothermal Compressibility;
- Correlations for Calculation of Oil PVT Properties;
- Correlations for Calculation of Water PVT Properties.

M3. Part 5: Reservoir Fluid Sampling and PVT Laboratory Measurements

- Overview of Reservoir Fluid Sampling;
- Reservoir Type and State;
- Well Conditioning;
- Subsurface Sampling Methods and Tools;
- Wire Line Formation Testers;
- PVT Laboratory Measurements;
- Applications of Laboratory PVT Measurements.

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M3. Part 6: Typical Reservoir Fluid Study for a Black Oil Sample

- Reservoir Fluid Summary;
- Calculated Analysis of Reservoir Fluid;
- Pressure-Volume Properties at 212°F (Constant Composition Expansion);
- Differential Liberation at 212°F;
- Gas Differentially Liberated at 212°F;
- Viscosity Data at 212°F;
- Comparison of Reservoir Oil Flash Liberation Tests.

M3. Part 7: Typical Reservoir Fluid Study for a Gas Condensate Sample

- Summary of Reservoir Data and Surface Sampling Conditions;
- Chromatograph Analysis of Separator Gas at 1140 psig and 92°F;
- Chromatograph Analysis of Separator Liquid at 1140 psig and 92°F;
- Composition of Reservoir Fluid (Calculated);
- Measured Saturation Pressures from Stepwise Recombination at 267°F;
- Pressure-Volume Properties of Reservoir Fluid at 267°F (or CCE);
- Depletion Study at 267°F: Hydrocarbon Analyses of Produced Well stream (Mole %);
- Retrograde Condensation During Gas Depletion at 267°F.

M3. Part 8: PVT Properties Predictions from Equations of State

- Historical Introduction to Equations of State;
- van der Waals (vdW) EOS;
- Soave-Redlich-Kwong (SRK) EOS;
- Peng-Robinson (PR) EOS;
- Phase Equilibrium of Mixtures;
- Roots from Cubic EOS;
- Volume Translation;

- Two-Phase Flash Calculation;
- Bubble Point and Dew Point Pressure Calculations;
- Characterization of Hydrocarbon Plus Fractions;
- Phase Equilibrium Predictions with Equations of State.

M3. Part 9: The General Material Balance Equation

- Derivation of the General Material Balance Equation (GMBE);
- The GMBE for Gas Reservoirs;
- Discussion on the Application of the GMBE.

M3. Part 10: Gas Reservoirs

- Volumetric Gas Reservoirs;
- Gas Reservoirs with Water Influx;
- Water Influx Models;
- Geo-pressured Gas Reservoirs;
- Case Histories of Two Gas Reservoirs;
- Correlations for Estimating Residual Gas Saturations for Gas Reservoirs under Water Influx;
- Dimensionless Pressure for Finite and Infinite Aquifers;
- Dimensionless Pressure for Infinite Aquifers.

M3. Part 11: Oil Reservoirs

- Oil Reservoir Drive Mechanisms;
- Gravity Drainage Mechanism;
- Volumetric Under-saturated Oil Reservoirs;
- Under-saturated Oil Reservoirs with Water Influx;
- Volumetric Saturated Oil Reservoirs;
- Material Balance Approach for Saturated Oil Reservoirs with Water Influx;
- Case History of Manatee Reservoirs.

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M3. Part 12: Fluid Flow in Petroleum Reservoirs

- Fluid Types;
- Definition of Fluid Flow Regimes;
- Darcy Fluid Flow Equation;
- Radial Forms of the Darcy Equation;
- Derivation of the Continuity Equation in Radial Form;
- Derivation of Radial Diffusivity Equation for Slightly Compressible Fluids;
- Solutions of the Radial Diffusivity Equation for Slightly Compressible Fluids;
- Derivation of the Radial Diffusivity Equation for Compressible Fluids;
- Transformation of the Gas Diffusivity Equation with Real Gas Pseudo-Pressure Concept;
- The Superposition Principle;
- Well Productivity Index;
- Well Injectivity Index.

Module 4
Petroleum – Oil and Gas – Well Testing

M4. Part 1: Oil Well Testing Familiarisation

- History of Oil Well Testing;
- Role of Oil Well Tests and Information in Petroleum Industry;
- Oil Well Test Data:
  - Acquisition;
  - Analysis;
  - Management.
- Selecting Oil Wells for Optimum Stimulation Treatment;
- Reservoir System Characterization Process;
- Scope and Objective;

- Organization;
- Unit's System and Conversations.

M4. Part 2: Reservoir Oil Flow Analysis

- Basic Fluid Flow Equations in Oil Reservoir;
- Numerical Models and their Applications;
- Unsteady-State Pressure Distribution Calculations in Directional Well.

M4. Part 3: Transient Well Testing Methods for Horizontal Oil Wells

- Flow Equations for Horizontal Oil Wells;
- Horizontal Oil Well Performance During Transient State;
- Transient Well Testing Techniques in Horizontal Oil Wells;
- Flow Time Equations and Solutions;
- Pressure Response Equations and Methods of Analysis;
- Horizontal Well Response and Normalized Pressure Derivative;
- Effects of Wellbore Storage.

M4. Part 4: Pressure Drawdown Testing Techniques for Oil Wells

- Pressure-Time History for Constant-Rate Drawdown Test;
- Transient Analysis:
  - Infinite-Acting Reservoirs.
- Late Transient Analysis:
  - Bounded (Developed) Reservoirs.
- Semi-Steady-State Analysis:
  - Reservoir Limit Test.
- Two-Rate Flow Test Analysis;
- Variable-Rate Flow Tests;
- Multi-Rate Flow Test Analysis;
- Drawdown Rate Normalization Methods.

M4. Part 5: Pressure Build-Up Analysis Techniques for Oil Wells

- Ideal Pressure Build-up Test;
- Actual Build-up Test - Infinite Reservoir;
- Pressure Build-up Test Analysis in Infinite-Acting Reservoir;
- Pressure Build-up Testing Methods for Finite (Bounded) Reservoir;
- Multiphase Build-up Test Analysis;
- After Flow Analysis Using Russel's Technique;
- Pressure Build-up Tests Preceded by Two Different Flow Rates;
- Variable-Rate Pressure Build-up Analysis;
- Rate Normalization Techniques and Procedures (Pressure Build-up Data).

M4. Part 6: Original and Average Reservoir Pressure Estimation Methods

- Original Reservoir Pressure in Infinite Reservoirs;
- Estimating Average and Initial Reservoir Pressure;
- Estimating Constant Pressure at Aquifer in Water-Drive Reservoirs.

M4. Part 7: Well Testing Methods for Naturally Reservoirs

- Identifications of Natural Fractures;
- Characteristics of Naturally Fractured Reservoirs;
- Typical Pressure Drawdown Behaviour Curve Shapes;
- Pressure Build-up Behaviour Characteristics;
- Well Test Interpretation:
  - Methods;
  - Uses;
  - Limitations.
- Build-up Analysis Techniques for Tight Reservoir Matrix;
- Interpretation of Interference Tests in Matrix and Fractured Reservoirs;
- Horizontal Well Pressure Behaviour Curve Shapes;

- Horizontal Well Production Forecasting:
  - Dual-Porosity Reservoir.

M4. Part 8: Type Curve Matching Methods for Oil Wells

- Application to Conventional Tests;
- Fracture Type Curve Matching Techniques;
- Type Curves:
  - Horizontal Fractured Oil Wells.

M4. Part 9: Flow Regime Identification and Analysis Using Special Methods

- Fracture Linear Flow Period;
- Bilinear Flow;
- Formation Linear Flow;
- Pseudo-Radial Flow;
- Type Curve Matching Methods:
  - Field Case Studies.

M4. Part 10: Application of Pressure Derivative in Oil Well Test Analysis

- Pressure Derivative Applications in Well Test Analysis;
- Pressure Derivative Analysis Methods;
- Fractured Reservoir Systems;
- Pressure Derivative Trends for Other Common Flow Regimes.

M4. Part 11: Massive Hydraulic-Fractured Oil Well Behaviour Analysis

- Methods of Evaluating MHF Oil Wells;
- Analyzing Infinite Flow Capacity Fractures;
- Analyzing Finite Flow Capacity Fractures;

- Estimating Formation Characteristics of Finite Conductivity Fractures;
- Pretreatment Testing of Hydraulically Fractured Candidate.

M4. Part 12: Drill-Stem Testing Methods

- DST Equipment and Operational Procedures;
- Recommended Flow and Shut-In Time for Drill-Stem Tests;
- Troubleshooting DST Pressure Charts;
- Checking Validity and Consistency of Reporting DST Data;
- Estimation of Average Flow Rate;
- DST Analysis:
  - Methods;
  - Uses;
  - Limitations.
- Wire Line Formation Test Data Evaluation.

M4. Part 13: Interference and Pulse Test Analysis Methods

- Interference Test Analysis Techniques;
- Analysis of Pulse Test Pressure Response;
- Vertical Pulse Test Design and Analysis Methods;
- Design and Analysis of Unequal Pulses.

M4. Part 14: Injection Well Transient Testing Analysis

- Injectivity Test Analysis Methods;
- Pressure Fall-Off Test Analysis Methods;
- Two-Rate Injectivity Test Analysis;
- Step-Rate Injectivity Testing Technique.

M4. Part 15: Well Testing Methods in Multi-layered Oil Reservoir Systems

- Identification of Layered Oil Reservoir Systems;
- Analyzing Pressure Behaviour in Multilayered Systems;
- Concept of Reservoir Layer Fracture Conductivity;
- Pressure Production Performance Response Equations;
- Investigating Degree of Communication and Type of Crossflow;
- Pressure Build-up Characteristics in Layered Reservoir Systems;
- Pressure Analysis Methods for Oil Well Producing Commingled Zones;
- Factors Affecting Multilayered Reservoir Performance;
- Economic Aspects of Interlayer Crossflow.

M4. Part 16: Pressure Analysis Methods in Heterogeneous Oil Reservoir Systems

- Effect of Pressure on Rock Properties;
- Major Causes of Heterogeneities;
- Pressure Responses Near No Flow Boundaries;
- Effect of Hydraulic Diffusivity on Reservoir Behaviour;
- Simple Procedures and Guidelines to Estimate Reservoir Heterogeneity properties;
- General Approach to Estimate Fracture Trends or Heterogeneity;
- Determination of Reservoir Parameter and Fracture Orientations;
- Defining Reservoir Heterogeneity by Multiple-Well Tests;
- Method for Calculating Fracture Orientation;
- Estimating Two-Dimensional Permeability with Vertical Interference Testing;
- Application of Pulse Tests to Describe Reservoir Heterogeneity;
- Validity of Various Models and Steps Used to Obtain Reservoir Description.

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Synopsis of Diploma – Postgraduate, Postgraduate Diploma and Postgraduate Degree Regulation

Postgraduate Diploma and Diploma – Postgraduate: Their Distinction and Assessment Requirement

Delegates studying courses of 5-9 days' duration, equivalent to 30-54 Credit Hours (direct lecturer contact), will, on successful assessment, lead to the Diploma – Postgraduate. This represents a single credit at Postgraduate Level. While 6-day and 7-day courses also lead to a Diploma – Postgraduate, they accumulate 36 and 42 Credit Hours, respectively. Delegates and students who fail to gain the required level of pass, at Postgraduate Level will receive a Certificate of Attendance and Participation. The Certificate of Attendance and Participation will not count, for cumulative purpose, towards the Postgraduate Diploma.

Courses carry varying credit values; some being double credit, triple credit, quad credit and 5-credit, etc. These, therefore, accumulate to a Postgraduate Diploma. As is explained, later, in this document, a Postgraduate Diploma is awarded to students and delegates who have achieved the minimum of 360 Credit Hours, within the required level of attainment.

Credit Value and Credit Hours examples of Diploma – Postgraduate Courses are as follows:

Credit Value	Credit Hours
Single-Credit	**30-36**
Double-Credit	**60-72**
Triple-Credit	**90-108**
Quad-Credit	**120-144**
10-Credit (X36 Credit-Hours) to 12-Credit (X30 Credit-Hours)	**360**

Other Credit Values are calculated proportionately.

Because of the intensive nature of our courses and programmes, assessment will largely be in-course, adopting differing formats. These assessment formats include, but not limited to, in-class tests, assignments, end of course examinations. Based on these assessments, successful candidates will receive the Diploma – Postgraduate, or Postgraduate Diploma, as appropriate.

In the case of Diploma – Postgraduate, a minimum of 70% overall pass is expected. In order to receive the Award of Postgraduate Diploma, candidate must have accumulated at least the required minimum 'credit-hours', with a pass (of 70% and above) in at least 70% of the courses taken.

Delegates and students who fail to achieve the requirement for Postgraduate Diploma, or Diploma - Postgraduate - will be given support for 2 re-submissions for each course. Those delegates who fail to achieve the assessment requirement for the Postgraduate Diploma or Diploma - Postgraduate - on 2 resubmissions, or those who elect not to receive them, will be awarded the Certificate of Attendance and Participation.

Diploma – Postgraduate, Postgraduate Diploma and Postgraduate Degree Application Requirements

Applicants for Diploma – Postgraduate, Postgraduate Diploma and Postgraduate Degrees are required to submit the following documents:

- Completed Postgraduate Application Form, including a passport sized picture affixed to the form;
- A copy of Issue and Photo (bio data) page of the applicant's current valid passport or copy of his or her Photo-embedded National Identity Card;
- Copies of credentials mentioned in the application form.

Admission and Enrolment Procedure

- On receipt of all the above documents we will make an assessment of the applicants' suitability for the Programme for which they have applied;
- If they are accepted on their Programme of choice, they will be notified accordingly and sent Admission Letters and Invoices;
- One week after the receipt of an applicant's payment or official payment notification, the relevant Programme Tutor will contact him or her, by e-mail or telephone, welcoming him or her to HRODC Postgraduate Training Institute;
- Non-European Students will be sent immigration documentation, incorporating a Visa Support Letter. This letter will bear the applicant's photograph and passport details;
- Applicants will be notified of the dates, location and venue of enrolment and orientation;
- Non-UK students will be sent general information about 'student life' in the UK and Accommodation details.

Modes of Study for Postgraduate Diploma Courses

There are three delivery formats for Postgraduate Diploma Courses, as follows:

1. Intensive Full-time Mode (3 months);
2. Full-time Mode (6 month);
3. Video-Enhanced On-Line Mode.

Whichever study mode is selected, the aggregate of 360 Credit Hours must be achieved.

Cumulative Postgraduate Diploma Courses

All short courses can accumulate to the required number of hours, for the Postgraduate Diploma, over a six-year period from the first registration and applies to both general and specialist groupings. In this regard, it is important to note that short courses vary in length, the minimum being 5 days (Diploma – Postgraduate) – equivalent to 30 Credit Hours, representing one credit. Twelve 5-day short courses, representing twelve credits or the equivalent of 360 Credit Hours are, therefore, required for the Award of Postgraduate Diploma.

A six-day course (Diploma – Postgraduate) is, therefore, equivalent to 36 hours Credit Hours, representing one credit. Therefore, ten short courses, of this duration, equates to the required 360 Credit Hours, qualifying for the Award of Postgraduate Diploma. While double-credit courses last between ten and fourteen days, triple-credit courses range from fifteen to nineteen days. Similarly, quad-credit courses are from sixteen to nineteen days. On this basis, the definitive calculation on the Award requirement is based on the number of hours studied (aggregate credit-value), rather than merely the number of credits achieved. This approach is particularly useful when a student or delegate studies a mixture of courses of different credit-values.

For those delegates choosing the accumulative route, it is advisable that at least two credits be attempted per year. This will ensure that the required number of credit hours for the Postgraduate diploma is achieved within the six-year time frame.

Progression to Postgraduate Degree – MA, MBA, MSc

- On the successful completion of the *Postgraduate Diploma*, students may register for the Postgraduate Degree, after their successful completion of Course #7: *Research Project: Design, Conduct & Report*.

- The students'' Degree Registration Category will be dictated by the courses or modules studied at Postgraduate Diploma Level. The categories relate to Master of Business Administration (MBA); Master of Arts (MA) Master of Science (MSc); Executive Master of Business Administration (Executive MBA).

Specialism and Degree Award Titles

The title of the degree will be indicative of the specialism studied or its generalist nature, as exemplified below:

- Master of Science - Advanced Oil and Gas Accounting: International Petroleum Accounting (MSc Advanced Oil and Gas Accounting: International Petroleum Accounting);
- Master of Science - Accounting and Finance (MSc Accounting and Finance);
- Master of Science - Real Estate Management (MSc Real Estate Management);
- Master of Science - Tourism and International Relations (MSc Tourism and International Relations);
- Master of Science – Human Resource Training and Development Management (MSc HR Training and Development Management);
- Master of Business Administration (MBA);
- Executive Master of Business Administration (Executive MBA);
- Master of Business Administration – Finance (MBA Finance);
- Master of Business Administration – Accounting (MBA Accounting);
- Master of Arts - Human Resource Management (MA Human Resource Management);
- Master of Arts - Information and Communication Management (MA Information and Communication Management).

Dissertation: Topics, Supervision and Examination

- The knowledge and skills gained from the research methods course will enable students to formulate their research proposal.
- With the guidance of their research methods tutor, they will submit a Synopsis or Research Proposal
- On the approval of their synopsis, their Postgraduate Degree Registration will be formalised and they will, in earnest, begin their dissertation research.
- Students' choice of Dissertation area and topic must closely reflect their specialism and expected Award Title;
- The Postgraduate Degree Award Board, which will convene twice during each Academic Year, will determine whether the rules have been complied with, in this regard, and will, where necessary, change a registered Award Title, to reflect the reality of a programme choice;
- The length of the Dissertation will be between 15,000 and 20,000 words. Higher or lower limits will be accepted through special dispensation only, tabled through their Dissertation Supervisors;
- Students will each be assigned one Main Dissertation Supervisor, for formal tuition, and a Dissertation Mentor, who will provide them with informal advice, in conjunction with their Main Dissertation Supervisor;
- Each Dissertation Mentor will also mediate the relationship between the Student and his or her Dissertation Supervisor;
- Students' Viva Voce, or Oral, Examination will be conducted within 3 months of the submission of their Dissertation;
- The Dissertation Examination will be conducted by an External and an Internal Examiner;
- The External Examiner will be drawn from a recognized University and will be an Academic in the Discipline being examined, who is not otherwise associated with HRODC Postgraduate Training Institute;

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- The Internal Supervisor will be an HRODC Postgraduate Training Institute's tutor, who is neither the Students' main Dissertation Supervisor or their Dissertation Mentor;
- The submission date of a Postgraduate Dissertation is expected to be within 12 calendar months of a candidate's initial registration for the Degree but can be extended, on application, to a period not exceeding 24 months;
- In the event that Students are not successful on their first attempt, they will be given the opportunity to make minor amendments to, or revise, their Dissertation, with the guidance of their Dissertation Supervisors.
- The maximum total submission and resubmission period should not exceed 36 calendar months from the date of first registration for a particular Postgraduate Degree;
- Additional details and general aspects of these regulations are contained in the document: *Postgraduate Degree - Dissertation Guidelines*.

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The submission of our application form or otherwise registration by of the submission of a course booking form or e-mail booking request is an attestation of the candidate's subscription to our Policy Terms and Conditions, which are legally binding.

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