





Oil and Gas Drilling, Reservoir Engineering, Shale Gas Drilling and Advanced Business English Communication

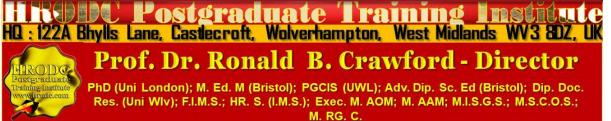
# Programme

# Leading To:

# **POSTGRADUATE DIPLOMA IN**

Oil and Gas Drilling, Reservoir Engineering, and Business English Communication

Oil and Gas Drilling, Reservoir Engineering, Shale Gas Drilling and Advanced English Business Communication - Page 1 of 39

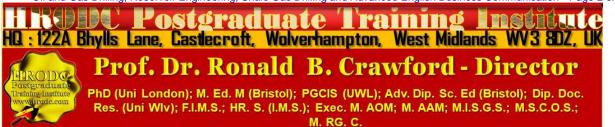




#### **Programme Coordinator:**

**Prof. Dr. R. B. Crawford is the Director of HRODC Postgraduate Training Institute, A Postgraduate-Only Institution. He has the following Qualifications and Affiliations:** 

- Doctor of Philosophy {(PhD) {University College London (UCL) University of London)};
- MEd Management (University of Bath);
- Postgraduate (Advanced) Diploma Science Teacher Ed. (University of Bristol);
- Postgraduate Certificate in Information Systems (University of West London, formerly Thames Valley University);
- Diploma in Doctoral Research Supervision, (University of Wolverhampton);
- Teaching Certificate;
- Fellow of the Institute of Management Specialists; Oil and Gas Drilling, Reservoir Engineering, Shale Gas Drilling and Advanced English Business Communication - Page 2 of 39



- Human Resources Specialist, of the Institute of Management Specialists;
- Member of the Asian Academy of Management (MAAM);
- Member of the International Society of Gesture Studies (MISGS);
- Member of the Standing Council for Organisational Symbolism (MSCOS);
- Member of ResearchGate;
- Executive Member of Academy of Management (AOM). There, his contribution incorporates the judging of competitions, review of journal articles, and guiding the development of conference papers. He also contributes to the Disciplines of:
  - Human Resources;
  - Organization and Management Theory;
  - Organization Development and Change;
  - Research Methods;
  - Conflict Management;
  - Organizational Behavior;
  - Management Consulting;
  - Gender & Diversity in Organizations; and
  - Critical Management Studies.

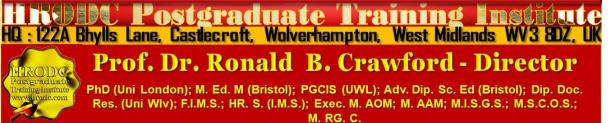
#### Professor Dr. Crawford has been an Academic in the following UK Universities:

- University of London (Royal Holloway), as Research Tutor;
- University of Greenwich (Business School), as Senior Lecturer (Associate Professor), in Organisational Behaviour and Human Resource Management;
- University of Wolverhampton, (Wolverhampton Business School), as Senior Lecturer (Associate Professor), in Organisational Behaviour and Human Resource Management;
- London Southbank University (Business School), as Lecturer and Unit Leader.

#### His responsibilities in these roles included:

- Doctoral Research Supervisor;
- Admissions Tutor;
- Postgraduate and Undergraduate Dissertation Supervisor;
- Programme Leader;
- Personal Tutor

Oil and Gas Drilling, Reservoir Engineering, Shale Gas Drilling and Advanced English Business Communication - Page 3 of 39

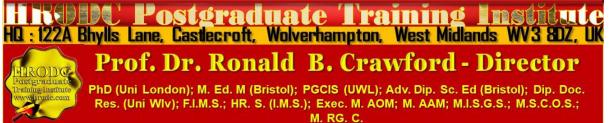


# For Whom This Course is Designed This Programme is Designed For:

- > 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.

Classroom-Based Duration and Cost:			
Classroom-Based Duration:	12 Weeks (5 Days per Week)		
Classroom-Based Cost:	£45,000.00 Per Student		
Online (Video-Enhanced) Duration and Cost			
Online Duration:	20 Weeks – 3 Hours Per Day, 6 Days Per Week		
Online Cost:	£30,150.00 Per Student		

Oil and Gas Drilling, Reservoir Engineering, Shale Gas Drilling and Advanced English Business Communication - Page 4 of 39



# Classroom-Based Programme 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/ Diploma Postgraduate -or
- > Certificate of Attendance and Participation if unsuccessful on resit.

# Students and Delegates will be given a Selection of our Complimentary Products, which include:

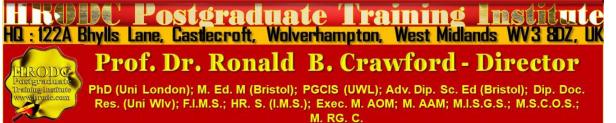
- > Our Branded Leather Conference Folder;
- > Our Branded Leather Conference Ring Binder/ Writing Pad;
- > Our Branded Key Ring/ Chain;
- > Our Branded Leather Conference (Computer Phone) Bag Black or Brown;
- > Our Branded 8-16 GB USB Flash Memory Drive, with Course Material;
- > Our Branded Metal Pen;
- > Our Branded Polo Shirt.;
- > Our Branded Carrier Bag.

Daily Schedule: 9:30 to 4:30 pm.

**Delivery Locations:** 

- 1. Central London, UK;
- 2. Dubai, UAE;
- **3.** Kuala Lumpur, Malaysia;
- 4. Amsterdam, The Netherlands;
- 5. Brussels, Belgium;
- 6. Paris, France; and
- 7. Durban, South Africa;
- **8.** Other International Locations, on request.

Oil and Gas Drilling, Reservoir Engineering, Shale Gas Drilling and Advanced English Business Communication - Page 5 of 39



Programme for Oil and Gas Drilling, Reservoir Engineering, Shale Gas Drilling and Advanced Business English Communication

Leading to Postgraduate Diploma and MSc in Oil and Gas Drilling and Reservoir Engineering

Current Module #	Pre- existing Course #	Module Title	Page	Duration	Credit Value
241.M1	175	Deepwater Drilling Operations and Well Control	6	4 Weeks (20 Days)	Quad
214.M2	199.M5-8	Petroleum – Oil and Gas – Reservoir Engineering Practice	18	4 Weeks (20 Days)	Quad
241.M3	241.M3	Shale Gas Drilling (Hydrofracking)	22	2 Weeks (10 days)	Double
241.M4	144.M1	Advanced English Business Communication	23	2 Weeks (10 days)	Double

Programme for Oil and Gas Drilling, Reservoir Engineering, Shale Gas Drilling and Advanced Business English Communication, Programme Leading to Postgraduate a Postgraduate Diploma in Oil and Gas Drilling and Reservoir Engineering

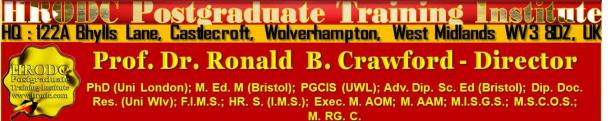
# **Programme Contents, Concepts and Issues**

Module 1 Deepwater Drilling Operations and Well Control (Quad Credit)

# M1. Part 1: Deepwater Drilling Operations

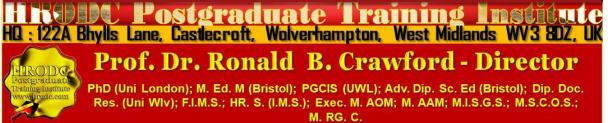
- > Exploring the Deepwater
- Identifying the Prospect
- Drilling a Wildcat
- Deepwater Plays in Context

Oil and Gas Drilling, Reservoir Engineering, Shale Gas Drilling and Advanced English Business Communication - Page 6 of 39



- > Geology the Shelf vs. the Deepwater
- > Drilling and Completing Wells
- > The Well Plan
- Rig Selection
- Drilling
- Completing the Well
- Special Problems
- Development Systems
- 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 TLP
- Floating Production Storage and Offloading Unit (FPSO)
- > 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
- Umbilical's and Flying Leads
- Control Systems
- Flow Assurance
- System Architecture and Installation
- ROVS

Oil and Gas Drilling, Reservoir Engineering, Shale Gas Drilling and Advanced English Business Communication - Page 7 of 39

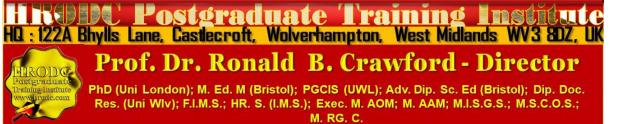


- > Topsides
- > Oil Treatment
- > Water Treatment
- Gas Treatment
- Safety Systems
- Auxiliary Systems
- > Pipelines Flowlines and Risers
- > The Boon and Bane of Buoyancy
- Laying Pipe
- Bottom Conditions
- > Risers
- Pipeline System Operations
- > Technology and Third Wave

### M1. Part 2: Equipment in Well Control Operations

- > Pressure, Erosion, Corrosion and Vibration
  - Pressure
  - Vibration
  - Erosion
  - Corrosion
- Threaded Connections
- 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

Oil and Gas Drilling, Reservoir Engineering, Shale Gas Drilling and Advanced English Business Communication - Page 8 of 39



# M1. Part 3: 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

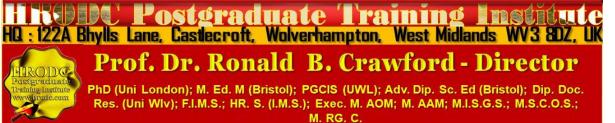
> Indications of a Well Kick

- 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

# M1. Part 4: 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

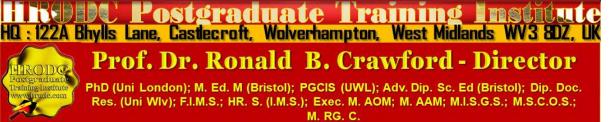
Oil and Gas Drilling, Reservoir Engineering, Shale Gas Drilling and Advanced English Business Communication - Page 9 of 39



# M1. Part 5: Special Conditions, Problems and Procedures in Well Control

- > 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
- > 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
- 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

Oil and Gas Drilling, Reservoir Engineering, Shale Gas Drilling and Advanced English Business Communication - Page 10 of 39



Shallow Gas Kicks

# M1. Part 6: Fluid Dynamics in Well Control

- Kill-Fluid Bull heading
- > Kill-Fluid Lubrication Volumetric Kill Procedure
- > Dynamic Kill Operations
- The Momentum Kill

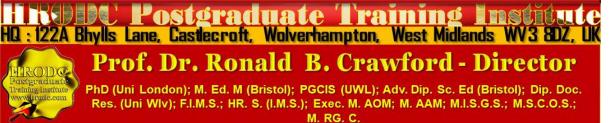
# M1. Part 7: Selection of Drilling Practices

- Introduction
- 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

# M1. Part 8: Fishing Operations and Equipment

- Causes and Prevention
- > Pipe Recovery and Free Point
- Parting the Pipe
  - Chemical Cut
  - Jet Cutter
  - Internal Mechanical Cutter
  - Outside Mechanical Cutter
  - Multi-String Cutter

Oil and Gas Drilling, Reservoir Engineering, Shale Gas Drilling and Advanced English Business Communication - Page 11 of 39



- Severing tool
- Wash over Back-off Safety Joint/was hover Procedures
- > Jars, Bumper Subs and Intensifiers
  - Drill Collars in a Jarring Assembly
  - Fluid Accelerator or Intensifier
- > Attachment Devices
  - Cut lip Screw-in Sub
  - Skirted Screw-in Assembly
  - External Engaging Devices
  - Series 150 Releasing and Circulating Overshot
  - High-Pressure Pack-Off
  - Oversize Cut lip Guide
  - Wall hook Guide
  - Hollow Mill Container and Hollow Mill
  - Bowen Series 70 Short Catch Overshot
  - Internal Engaging Devices
  - Box Taps and Taper Taps
- > 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

Oil and Gas Drilling, Reservoir Engineering, Shale Gas Drilling and Advanced English Business Communication - Page 12 of 39



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

# M1. Part 9: 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

Oil and Gas Drilling, Reservoir Engineering, Shale Gas Drilling and Advanced English Business Communication - Page 13 of 39



# M1. Part 10: Well Cementing

- Introduction
- 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

# M1. Part 11: Tubing and Tubing String Design

- > API Physical Property Specifications
  - Dimensions, Weights and Lengths
  - Performance Properties
- Running and Pulling Tubing
- > Preparation and Inspection Before Running

Oil and Gas Drilling, Reservoir Engineering, Shale Gas Drilling and Advanced English Business Communication - Page 14 of 39



- 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 Corkscrewing
- Packers
  - Protecting the Casing
  - Safety
  - Energy Conservation
  - Improve Productivity
  - Piston Effect
  - Buckling Effect
  - Ballooning Effect
  - Temperature Effect
  - Total Effect
  - Coiled Tubing

# M1. Part 12: 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

Oil and Gas Drilling, Reservoir Engineering, Shale Gas Drilling and Advanced English Business Communication - Page 15 of 39



- Fire Fighting
- Extinguishing the Fire
- Capping the Well
- > Freezing
- Hot Tapping
- Jet Cutting

#### M1. Part 13: 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

# M1. Part 14: 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

Oil and Gas Drilling, Reservoir Engineering, Shale Gas Drilling and Advanced English Business Communication - Page 16 of 39

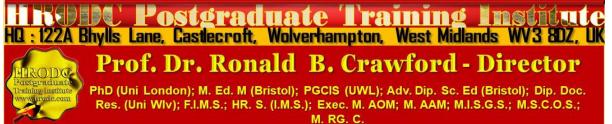


# M1. Part 15: Contingency Planning

# M1. Part 16: The AI – 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

Oil and Gas Drilling, Reservoir Engineering, Shale Gas Drilling and Advanced English Business Communication - Page 17 of 39



# Module 2

Petroleum – Oil and Gas – Reservoir Engineering Practice (Quad Credit)

# M2. Part 1: Porosity of Reservoir Rocks

- > Total Porosity and Effective Porosity
- Sources of Porosity Data
- > Applications of Porosity Data

# M2. 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

# M2. Part 3: Reservoir Fluid Saturations

- > Determination of Water Saturations
- > Determination of Reservoir Productive Intervals

Oil and Gas Drilling, Reservoir Engineering, Shale Gas Drilling and Advanced English Business Communication - Page 18 of 39



## M2. Part 4: Pressure – Volume – Temperature (PVT) Properties

- > 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

#### M2. 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

# M2. Part 6: Typical Reservoir Fluid for a Back-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

Oil and Gas Drilling, Reservoir Engineering, Shale Gas Drilling and Advanced English Business Communication - Page 19 of 39



- Viscosity Data at 212°F
- > Comparison of Reservoir Oil Flash Liberation Tests

#### M2. Part 7: Typical Reservoir Fluid for a Back-Oil 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

# M2. 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

Oil and Gas Drilling, Reservoir Engineering, Shale Gas Drilling and Advanced English Business Communication - Page 20 of 39



#### M2. 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

#### M2. Part 10: Gas Reservoirs

- > Volumetric Gas Reservoirs
- > Gas Reservoirs with Water Influx
- Water Influx Models
- > Geopressured Gas Reservoirs
- > Case Histories of Two Gas Reservoirs

# M2. Part 11: Correlations for Estimating Residual Gas Saturations for Gas Reservoirs under Water Influx

# M2. Part 12: Dimensionless Pressure for Finite and Infinite Aquifers

# M2. Part 13: Dimensionless Pressure for Infinite Aquifers

# M2. Part 14: 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

Oil and Gas Drilling, Reservoir Engineering, Shale Gas Drilling and Advanced English Business Communication - Page 21 of 39



> Case History of Manatee Reservoirs

# M2. Part 15: 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 3 Shale Gas Drilling (Hydrofracking) (Double Credit)

- Shale Gas
- Tight Gas
- Sour Gas
- Shale Oil
- Oil Shale
- Tar Sands
- Coal Bed Methane
- Coal Gasification
- Synfuel
- > Shale Gas Drilling (Hydrofracking), Defined
- > Evolution of Shale Gas Drilling

Oil and Gas Drilling, Reservoir Engineering, Shale Gas Drilling and Advanced English Business Communication - Page 22 of 39



- Uses of Shale Gas Drilling
- > Hydrofracking a Well
- > Horizontal Well vs. Vertical Well
- Hydrofracking Fluids
- Sale Plays
- > Who Derive Benefits from Shale Gas Drilling
- Impact of Shale Oil and Gas on the US Economy
- > The Effect of Shale Gas in the Price of Natural Gas
- > The Impact of Cheap Gas in the Petrochemical Industry
- > The Impact of Natural Gas Prices in the Chemical Companies
- > The 'Halo Effect' of Gas Prices on Other Industries
- > Non-Industrial Benefits of Shale Gas Drilling
- > The Effect of New Shale-Gas Supplies on the Global Energy Market
- > The Impact of Shale Gas Drilling on Transportation
- > The Impact of Hydrofracking on Water Supplies
- Halliburton Loophole
- > Shale Gas Drilling and Global Warming
- > Shale Gas Drilling: Miscellaneous Information
- Biggest Concern in Terms of Water Supply
- Fracking and Aquifiers
- The Effect of Shale Gas Drilling on Groundwater
- > Chemicals in Hydrofracking Fluids
- Disposing Flowback
- Injection Wells
- Shale Gas Drilling and Earthquake
- Fugitive Emissions
- The Impact of Shale Gas Drilling on Animal and Human Health
- Shale Gas Drilling in USA
- Shale Gas Drilling in UK

Oil and Gas Drilling, Reservoir Engineering, Shale Gas Drilling and Advanced English Business Communication - Page 23 of 39



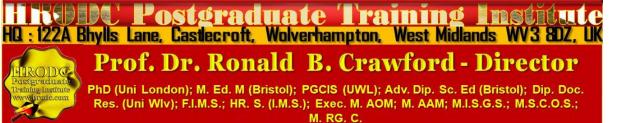
# Module 4

# Advanced Business English Communication (Double Credit)

# M4. Part 1: Grammar and the Different Parts of Speech

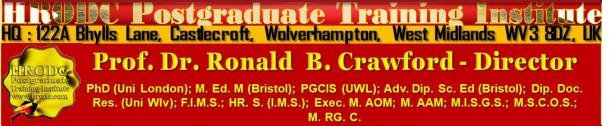
- > An Overview of English Grammar
- Spelling Unusual Words
- The Silent Vowel
- The Peculiars
- Word Formation
  - Root, Base and Affix
  - Simple, Complex and Compound Words
- Speech Organisation –
- > Nouns
  - Singular and Plural Nouns
  - Common Nouns
  - Proper Nouns
  - 'Noun in a position',
  - Countable Noun
  - Uncountable Noun
- > Noun Phrase
  - Introduction
  - Parts of a Noun Phrase
  - Modifiers of the Noun Head
- > Pronouns –
- Types of Pronouns
  - Relative Pronoun
  - Reciprocal Pronoun
  - Personal Pronoun
  - Indefinite Pronoun

Oil and Gas Drilling, Reservoir Engineering, Shale Gas Drilling and Advanced English Business Communication - Page 24 of 39



- Demonstrative Pronoun
- Reflexive Pronoun
- Interrogative Pronoun
- Verbs
  - Regular Verbs
  - Irregular Verbs
  - Transitive
  - Intransitive Verbs
  - Auxiliary Verbs
- Verb Phrase
  - Introduction
  - Structure of the Verb Phrase
  - Finite and Non-Finite Verb Phrases
  - Modifiers of the Verb
- > Preposition and Phrasal Verbs
- Adjectives
- Adverbs
- Adverbials
- Prepositions
- Exclamations or Interjections
- Conjunction
- Gerunds
- The Superlatives
- Using Tense appropriately
  - Present Tense
  - Past Tense
  - Simple Present Tense
  - Present Perfect Tense
  - Pluperfect or Past Perfect Tense
  - Future tense
- > Fundamentals of Reported Speech
- Subjects and Objects
  - Relating number of verbs to number of subject or object

Oil and Gas Drilling, Reservoir Engineering, Shale Gas Drilling and Advanced English Business Communication - Page 25 of 39



- Clauses
  - Main clauses
  - Subsidiary clauses
- > Types of clauses -
  - Defining Clauses
  - Non-Defining Clauses
  - Noun Clauses
  - Adjectival Clauses
  - Adverbial Clauses
- > The Uses of Will/Would
- The Uses of Shall
- The Uses of Should
- > The Uses of Can/Could
- The Uses of May/Might
- The Uses of Must

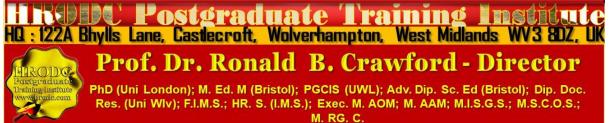
### M4. Part 2: Simple Sentence Patterns

- > Sentences
  - Clausal Sentence
  - Compound Sentences
- Subject and Predicate
- Form and Function
- Basic Patterns
- Semantic Roles

#### M4. Part 3: Complex Sentences

- > Introduction
- Subordinate and Superordinate Clauses
- Subordinate Clause and Matrix Clause
- > Structure of a Subordinate Clause
- > Functions of a Subordinate Clause

Oil and Gas Drilling, Reservoir Engineering, Shale Gas Drilling and Advanced English Business Communication - Page 26 of 39



- Adjectival Clauses
- Appositive Clauses
- Adverbial Clauses
- > Analysis of Complex Sentences

#### M4. Part 4: Coordination

- Introduction
- Compound Sentences and Coordinate Clauses
- Ellipsis in Coordinated Clauses
- Meaning Related to Coordinating Conjunctions
- > Coordination of the Constituents of a Sentence

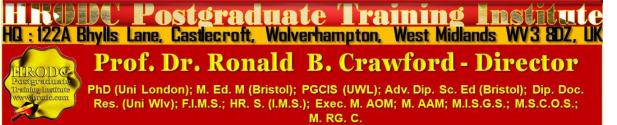
#### M4. Part 5: Focus

- Simple Sentences and Focus
- Cleft Sentences
- Pseudo-cleft Sentences

#### M4. Part 6: Writing Mechanics

- External Marks and the Comma
  - Punctuation
  - The Period
  - The Question Mark
  - The Exclamation Point
  - The Comma
- Other Internal Marks
  - The Semicolon
  - The Colon
  - The Dash
  - The Hyphen

Oil and Gas Drilling, Reservoir Engineering, Shale Gas Drilling and Advanced English Business Communication - Page 27 of 39



- Quotation Marks
- Parentheses
- The Apostrophe
- > Abbreviations, Capitalisation, and Number Expression
  - Abbreviation
  - Capitalisation
  - Abbreviation

### **M4. Part 7: Presentation of Business Documents**

- > Parts of a Business Letter
- Business Letter Formats
- > Styles in Business Correspondence
- Open Punctuation
- Memos
- Fax Messages

# **M4. Part 8: Structuring Your Communications**

- 4-Point Plan
  - Introduction, Jumping-Off Point
  - Details, Including Facts, Figures, Evidence
  - Conclusion, Incorporating Response, Suggestions, Expectations, Recommendations or Action
  - Closure, Ending

# M4. Part 9: Language and Tone

- > The Weakest Link in Your Business Writing
- Ten Steps to Good Business Writing

Oil and Gas Drilling, Reservoir Engineering, Shale Gas Drilling and Advanced English Business Communication - Page 28 of 39



# M4. Part 10: Writing to Clients and Customers

- > Neutral or Positive Messages
- Negative Messages
- > Persuasive Messages

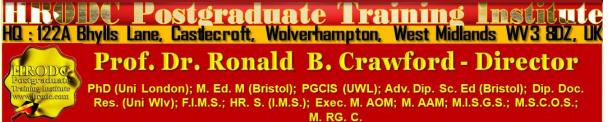
# M4. Part 11: Communicating with Customers

- Customer Service
  - Importance of Customer Service
  - Customer Service Culture
  - Customer Interaction
  - Managing Challenging Situations
- Face-to-Face Communication
  - Communication and Your Voice
  - Parts of a Conversation
- > Telephone Conversation
  - Effective Telephone Communication
  - Outgoing Calls
  - Incoming Calls

M4. Part 12: E – mail Management

- > The Explosive Growth of E-Mail
- > Seven Deadly Sins of Working with E-Mail
- > The Good, the Bad and the Ugly of E-Mail
- > The Weakest Link in Your E-Mails
- > How Can You Make E-Mail Work for You?
- Customer Care and E-Mail
- Creating Electronic Rapport
- E-Mail @ Work

Oil and Gas Drilling, Reservoir Engineering, Shale Gas Drilling and Advanced English Business Communication - Page 29 of 39

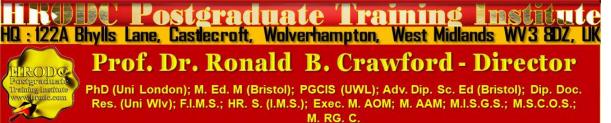


> Netiquette

# M4. Part 13: Business Reports and Proposals

- > Writing the Business Reports
  - Starting Point
  - Introduction
- > Types of Business Reports
  - Periodic Reports
  - Progress Reports
  - Data Reports
  - Recommendation Reports
- Business Report Format
- Guidelines for Report Writing
  - Determining the Purpose of the Report
  - Understanding the Audience Needs
  - Brainstorming about the Topic
  - Researching the Topic
  - Arranging the Major Points
  - Writing the Rough Draft
  - Revising the Rough Draft
  - Reviewing the Appearance of Rough Draft
  - Preparing the Final Copy
  - Presenting the Report
- > Writing Business Proposal
  - Starting Point
  - Introduction
- > Organising Persuasive Proposal
  - Using Logical Order
  - Using Psychological Order
  - Solid Evidence
- Writing Strategies for Proposal

Oil and Gas Drilling, Reservoir Engineering, Shale Gas Drilling and Advanced English Business Communication - Page 30 of 39



- Determining the Requirements for the Proposal
- Determining the Audience
- Creating an Outline
- Revising the Proposal
- Polishing the Proposal

# Postgraduate Diploma, Postgraduate Certificate, and Diploma – Postgraduate - Short Course Regulation

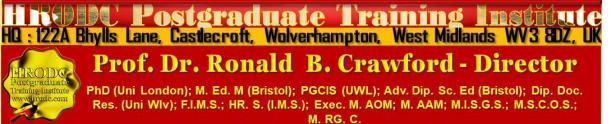
# Postgraduate Certificate, Postgraduate Diploma, and Diploma – Postgraduate: Their Distinction, Credit Value and Award Title

Postgraduate Short Courses of a minimum of five days' duration, are referred to as Diploma – Postgraduate. This means that they are postgraduate credits, towards a Postgraduate Certificate and Postgraduate Diploma. Postgraduate Certificate and Postgraduate Diploma represent Programmes of Study, leading to Awards bearing their title prefixes. While we, refer to our short studies, of 5 days to five weeks, as 'Courses', those with duration of 6 weeks and more are labelled 'Programmes'. Nevertheless, in line with popular usage, we often refer to all study durations as 'Courses'. Another mark of distinction, in this regard, is that participants in a short course are referred to as 'Delegates', as opposed to the term 'Students', which is confined to those studying a Postgraduate Programme.

Courses are of varying Credit-Values; some being Single-Credit, Double-Credit, Triple-Credit, Quad-Credit, 5-Credit, etc. These short courses accumulate to Postgraduate Certificate, with a total of 180 Credit-Hours (= 6 X 5-Day Courses or 3 X 10-Day Courses), or Postgraduate Diploma, with a total of 360 Credit-Hours (= 12 X 5-Day Courses or 6 X 10-Day Courses).

Delegates studying courses of 5-7 days' duration, equivalent to 30-42 Credit-Hours (Direct Lecturer Contact), will, on successful assessment, receive the Diploma – Postgraduate Award. 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.

Oil and Gas Drilling, Reservoir Engineering, Shale Gas Drilling and Advanced English Business Communication - Page 31 of 39



#### Postgraduate Certificate, Postgraduate Diploma, and Diploma -Postgraduate Assessment Requirement

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, Postgraduate Certificate, or Postgraduate Diploma, as appropriate.

In the case of Diploma – Postgraduate, a minimum of 70% overall pass is expected. In order to receive the Awards of Postgraduate Certificate and Postgraduate Diploma, candidates 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 Certificate, 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 Certificate, and Postgraduate Diploma Application Requirements

Applicants for Diploma – Postgraduate – Postgraduate Certificate, and Postgraduate Diploma 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.

Oil and Gas Drilling, Reservoir Engineering, Shale Gas Drilling and Advanced English Business Communication - Page 32 of 39



#### Admission and Enrolment Procedure

- On receipt of all the above documents we will assess applicants' suitability for the Course or Programme for which they have applied;
- If they are accepted on their chosen Course or Programme, 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 Course or Programme Tutor will contact him or her, by e-mail or telephone, welcoming him or her to HRODC Postgraduate Training Institute;
- Those intending to study in a foreign country, and require a Visa, will be sent the necessary immigration documentation, to support their application;
- Applicants will be notified of the dates, location and venue of enrolment and orientation, where appropriate.

## Modes of Study and Duration of Postgraduate Certificate and Postgraduate Diploma Programmes

There are two delivery formats for Postgraduate Certificate and Postgraduate Diploma Programmes, as follows:

- Intensive Full-time (Classroom-Based) Mode, lasting 3 months for Postgraduate Diploma, and 6 weeks for Postgraduate Certificate. These durations are based on six hours' lecturer-contact per day, five days (30 hours) per week, for Postgraduate Diploma.
- Video-Enhanced On-Line Mode. This interactive online mode lasts twenty (20) weeks, for Postgraduate Diploma, and ten (10) weeks for Postgraduate Certificate. Our calculation is based on three hours per day, six days per week.

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

Oil and Gas Drilling, Reservoir Engineering, Shale Gas Drilling and Advanced English Business Communication - Page 33 of 39



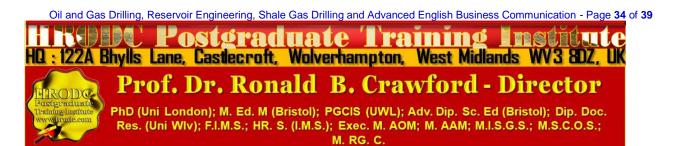
# Introducing Our Video-Enhanced Online Study Mode

In a move away from the traditional online courses and embracing recent developments in technology-mediated distance education, HRODC Postgraduate Training Institute has introduced a Video-Enhanced Online delivery. This Online mode of delivery is revolutionary and, at the time of writing, unique to HRODC Postgraduate Training Institute.

You are taught as individuals, on a one-to-one or one-to-small-group basis. You see the tutor face to-face, for the duration of your course. You will interact with the tutor, ask and address questions; sit examinations in the presence of the tutor. It is as real as any face-to-face lecture and seminar can be. Choose from a wide range of Diploma – Postgraduate Courses and an increasing number of Specialist Postgraduate Certificate and Postgraduate Diploma Programmes. You might also accumulate Postgraduate Short Courses, via this mode of study, over a 6-year period, towards a Postgraduate Certificate or Postgraduate Diploma.

# Key Features of Our Online Study: Video-Enhanced Online Mode

- The tutor meets the group and presents the course, via Video, in a similar way to its classroom-based counterpart.
- > All participants are able to see, and interact with, each other, and with the tutor;
- They watch and discuss the various video cases and demonstrations that form an integral part of our delivery methodology.
- > Their assessment is structured in the same way as it is done in a classroom setting;
- The Video-Enhanced Online mode of training usually starts on the 1<sup>st</sup> of each month, with the cut-off date being the 20<sup>th</sup> of each month, for inclusion the following month;
- Its duration is twice as long as its classroom-based counterpart. For example, a 5-day (30 Credit Hours) classroom-based course will last 10 days, in Video-Enhanced Online mode. This calculation is based on 3 hours tuition per day, adhering to the Institute's required 30 Credit-Hours;
- The cost of the Video-Enhanced Online mode is 67% of similar classroom-based courses;



For example, a 5-day classroom-based course, which costs Five Thousand Pounds, is only Three Thousand Three Hundred and Fifty Pounds (£3,350.00) in Video-Enhanced Online Mode.

# 10-Week Video-Enhanced Online Postgraduate Certificate and 20-Week Video-Enhanced Online Postgraduate Diploma

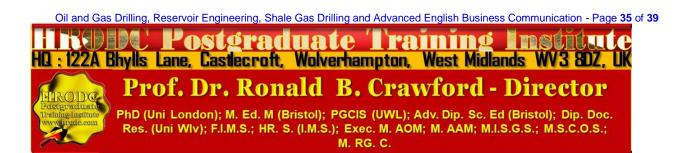
You might study an Online Postgraduate Certificate or Online Postgraduate Diploma, in 10 and 20 weeks, respectively, in the comfort of your office or homes, through HRODC Postgraduate Training Institute's Video-Enhanced Online Delivery. We will deliver the 180 Credit-Hours and 360 Credit-Hours, in line with our regulation, through 'Direct-Lecturer-Contact', within the stipulated timeframe. We aim to fit the tuition around your work, family commitment and leisure, thereby enhancing your maintenance of an effective 'work-study-lifestyle balance', at times convenient to you and your appointed tutor.

# **Cumulative Postgraduate Certificate and Postgraduate Diploma Courses**

All short courses can accumulate to the required number of Credit-Hours, for the Postgraduate Certificate and Postgraduate Diploma, over a six-year period from 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, as is tabulated below.

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 one or two credits be attempted each year. This will ensure that the required 180 Credit-Hours and 360 Credit-Hours, for the Postgraduate Certificate and Postgraduate Diploma, respectively, are



achieved, within the designated period. These Credit-Values, awards and their accumulation are exemplified below.

Examples of Postgraduate Course Credits: Their Value, Award Prefix & Suffix – Based on 5-Day Multiples				
Credit Value	Credit	Award Title Prefix (& Suffix)		
Hours				
Single-Credit	30-54	Diploma - Postgraduate		
Double-Credit	60-84	Diploma – Postgraduate (Double-Credit)		
Triple-Credit	90-114	Diploma – Postgraduate (Triple-Credit)		
Quad-Credit	120-144	Diploma – Postgraduate (Quad-Credit)		
5-Credit	150-174	Diploma – Postgraduate (5-Credit)		
6-Credit	180-204	Postgraduate Certificate		
7-Credit	210-234	Postgraduate Certificate (+ 1 Credit)		
8-Credit	240-264	Postgraduate Certificate (+2 Credits)		
9-Credit	270-294	Postgraduate Certificate (+3 Credits)		
10-Credit	300-324	Postgraduate Certificate (+ 4 Credits)		
11-Credit	330-354	Postgraduate Certificate (+5 Credits)		
12-Credit	360	Postgraduate Diploma		
360 Credit-Hours = Postgraduate Diploma				
12 X 5-Day Courses = 360 Credit-Hours = Postgraduate Diploma				
10 X 6-Day Courses = 360 Credit-Hours = Postgraduate Diploma				

# Exemplification of Accumulated Postgraduate Certificate and Postgraduate Diploma Award Titles

All Specialist Postgraduate Certificate and Postgraduate Diploma Programmes have their predetermined Award Titles. Where delegates do not follow a Specialism, for accumulation to a Postgraduate Diploma, they will normally be Awarded a General Award, without any Specialist Award Title. However, a Specialist Award will be given, where a delegate studies

Oil and Gas Drilling, Reservoir Engineering, Shale Gas Drilling and Advanced English Business Communication - Page 36 of 39

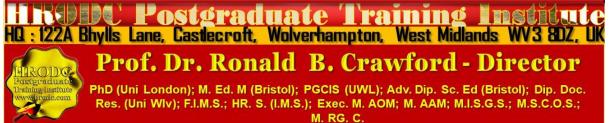


at least seventy percent (70%) of his or her courses in a specialist grouping. These are

exemplified below:

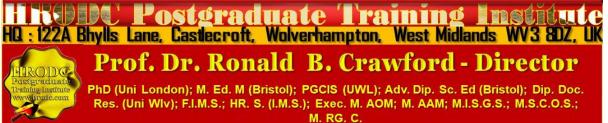
- 1. Postgraduate Diploma in Accounting and Finance;
- 2. Postgraduate Certificate in Accounting and Finance;
- 3. Postgraduate Certificate in Aviation Management;
- 4. Postgraduate Diploma in Aviation Management;
- 5. Postgraduate Certificate in Industrial Health and Safety Management, Incorporating Oil and Gas Safety;
- 6. Postgraduate Diploma in Industrial Health and Safety Management, Incorporating Oil and Gas Safety;
- 7. Postgraduate Certificate in Business Communication;
- 8. Postgraduate Diploma in Business Communication;
- 9. Postgraduate Certificate in Corporate Governance;
- 10. Postgraduate Diploma in Corporate Governance;
- 11. Postgraduate Certificate in Costing and Budgeting;
- **12.** Postgraduate Diploma in Costing and Budgeting;
- **13. Postgraduate Certificate in Client or Customer Relations;**
- 14. Postgraduate Diploma in Client or Customer Relations;
- 15. Postgraduate Certificate in Engineering and Technical Skills;
- 16. Postgraduate Diploma in Engineering and Technical Skills;
- **17.**Postgraduate Certificate in Events Management;
- **18.** Postgraduate Diploma in Events Management;
- 19. Postgraduate Certificate in Health and Safety Management;
- **20.** Postgraduate Diploma in Health and Safety Management;
- **21.**Postgraduate Certificate in Health Care Management;
- 22. Postgraduate Diploma in Health Care Management;
- 23. Postgraduate Certificate in Human Resource Development;
- 24. Postgraduate Diploma in Human Resource Development;
- 25. Postgraduate Certificate in Human Resource Management;
- 26. Postgraduate Diploma in Human Resource Management;

Oil and Gas Drilling, Reservoir Engineering, Shale Gas Drilling and Advanced English Business Communication - Page 37 of 39



- 27.Postgraduate Certificate in Information and Communications Technology (ICT);
- 28. Postgraduate Diploma in Information and Communications Technology (ICT);
- 29. Postgraduate Certificate in Leadership Skills;
- **30.** Postgraduate Diploma in Leadership Skills;
- 31. Postgraduate Certificate in Law International and National;
- **32.** Postgraduate Diploma in Law International and National;
- 33. Postgraduate Certificate in Logistics and Supply Chain Management;
- 34. Postgraduate Diploma in Logistics and Supply Chain Management;
- 35. Postgraduate Certificate in Management Skills;
- 36. Postgraduate Diploma in Management Skills;
- 37. Postgraduate Certificate in Maritime Studies;
- 38. Postgraduate Diploma in Maritime Studies;
- **39.** Postgraduate Certificate in Oil and Gas Operation;
- 40. Postgraduate Diploma in Oil and Gas Operation;
- 41. Postgraduate Certificate in Oil and Gas Accounting;
- 42. Postgraduate Diploma in Oil and Gas Accounting;
- 43. Postgraduate Certificate in Politics and Economic Development;
- 44. Postgraduate Diploma in Politics and Economic Development;
- 45. Postgraduate Certificate in Procurement Management;
- 46. Postgraduate Diploma in Procurement Management;
- 47. Postgraduate Certificate in Project Management;
- 48. Postgraduate Diploma in Project Management;
- 49. Postgraduate Certificate in Public Administration;
- 50. Postgraduate Diploma in Public Administration;
- 51. Postgraduate Certificate in Quality Management;
- 52. Postgraduate Diploma in Quality Management;
- 53. Postgraduate Certificate in Real Estate Management;
- 54. Postgraduate Diploma in Real Estate Management;

Oil and Gas Drilling, Reservoir Engineering, Shale Gas Drilling and Advanced English Business Communication - Page 38 of 39



55. Postgraduate Certificate n Research Methods;

56. Postgraduate Diploma in Research Methods;

57. Postgraduate Certificate in Risk Management;

58. Postgraduate Diploma in Risk Management;

59. Postgraduate Certificate in Sales and Marketing;

60. Postgraduate Diploma in Sales and Marketing;

61. Postgraduate Certificate in Travel, Tourism and International Relations;

62. Postgraduate Diploma in Travel, Tourism and International Relations.

The actual courses studied will be detailed in a student or delegate's Transcript.

# Service Contract, incorporating Terms and Conditions

Click, or copy and paste the URL, below, into your Web Browser, to view our Service Contract, incorporating Terms and Conditions.

https://www.hrodc.com/Service\_Contract\_Terms\_and\_Conditions\_Service\_Details\_Delivery Point\_Period\_Cancellations\_Extinuating\_Circumstances\_Payment\_Protocol\_Location.htm

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.

# Prof. Dr. Ronald B. Crawford Director HRODC Postgraduate Training Institute

Oil and Gas Drilling, Reservoir Engineering, Shale Gas Drilling and Advanced English Business Communication - Page 39 of 39

