



**Drilling & Intervention** 



2 Months Long Virtual Practical Training Diploma in Advanced Well Engineering & Drilling Operations Optimization

#### Innova Well Seeker Pro



#### Well Planning & Directional Drilling

- ✓ ISCWSA Anti-Collision
- ✓ Reporting Daily, Survey, Cost, BHA
- Bit Projections & Slide Guidance
- Logistics & Inventory Tracking
- RSS Downlinking

#### Innova Web Portal



Centralized Drilling Data Cloud

- ✓ Operational Overview
- Customizable Drilling Dashboards
- ✓ Detailed Well Analytics & KPI's
- ✓ RT Drilling & EDR Data
- ✓ Map Views & Search

#### Innova Engineering



#### Drilling Engineering Toolkit

- ✓ Torque & Drag Analysis
- Hydraulics & Hole Cleaning Analysis
- BHA Analysis & Critical Speeds
- Survey Correction (MSA, SCC, SAG)

#### ✓ Well planning toolkit

Engineering Dashboard

✓ Jar Placement

✓ Magnetic Spacing Calculator

# Gain Experience-Based Learning:

Over 10 weeks, you'll have full access to Innova's Well Engineering and Drilling Design Software.

Our hands-on approach ensures you become proficient in well design, planning, and drilling optimization. By the end, you'll be able to complete full well designs independently.









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#### **COURSE OBJECTIVES**

This highly sought-after "Diploma in Advanced Well Engineering and Drilling Operations Optimization" training is ideal for recent energy graduates and experienced professionals in the industry. The course covers well design/planning and drilling execution, including complex well types that require advanced well engineering expertise. Starting from the basics, it guides learners to advanced technical depths in well engineering and drilling problem-solving.

A key feature of this course is its Experience-Based Learning approach. Over 10 weeks, candidates will have full access to Innova's Well Engineering and Drilling Design Software. This hands-on experience ensures candidates become proficient in well design, planning, and drilling optimization. By the end, they will be able to complete full well designs independently.



REGISTRATION OPEN!

Reach out to us at f in D

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### **ABOUT THE SPEAKER**



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### MSC PETROLEUM ENG.(USA) VISITING LECTURER (MSC DRILLING/WELLS TOPICS)

Naim Saddiq is a UK Chartered Engineer with MSc in Petroleum Engineering (USA). Naim works from his own London-based consultancy "Oxford Well Engineering Limited," which has been running for 6 years and has a portfolio of global Oil and Gas drilling customers. Naim has accumulated over 22 years of diversified USA/UK drilling/wells experience, working hands on with both offshore (inc. deepwater) and onshore projects.

Naim has deep expertise with Well Integrity and well safety concepts and their applications in a variety of challenging situations, focusing on both well construction (drilling) and operate phases.

For over 4 years, Naim has been teaching specialist wells topics to MSc Petroleum Eng. students at EU's prestigious University of Leoben, Austria as a visiting lecturer. He has also delivered guest lectures to PE students at the University of Houston. Naim has a great passion for sharing his knowledge, he always brings his hands on experience to his classrooms. Recently, Naim delivered a well-received Drilling Operations training to Energy Regulators of Eastern Africa (EREA) where he taught Drilling and Well Engineering topics to eleven local energy company representatives.









# 2 Months Long Virtual Practical Training **Diploma in Advanced Well Engineering & Drilling Operations Optimization**

# **PREREQUISITE (ANY OF THESE):**

- BSc or MSc in Earth Disciplines

• Engineering Degree (Any Discipline)

• BSc in any scientific/numeracy discipline

### WHY JOINING TO THIS COURSE?

- 10 Weeks of Access to Innova's Well Engineering and Drilling Design Software: Gain hands-on experience with highly sought-after design modules. Not only will you build concepts, but you will also learn to apply them in a familiar software environment.
  - Concise and Straightforward Learning: Master the essentials of drilling and well engineering. Develop strong concepts that lead to excellent well designs and effective problem-solving using a top-notch global well design software package.
- Smart Digital Drilling Optimisation: Learn about real-time well engineering simulations that have revolutionized complex well operations worldwide.
- Key Considerations for Project Management: Explore workflows for drilling project management and optimization, including cost and quality control.
- Real-Life Examples: Get hands-on experience with real-life scenarios, putting you in the driver's seat to tackle various well engineering and drilling operations challenges.
  - Learn to Do-It-Yourself: Candidates become proficient in well design, planning, and drilling optimization. By the end, they will be able to complete full well designs independently.









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## **PERSONAL BENEFITS**

 Boost self-confidence through professional knowledge and learning deeply about how to deliver viable well design and

- drilling solutions.
- Empower you career progression via learning useful well engineering and drilling skills.
- Bring a step-change in your professional performance, deliver great solutions.
- Improve service quality and rapport with your managers and colleagues.
- Learn to design and drill wells with safety whilst making wells cost-effective.

### **ORGANIZATIONAL BENEFITS**

Boost Team performance, do more inhouse, saving money.
Empower and motivate team members through steep learning and useful skills.

Improve service quality and rapport with your clients.
Cost-effective but highly effective training, which delivers superior results and team success.









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## WHO SHOULD ATTEND

Energy Professionals, looking to step-up their learning and

#### career progression.

- Recent Oil/Gas Graduates.
- Earth Sciences Professionals, looking to diversify their skill set.
- Wellsite Team Leaders.
- Professionals looking to get into Oil and Gas industry.
- Oil and Gas Supervisors/Project Managers.
- Geothermal Drilling Professionals.





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## **TRAINING TOPICS**

Course Vision & Topic Discussion, Ground Rules. How best to learn!
 Introduction. O&G Wells Life Cycle.

• Drilling Operations (Intro/Best Practices).

- Drilling Rig Types, Key Components, Mechanical Systems. Rig Selection/Technical Limit Calcs. Rig Mathematics & Routine Rig Calcs.
- Drilling Bits (Types, Selection, Optimisation). Design / Well Engineering Calcs.
- Specialist Drilling Tools, BHA Components and Their Selection (Solving Drilling Issues).
- BHA Design Concepts.
   BHA Calculations/Engineering Modelling (BHA Component and Drill Pipe Selection).
- Key Well Components, Building Blocks and Architecture. Design Calculations/Selection Of Key Well Components.
- Drilling Project Management, Well Construction Process & Workflow.
- Rig Communication, Terminology, Tests & Ops Procedures.

Introduction To Drilling and Completions Fluids.

- Types and Application Of Various Mud Systems, Completions Fluids.
- Fluids Pilot Tests/Fluids Calculations (Rheological Models & Concepts).
- Drilling Management Of Change (MOC). Risk Reassessment, HSE Reviews and Communication.
- Introduction To Cementing (Fundamental Concepts).









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## **TRAINING TOPICS**

Types, Selection and Application Of Various Cement Types.

Cementing Modelling and Calculations (Casing Cementing, Cement Plugs etc).

- Drilling Hydraulics Fundamental Concepts.
- Well Engineering Calculations For Drilling Hydraulics and Its Optimisation.
- Introduction To Casing and Tubing Design.
- Functions Of Casing and Tubing., Casing Load Calcs.
- Casing Types. Specification and Selection Of Casing and Tubing For Well Campaign.
- API and ISO Casing Standards. Casing/Tubing Performance Properties, Tool Joint & Pipe Body Specifications.
- Casing Seat Selection (Top-Down and Bottom-Up Approaches).
- Subsurface & Geological Consideration For Casing Depth Selection and Designs.
- Intermediate, Production Casing/Tubing Load Analysis (Concepts and Examples).
- Casing Design: Special Considerations For Complex Wells Such As ERD, Sweet,

### Sour, HTHP and Salt Creep Issues.

- Casing Wear Analysis: Perform Casing Wear Calculation and Modelling. How To Mitigate Casing Wear Using New Approaches.
- Newer Drilling Technologies: Casing While Drilling, MPD/UBD, Multilaterals etc.









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## **TRAINING TOPICS**

- Well Design/Engineering Concepts/Fundamentals.
- Well Engineering Calculations, Validation Of Well Design.
- Well Integrity and Safety Assurance During Well Planning and Drilling Operations. Introduction To Well Integrity Management Systems (WIMS).
- Drill-Well-On-Paper (DWOP) Design Preparation & Consideration as a Drilling Engineer.
- Well Control Concepts, Kick Tolerance Calculations, Well Control Calculations
- Torque/Drag and Hydraulics Modelling/Simulations. Surge/Swab Calcs
- ERD /Long Horizontal Complex Well Designs Concepts and Design Modelling/Calculations.
- HTHP Well Design Considerations.
- Well Designs Optimisation Workflow.
- Directional Well Planning Basic Concepts.
- Directional Well Planning Workflow.
  Critical Positional Data Requirements.
- Directional Data QA/QC & Survey Corrections.
  Software Based Building and Designing Of Directional Well Trajectories.
  Positional Uncertainty and Target Sizing Concepts and Software Based Application.









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## **TRAINING TOPICS**

- Software Based Survey Programming.
- Wellbore Stability (WBS) Considerations.
- Software Based ERD Well Directional Well Planning and Considerations.
- Software Based Trajectory Drillability (Ease Of Drilling) Analysis. Choosing Best Trajectory For Cost Effective Wells.
- Correct Selection Of Conventional and Modern Directional Drilling Technologies & Downhole Tools.
- Anti-Collision Concepts & Their Utilization For Well Planning and Drilling Ops.
- Anti-Collision Best Practices For Multiwell Pads.
- Software Based Anti-Collision Calcs and Monitoring While Drilling
- Using Software Learn To Replan Current Wells While-Drilling To Meet
   Subsurface Requirements.
- Software Based Multi-Well Pad Designs & Trajectory Optimisation.
- Software Based Relief Well Planning.
- Sidetrack Well Planning and Best Practices.
- Well Cost (AFE) Fundamentals.
- Well Cost Benchmarking (Local and Global) for Assurance.
  Performing Well Cost Calculations (Deterministic & Probabilistic).
  Drilling Contracts, Tendering, Logistics and Material Management.
  Drilling Project Management (Best Practices & Optimisation).









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## **TRAINING TOPICS**

Drilling Campaign Planning, Costing and Well Scheduling

- Common Drilling Problems, Challenges and Operational Risks.
- Building A Risk Register With Mitigations.
- Drilling Operations Micro KPIs for Invisible Lost Time Detection & Rig Cost Savings
- Intro. Digital Drilling Optimisation: Real-Time-Operating Centre (RTOC)-Rationale & Basics.
- Digital Drilling Optimisation: RTOC Workflows and Communication Protocol.
- Digital Drilling Optimisation: Using Well Engineering Kit Deliver Roadmap Construction, Surface & Downhole Data Trend Analysis.
- Well Engineering Based Root Cause Analysis Of Severe (High Cost Failures) Drilling Events.
- Using Software Packages, Optimise Well Design Using Digital Drilling / RTOC Feedbacks.
- Using Softwares, Perform Real-Time Well Engineering Model Calibrations For Problem Solving While Drilling.

Stuck Pipe: Well Design Adjustments To Mitigate Stuck Pipe Issues. Catch and

- Avert Stuck Pipe Events While Drilling Using Digital Drilling Trend Analysis.
   End Of Well Reporting, Lesson Learned Transfer, Continuous Improvement Considerations, Well Handover Considerations.
- Well Plugging and Abandonment (P&A) Project Management. P&A Designs and Executions Best Practices. Cementing Calcs For Abandonment Plugs.

