Directional Drilling & Wellbore Surveying Program Brochure

University Programme

Domain: Directional Drilling  
Level: Advance  
Duration: 6 Days  
Course Fee: INR 20,000

© 2015 Drilling Mentor Pvt. Ltd. All rights reserved.
Course Outline

Domain: Directional Drilling
Level: Fundamental
Duration: 6 Days
Course Fee: INR 20,000

The purpose of the course is to enable participants to understand the operational & engineering aspect of directional drilling. The course covers the fundamentals, design considerations and operational aspects of drilling a directional well. Additionally, the participants become familiar with the tools and techniques used in directional drilling such as survey instruments, bottom hole assemblies (BHA), motors, steerable motors and steerable rotary systems. Specific problems associated with directional drilling such as torque, drag, hole cleaning, logging and drill string component design are included.

Designed For

Driller/ Trainee Assistant Driller/Assistant Driller/ Drilling Engineers/ Drilling Supervisors/ Field Engineers, Recent Science Graduate/ Engineering Graduates/ Diploma holders/ service company other personnel with basic drilling engineering skills.

Prerequisites

Basic knowledge of drilling engineering & technology. General mathematical ability and well acquainted with trigonometry calculations. Prior exposure to rig site will be an advantage.

Assessment

Written Examination: Each candidate is required to complete a written test paper comprising multiple choice problems. All candidates are allowed between 1½ hours to complete this examination

Invigilation: Invigilators registered and approved by Drilling Mentors conduct the written examination.
Course Content

Day 1
I. Directional drilling fundamentals - applications and limitations
II. Algebra and trigonometry review
III. Directional drilling terminologies
IV. Well objectives and target issues
V. Directional well planning - positioning and coordinate systems
VI. Assignment 1

Day 2
I. Assignment review
II. Survey calculation methods
III. Anti-collision and advanced well planning
IV. Surveying tools
V. MWD and LWD
VI. Assignment 2

Day 3
I. Assignment review
II. Downhole equipment - drilling tools and deflection methods
III. Drilling motors and bit overview
IV. BHA design

Day 4
I. Assignment review
II. Directional well path design
III. Horizontal well planning
IV. Well profile - wellpath - trajectory design
V. Hydraulics Calculations
VI. Assignment 4 & Mock Test - 1

Day 5
I. Assignment review
II. Hole cleaning
III. Introduction to multilateral drilling
IV. Wellbore stability
V. Geosteering
VI. Directional drilling problems and solutions
VII. Assignment 5 & Mock Test 2

Day 6
I. Final Assessment
<table>
<thead>
<tr>
<th>TVD</th>
<th>MD</th>
<th>Inc</th>
<th>Azi</th>
<th>+N/-S</th>
<th>+E/-W</th>
<th>VSec</th>
<th>Annotation</th>
</tr>
</thead>
<tbody>
<tr>
<td>623.00</td>
<td>623.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>PRCP 1D12-16 L1 KOP (6'Y30m)</td>
</tr>
<tr>
<td>1036.62</td>
<td>1137.42</td>
<td>83.85</td>
<td>12.27</td>
<td>187.44</td>
<td>40.77</td>
<td>185.50</td>
<td>START BUILD &amp; TURN</td>
</tr>
<tr>
<td>1038.20</td>
<td>1171.24</td>
<td>90.81</td>
<td>15.00</td>
<td>220.02</td>
<td>49.58</td>
<td>218.53</td>
<td>PROP 1D12-16 L1 ICP</td>
</tr>
<tr>
<td>1036.41</td>
<td>1236.85</td>
<td>90.80</td>
<td>36.12</td>
<td>332.11</td>
<td>104.39</td>
<td>343.28</td>
<td>END OF (6'Y30m) TERN</td>
</tr>
<tr>
<td>1035.19</td>
<td>1354.40</td>
<td>90.80</td>
<td>36.12</td>
<td>400.98</td>
<td>156.43</td>
<td>429.18</td>
<td>PROP 1D12-16 L1 MID-PT</td>
</tr>
<tr>
<td>1032.20</td>
<td>1597.56</td>
<td>90.80</td>
<td>36.12</td>
<td>568.65</td>
<td>290.01</td>
<td>638.33</td>
<td>PROP 1D12-16 L1 TOE</td>
</tr>
</tbody>
</table>

**FORMATION TOP DETAILS**

<table>
<thead>
<tr>
<th>TVDPath</th>
<th>MDPath</th>
<th>Formation</th>
</tr>
</thead>
<tbody>
<tr>
<td>593.20</td>
<td>593.20</td>
<td>2ND WHITE SPECKS</td>
</tr>
<tr>
<td>615.70</td>
<td>615.70</td>
<td>LOWER COLORADO</td>
</tr>
<tr>
<td>658.70</td>
<td>658.70</td>
<td>BASE FISH SCALES</td>
</tr>
<tr>
<td>731.70</td>
<td>731.70</td>
<td>MANNVILLE</td>
</tr>
<tr>
<td>783.70</td>
<td>783.70</td>
<td>JURASSIC</td>
</tr>
<tr>
<td>851.70</td>
<td>851.79</td>
<td>LOWER VANGUARD</td>
</tr>
<tr>
<td>899.70</td>
<td>901.43</td>
<td>UPPER SHAUNAVON</td>
</tr>
</tbody>
</table>

We Help You Understanding The Complexities

**Drilling Mentor**

© 2015 Drilling Mentor Pvt. Ltd. All rights reserved.
ELIGIBILITY

I. Audience from engineering and science streams, graduated/ pursuing graduation in one of the following disciplines:
- Mechanical Engineering
- Petroleum Engineering
- Chemical Engineering
- Electrical Engineering
- Civil Engineering
- Instrumentation & Control Engineering
- Electronics & Communication/ EEE
- B.Sc. with Physics, Chemistry & Mathematics or
- B.Sc. With Physics or Chemistry or Mathematics

II. Proficiency in spoken English

COURSE LANGUAGE

The standard spoken language in all our courses is English.

APPLICATION PROCEDURE

Candidates interested to enrol for the course are required to download the Course Registration Form from our website.

Registration fee for ₹ 10,000 (INR Ten Thousand) is required to be remitted in following ways:

i. Online Account Transfer on A/c No. 20003400451 IFS Code: SBIN0005743.

Please write your full name and course number in the remarks of online transfer window or on the back of the demand draft/ multicity cheque.

Duly filled-up registration form shall be returned through e-mail to hr@drillingmentor.com along with screenshot of online transaction / scanned copy of demand draft or multicity cheque on or before the last date of registration.

Note: Foreign Nationals will have to wire transfer

On receipt of duly filled Course Registration Form along with registration fee from the audience, Drilling Mentor will send Registration Confirmation Letter by mail within a week from the date of receipt of registration amount.

Candidates are required to carry a valid driving license/ passport in original and 10 no. passport size photographs along with them during the course joining.

TERMS OF PAYMENT

For Indian Nationals

<table>
<thead>
<tr>
<th>Particular</th>
<th>Amount</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>Course Fee</td>
<td>20,000.00</td>
<td></td>
</tr>
<tr>
<td>Service Tax @ 12.36%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Registration Charge</td>
<td></td>
<td>Included in course fee.</td>
</tr>
<tr>
<td>Balance Amount</td>
<td></td>
<td>To be paid in form of Demand Draft/ Multicity Cheque on Day-1 of commencement of course.</td>
</tr>
</tbody>
</table>

For Foreign Nationals

<table>
<thead>
<tr>
<th>Particular</th>
<th>Amount</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>Course Fee</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Service Tax @</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Registration Charge</td>
<td></td>
<td>Included in course fee.</td>
</tr>
<tr>
<td>Balance Amount</td>
<td></td>
<td>To be paid in through wire transfer.</td>
</tr>
</tbody>
</table>

© 2014 Drilling Mentor Private Limited. All rights reserved.
FACILITIES
Classrooms are fully equipped with modern technology, to ensure the best technical understanding for the course participants. We have projectors in each classroom and use smart boards and whiteboards to illustrate equipment and to show animations, pictures and films. Lunch and refreshments are included in the fixed course rate. Travel time and accommodation expenses are not included in our prices.

COURSE CANCELLATION & REFUND
Drilling Mentor reserves the right to cancel a course if less than eight (8) participants have signed up five (5) weeks prior to the course start date.

One hundred percent (100%) course fee will be refunded within one (1) weeks from the date of commencement of course, if cancelled by Drilling Mentor.

Cancellation by buyer will be charged one hundred percent (100%) of the fee.

To maintain a professional atmosphere and adhere to the safety standards, personnel attending classes will be required to wear long pants and shirts with sleeves - short/long. Steel-toed boots, safety glasses and protective clothing are available for purchase at our centre. Shorts, tank-tops, sandals, flip-flops, or any open-toed shoes are not allowed at our training facilities.

All prices are subject to review/ regulation twice a year, as per Drilling Mentor standard Terms & Conditions.

Drilling Mentor Private Limited is not responsible for any loss or damage as a result of a substitution, alteration or cancellation/postponement of an event.

Drilling Mentor Private Limited shall assume no liability whatsoever in the event this training course is cancelled, rescheduled or postponed due to a fortuitous event, Act of God, unforeseen occurrence or any other event that renders performance of this training course impracticable or impossible. For purposes of this clause, a fortuitous event shall include, but not be limited to: war, fire, labour strike, extreme weather or other emergency.

PROGRAM CHANGE POLICY
Please note that instructors and topics were confirmed at the time of publishing; however, circumstances beyond the control of the organizers may necessitate substitutions, alterations or cancellations of the speakers and/or topics. As such, Drilling Mentor Private Limited reserves the right to alter or modify the advertised instructor and/or topics if necessary. Any substitutions or alterations will be updated on our web page as soon as possible.
To know more about the programme, visit www.drillingmentor.com/ddws