**DS-1® Distance Learning**

The DS-1 Distance Learning course is a blended learning course; we combine content that’s online and on-demand with Livestream Sessions that allow you to get direct answers from our instructors.

To deliver a high-quality training course, we started with the content covered in our 3-day, instructor-led, DS-1 Fourth Edition School. That material was then sectioned into 13 individual modules.

Each module has roughly 30 minutes of presentation material, but not simply a videotaped lecture. We’ve partnered with industry-leading instructional designers to provide helpful graphics and visual interest as the material is presented and the students practice with interactive problems and step-by-step solutions.

The modules have been grouped into three larger sections, too, and for each of those there is a dedicated, live-streamed Q&A session. Our experts start with some extended material and practical advice about the subjects covered, then open the virtual floor to any questions from the students.

At the end of each module, there is an assessment to confirm that the student has retained all the practical information that has been given, and when the full course is done there is a final assessment as well.

In addition to the course content itself, each student that enrolls in the DS-1 Distance Learning course receives:

- A license to all four volumes of the Electronic Standard DS-1
- Access to four Livestream Sessions of your choosing
- A handout that allows you to keep track of your progress and take notes to remind you of any questions you want to follow up on
- Access via email or phone to the experts at Bureau Veritas for any special questions you’d like cleared up
- A license to the Drillstring Toolbox™ software package, which includes Connection Analyzer™ and more

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**2020 Course Schedule**

**DS-1 Fourth Edition School**

<table>
<thead>
<tr>
<th>Location</th>
<th>Date</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>Houston</td>
<td>Feb 3-5</td>
<td>$2,750</td>
</tr>
<tr>
<td>Bogota*</td>
<td>Mar 16-18</td>
<td>$3,450</td>
</tr>
<tr>
<td>Calgary</td>
<td>May 4-6</td>
<td>$3,050</td>
</tr>
<tr>
<td>Houston</td>
<td>Jul 20-22</td>
<td>$2,750</td>
</tr>
<tr>
<td>Perth</td>
<td>Aug 3-5</td>
<td>$3,400</td>
</tr>
<tr>
<td>Abu Dhabi</td>
<td>Aug 23-25</td>
<td>$3,300</td>
</tr>
<tr>
<td>Houston</td>
<td>Oct 19-21</td>
<td>$2,750</td>
</tr>
<tr>
<td>Kuala Lumpur</td>
<td>Nov 9-11</td>
<td>$3,300</td>
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</table>

**Casing Failure Prevention**

<table>
<thead>
<tr>
<th>Location</th>
<th>Date</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>Houston</td>
<td>Feb 6-7</td>
<td>$1,400</td>
</tr>
<tr>
<td>Bogota*</td>
<td>Mar 19-20</td>
<td>$1,850</td>
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<tr>
<td>Calgary</td>
<td>May 7-8</td>
<td>$1,650</td>
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<tr>
<td>Houston</td>
<td>Jul 23-24</td>
<td>$1,400</td>
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<tr>
<td>Perth</td>
<td>Aug 6-7</td>
<td>$1,800</td>
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<tr>
<td>Abu Dhabi</td>
<td>Aug 26-27</td>
<td>$1,750</td>
</tr>
<tr>
<td>Houston</td>
<td>Oct 22-23</td>
<td>$1,400</td>
</tr>
<tr>
<td>Kuala Lumpur</td>
<td>Nov 12-13</td>
<td>$1,750</td>
</tr>
</tbody>
</table>

Receive a 15% discount on Casing Failure Prevention if taken in conjunction with the DS-1 Fourth Edition School. All prices are in U.S. Dollars. Bureau Veritas North America, Inc. expressly reserves the right to refuse admission to any person.

*The course will offer translation from English.*
The DS-1® Fourth Edition School

Available exclusively from Bureau Veritas, The DS-1 Fourth Edition School will give you a practical, integrated approach for managing the integrity of your drill string structure. The four volumes of DS-1 Fourth Edition serve as the foundation for this three day school, and what you learn will revolutionize your approach to failure prevention.

What you will Learn...

Manufacturing
• Manufacturing levels – Standard & Critical
• Metallurgical properties important to the designer
• Relationships to other industry standards, private and public

Design
• Using Design “Groups”
• Integrating design needs with other drilling objectives
• Setting design constraints and design factors
• Performing a drill string design addressing overload
• Determining string capacities and operating limits
• Predicting and managing buckling
• Using comparative design for fatigue prevention
• Selecting and configuring different BHA types
• Using recommended stress relief dimensions and maximum slip cut severity
• Monitoring and mitigating corrosion
• Using CFI when specifying new connections on BHAs

Inspection
• How to set an inspection program
• How the common inspection methods work and their advantages and limitations
• How to estimate accumulated fatigue damage
• The link between inspection process control and quality

Specialty Tools
• The challenges with qualifying specialty tools
• Requirements for qualifying specialty tools to Volume 4
• Tool load ratings
• Procedures for inspecting, assembling, function testing, and using specialty tools
• Steps for implementing the standard

Casing Failure Prevention

Even the best casing design can fail without proper specification, inspection, and handling. We created Casing Failure Prevention to provide you the tools to address these key areas before you set your casing. Learn to go beyond design to dramatically reduce the risk of high-cost casing failures.

What you will Learn...

Failure Recognition
• Tension- and pressure-related failures
• Other important failure types
• Three areas that must work to prevent failures: Manufacturing, Design, and Installation

Manufacturing
• Material properties (and why they’re important for the casing designer)
• Manufacturing processes that affect the end result
• API’s Spec 5CT—the industry-standard for OCTG manufacturing

Material Selection (Design I)
• API- and proprietary pipe grades
• Concerns related to sour- and corrosive service
• High-collapse casing grades: capacity ratings & use
• How to mitigate the effects of casing wear

Inspection (Design II)
• How certain thread-gauging practices can cause leaks
• Strengths and weaknesses of flaw-detection methods
• How to gain confidence that your inspection is good

Connections (Design III)
• Understanding API connections’ features and limitations
• Proprietary connection features and the problems they’re intended to solve
• Popular modifications to the API connection design

Installation
• Preventing handling damage
• The causes and fixes for galling
• Which makeup method is best

Course Materials
You will receive the complete Standard DS-1® Fourth Edition four volume set:
• Volume 1
  Drilling Tubular Product Specification
• Volume 2
  Drill Stem Design & Operation
• Volume 3
  Drill Stem Inspection
• Volume 4
  Drilling Specialty Tools

Plus our detailed course workbook and a license to the Drillstring Toolbox™ software package.

Course Materials
Each participant will receive the Casing Failure Prevention course workbook and a copy of the casing specification API 5CT.