Well Stimulation: Practical and Applied

Instructor
Mr. William Brian Lunan / Esanda Engineering

Objectives
To learn the basics of hydraulic fracturing and acidizing, including the outline of actual operation and interpretation method.

Course Outline
This High Performance Interactive Work Shop (HPIWS) provides correct Stimulating in a step-by-step Process with all associated equipment together with calculations in a Team Learning environment. The participants will learn what is currently available for design options to stimulate correctly to meet deliverability, safety and integrity requirements in stimulation operations, both in Conventional and Unconventional wells.

Course Contents
- Formation damage (Definition, mechanism, counter measures, etc.)
- Acidizing (Matrix Acidizing, Acid fracturing, etc.), including exercises
- Hydraulic fracturing, including exercises
- Introducing new “innovative” EOR/IOR stimulation technologies presently being used and tested in the Western Canadian Basin before being available internationally.

Who Should Attend
This course is intended for the disciplines listed below, as well as anyone with a specific interest in the topic.

- Drilling engineers
- Production engineers
- Reservoir engineers

Prerequisites
None

Course Method
The course method will be a combination of the following,

- Lecture and Workshop (team working, presentation)
- Demonstration
- Exercises

Broken down as follows
40% Lectures  
20% Workshops & Work Presentations  
20% Case Studies & Practical Exercises  
20% Videos, Software & General Discussions

No computers or software are required for this course

**Daily Course Schedule**
The course schedule will include a morning and afternoon break as appropriate during throughout  
the training sessions.

<table>
<thead>
<tr>
<th>Time</th>
<th>Day 1</th>
<th>Day 2</th>
<th>Day 3</th>
<th>Day 4</th>
<th>Day 5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Morning Session</td>
<td>Introduction</td>
<td>Stimulation 1</td>
<td>Stimulation 2</td>
<td>Stimulation 2</td>
<td>Fracturing 9</td>
</tr>
<tr>
<td>10:00 – 12:45</td>
<td>Formation Damage 1</td>
<td>Acidizing 1</td>
<td>Fracturing 1</td>
<td>Fracturing 4</td>
<td>Fracturing 10</td>
</tr>
<tr>
<td>(2h45 min)</td>
<td>Formation Damage 2</td>
<td>Acidizing 2</td>
<td>Fracturing 2</td>
<td>Fracturing 5</td>
<td>Review</td>
</tr>
<tr>
<td>Lunch</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Afternoon Session</td>
<td>Formation Damage 3</td>
<td>Acidizing 3</td>
<td>Fracturing 3</td>
<td>Fracturing 6</td>
<td>Improved/Enhanced Oil Recovery (IOR/EOR)</td>
</tr>
<tr>
<td>13:45 – 17:00</td>
<td>Reservoir Questions</td>
<td>Acidizing 4</td>
<td>Fracturing</td>
<td>Fracturing</td>
<td>New</td>
</tr>
<tr>
<td>(3h15min)</td>
<td>Calculations</td>
<td>Review</td>
<td>4 Review</td>
<td>7 Review</td>
<td>Technologies</td>
</tr>
</tbody>
</table>