PETE 625 – Well Control

Catalog Data: PETE 625. Well Control. (3.0). Credit 3. Theory of pressure control in drilling operations and during well kicks; abnormal pressure detection and fracture gradient determination; casing setting depth selection and advanced casing design; theory supplemented on well control simulators. Prerequisite: PETE 661

Texts:
1. Advanced Well Control Manual, by David Watson, Terry Brittenham and Preston Moore. SPE Textbook Series,


3. Class notes can be found at S drive or ecampus

Course Grade: Homework 20%
                Project  20%
                Quiz A  20%
                Quiz B  20%
                Quiz C  20%

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Office Hours: TR 9:00 – 11:00 am (or by appointment)
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<tr>
<th>Topic</th>
<th>Description</th>
<th>Read</th>
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| 1.    | Introduction to course  
Basic Concepts  
Read: Schubert, Chap. 1-2  
Watson, Chap. 1-2 |      |
| 2.    | Gas Behavior and Fluid Hydrostatics  
Read: Schubert, Chap. 1-2  
Watson, Chap. 1-2 |      |
| 3.    | Pore Pressure Prediction  
Read: Schubert, Chap. 9  
Watson, Chap. 3 |      |
| 4.    | Formation Fracture Gradients  
Read: Schubert, Chap. 9  
Watson, Chap. 4 |      |
| 5.    | Kick Detection and Control Methods  
Read: Schubert, Chap. 3-6  
Watson, Chap. 5 |      |
| 6.    | Secondary Well Control Complications  
Read: Schubert, Chap. 6, 13  
Watson, Chap. 6 |      |
| 7.    | Special Well Control Applications  
Read: Schubert, Chap. 13  
Watson, Chap. 7 |      |
| 8.    | Well Control Equipment  
Read: Watson, Chap. 8 |      |
| 9.    | Offshore and Subsea Well Control  
Read: Schubert, Chap. 15  
Watson, Chap. 9 |      |
| 10.   | Blowout Control  
Read: Watson, Chap. 10 |      |
| 11.   | Snubbing and Stripping  
Read: Schubert, Chap. 13  
Adams, Chap. 6  
Watson, Chap. 11 |      |
Topic 12. Casing Seat Selection
Read: Schubert, Chap. 9
      Watson, Chap. 12

Topic 13. SMD Well Control

Topic 14. Well Workover/Well Completion Well Control
Read: Watson, Chap. 7
      Adams