

**PTRT 1321
Oil Field Hydraulics**

Western Texas College

- I. Basic Course Information
 - A. Study of well control practices applicable to drilling, completion, and production. Includes calculating and evaluating the characteristics of the flowing and static fluids in various tubular and annular systems.
- II. Student Learning Outcomes
 - A. Calculate and determine the pressure loss inside a tubular system.
 - B. Discuss the advantages and disadvantages of the different hydraulic systems used in oil field applications
 - C. Demonstrate the impact on pressure control in flowing wells
- III. Major Course Requirements
 - A. Homework
 - B. Test(s)
 - C. Lab Attendance
 - D. Final Exam.
- IV. Information on Books and Other Course Materials
 - A. None
- V. Other Policies, Procedures and Important Dates are available in the [Catalog](#).
- VI. Grading - Disclaimer: Schedule and content is subject to change at the instructor's discretion.

Class/Lab Assignments	60%
Test	20%
Final Exam	20%

I. Course Organization and Schedule:
A. Weekly Course Schedule

WEEK 1	INTRODUCTION TO HYDRAULICS, PROPERTIES OF FLUIDS
WEEK 2	FLUID STATICS
WEEK 3	FLUID FLOW CONCEPTS AND MEASUREMENTS
WEEK 4	Test 1
WEEK 5	HYDRAULIC WORKOVER UNITS & COMPLETION & WORKOVER FLUIDS (Well Control for Completion and Workover book)
WEEK 6	BLOWOUT PREVENTION EQUIPMENT (Well Control)
WEEK 7	PRESSURE BASICS (Well Control)
WEEK 8	Test 2

WEEK 9	KICK FUNDAMENTALS
WEEK 10	SHUT-IN PROCEDURES
WEEK 11	WELL CONTROL METHODS
WEEK 12	GRADUALLY VARIED UNSTEADY FLOW FROM RESERVOIRS
WEEK 13	Test 3
WEEK 14	PRESENTATION OF RESEARCH PROJECT (TURN IN PAPERS)
WEEK 15	PRE-FINAL EXAM WEEK
WEEK 16	FINAL EXAM WEEK

Last Modified: August 19, 2015