PTE 411x-463 Fall 2013

Subject	Lecture	Dates
Properties of Fluids and Porous Media	1,2	8/28, 9/4
• Introduction		
• Properties of fluids		
• Porosity & permeability		
• Experimental determination of properties		
Single-Phase Fluid Flow		
• Capillary-tube models	2,3	9/4,9/11
• Application of Darcy's law	3	9/11
• Unconfined flow of groundwater	4	9/18
Multi-Phase Reservoir Properties		
• Saturation & electrical properties	5	9/25
• Wettability, capillary pressure & relative permeability	6	10/2
Midterm (2 hrs, in class)		**10/9**
Multi-Phase Fluid Flow		
• Immiscible Displacement	7-9	10/16,23,30
○ Two-Phase Fractional Flow		
○ Frontal Advance Concepts		
• Miscible Displacement	10-12	11/6,13,20
○ Diffusion and dispersion		
Energy Transport and review		
• Heat transfer in porous media	13	12/4
• Course review		
Final (room TBA)		**Monday, December 16: 2-4 pm**