Petroleum Engineering (PETR) 245 – Petroleum Fluids
Summer 2010 (June 15 thru Aug 6)

Why Enroll?
- Learn about the properties of petroleum fluids for engineering computations
- Earn required credit towards a BS in petroleum engineering
- Obtain professional development/continuing education credit

Who Should Attend?
The course is designed for students interested in pursuing a B.S. degree in Petroleum Engineering but have problems with meeting the class during the regular semester on the NM Tech campus.

Catalog Course Description
Petr 245, Petroleum Fluids, 3 cr, 3 cl hrs
Prerequisites: CHEM 122; MATH 132; ES 111
Corequisite: ES 347
Characteristics and properties of reservoir fluids. Representation of fluid property data for computer uses with models and regression

Facilities, Materials and Scheduling
The course will be offered as a distance-learning course. Students may receive the course via the internet as streamed video at their convenience. Students may interact with the instructor via email. Special arrangements will be made to complete the final exam. An appropriate Windows based personal computer is required. A course text is required: McCain, The Properties of Petroleum Fluids, 2nd Ed., PennWell Books, Tulsa OK (1990). It is available on-line or through the NMT bookstore.

How to Enroll?
General requirements for admission to New Mexico Tech are available from http://www.nmt.edu

About the Instructor
Dr. Robert Bretz is an Associate Professor of Petroleum and Natural Gas Engineering and Chemical Engineering. He received his B.S. in Chemical Engineering from Texas A&M College in 1963, an M.S. in Interdisciplinary Engineering from Texas A&M University in 1975 and his Ph.D. in Bioengineering, also from Texas A&M, in 1977. Upon graduation with his B.S., Dr. Bretz was commissioned in the Army Corps of Engineers, and served in Vietnam. Prior to joining New Mexico Tech, Dr. Bretz operated and designed chemical manufacturing plants in the US and in Europe, was a regional sales manager for medical filters and helped develop artificial kidney devices. Dr. Bretz joined New Mexico Tech in 1981 as a research associate at the PRRC working in the CO2 flooding group. In 1986, he joined the Petroleum Engineering Department and served two terms as the Department chair. Subjects within the Petroleum and Natural Gas curriculum taught by Dr. Bretz include Properties of Petroleum Reservoir Fluids, Rock-Fluid Properties, Natural Gas Engineering, Petroleum Economics, Enhanced Recovery, and Advanced Petroleum Fluids. After helping to initiate the chemical engineering department, he teaches plant design and management. Recent publication topics include an improved gas viscosity model, an economic study of using a three-phase centrifuge to clean up production sludge, and a simple fuzzy logic control method for process control. He has an active research project to develop cavities in hard rock for natural gas storage using thermal spallation.

Contacts
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