

Fundamentals of Enhanced Oil Recovery
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One-day Course Description

From its early beginning in the middle of the 20th century, enhanced oil recovery has slowly become a common technique to recover the third crop of oil from mature reservoirs. Now the challenge is to apply EOR to so-called unconventional reservoirs.

This course deals with the fundamental principles of EOR: lowering mobility ratio and increasing capillary number. The connections between these and the 4 main techniques of oil recovery--solvent flooding, chemical flooding, polymer flooding and thermal flooding--are explored. The course reviews how each process works, the type of reservoirs that are most appropriate, simplified recovery predictions, and field performances. The solvent field cases show that it is possible to store CO₂ along with producing incremental oil. The course also illustrates how the basic principles apply to or can be modified to apply to unconventional production.