

PTE531 – Enhanced Oil Recovery – Summer 2014

This course is an overview of enhanced oil recovery methods including water flooding, thermal, miscible gas, and chemical flood methods. Emphasis is on process mechanisms and reservoir engineering aspects of applications.

Texts & References

There is no assigned text for this class.

Lecture Notes (*slides*) will be posted in DEN documents. These, plus homework and assigned reading of journal articles will be sufficient for you to be able to satisfy course requirements.

However, additional reference material will be provided for those with further interest in any of the subjects covered.

Homework and Independent Reading Project

There will be regular homework assignments following each class (*except those preceding an exam*) which should be turned in prior to the following class. These will be reviewed for effort only. (*OK to make mistakes here.*)

The last week of class will be devoted to independent reading. Each student will select and study journal articles (*from a list provided*) that cover one EOR subject area in greater detail. Part the final exam will test understanding of that subject.

Grading

Midterm Exam	40%
Final Exam	40%
Homework	10%
Reading Project	<u>10%</u>
	100%

Schedule

The class will meet on Tuesdays from 11 AM to 2:10 PM.

May 27	EOR Introduction, Immiscible Displacement Fundamentals, Waterflooding
June 3	Waterflooding
June 10	Steam Injection Methods Fundamentals, Steam Stimulation
June 17	Steam Flooding
June 24	In-situ Combustion, Midterm Review
July 1	<u>Midterm Exam</u>
July 8	Miscible Gas Fundamentals
July 15	Hydrocarbon Miscible and CO ₂ Flooding
July 22	Polymer Waterflooding and Surfactant Flood
July 29	Alkaline Waterflood, EOR Screening, Review for Final Exam
Aug 5	No Class (Independent Reading Project)
Aug 12	<u>Final Exam</u>