CHEN409 Petroleum Refining Processes
Fall Semester 2009

Instructor:	John Jechura
Class Hours:	T Th 5:00 – 6:15 pm (AH 340)
Office Hours:	T Th 6:15 – 7:15 pm & by appointment (AH 349)
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Text Book

Petroleum Refining, Technology & Economics, 5th ed.
James H. Gary, Glenn E. Handwerk, & Mark J. Kaiser
CRC Press, 2007

Supplemental Text & Materials

Petroleum Refinery Process Economics, 2nd ed.
Robert E. Maples
PennWell Corp., 2000

Petroleum Refining Processes
James G. Speight & Baki Özüm
Marcel Dekker, Inc., 2002

The Chemistry & Technology of Petroleum, 4th ed.
J.G. Speight
Marcel Dekker, Inc., 1991

Petroleum Processing Handbook
John J. McKetta, ed.
Marcel Dekker, Inc., 1992

Refining Overview — Petroleum, Processes, & Products
Freeman Self, Ed Ekhom, & Keith Bowers
CD, South Texas Section AIChE, 2000

Course Objective

The objective of this course is to acquaint the student with the engineering & business fundamentals associated with petroleum refining.

- Emphasis will be placed on developing a basic understanding of petroleum chemistry with applications to process design & analysis of typical refinery operations. Understanding how to use crude oil assays will play a key part in the class.
- Simulation software for crude oil characterization, fractionation, & refining unit operations will be utilized.
- The impact of government mandates and rules & emission legislation on refinery operations, process design, and products (reformulated gasolines, etc.) will be covered.

Grading Policies

Safety Topic	5%
Homework	30%
Short Quizzes	30%
Mid-Term Exams	0%
Final Exam	25%
ASPEN Project	10%

The only formal exam will be given during the Final Exam week. If the student is unable to take the exam during this scheduled period then he/she must make special arrangements with the instructor to take the exam *prior* to the scheduled time.

There will also be 6 to 10 short quizzes given throughout the semester. The quizzes will be 10 minutes in length and given at the very beginning of the class. Quizzes will be unannounced. There will be no make-up quizzes. It will be up to the discretion of the instructor to excuse an absent student from a particular quiz. To be eligible for an excused absence the student must notify the instructor of the absence via email *before* the class period.

There will be about 8 to 12 homework assignments. Homework will be announced at least one week before it is due. Homework will be due by 7:00 pm on the due date and is to be emailed to the instructor. Late homework will not be accepted. Homework is still expected on the due date even if the student is absent.

There will be one special project. A set of ASPEN simulations will be used to answer a set engineering-type questions concerning crude oil distillation. Students may work in groups to do the ASPEN work, but each individual will be responsible for his/her own report.

Class will begin with a short safety topic. Each student will be responsible to provide at least one topic during the semester. Doing so will provide the credit toward this grade.