

PETE 662  
Production Engineering  
Texas A&M University

Fall 2014  
TTh 12:45-2:00 pm RICH 313

Instructor: Dr. Jenn-Tai Liang  
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### COURSE SYLLABUS

Description: This course is a survey course in petroleum production engineering, beginning with the material in the textbook, and going beyond this level with the aid of other material from the literature. I will review basic undergraduate production engineering material at a fairly rapid pace. The primary topics that will be covered include reservoir inflow, skin effects and formation damage, well completion performance, multiphase flow in pipes, and well stimulation. A course outline is given below.

Objectives:

- Learn engineering methods to evaluate and optimize oil and gas well performance.

Text: *Petroleum Production Systems*, 2<sup>nd</sup> edition by M. J. Economides, A. D. Hill, C. Ehlig-Economides, and D. Zhu + supplemental papers

### Course Schedule

<u>Week</u>	<u>Topic</u>	<u>Chapter(s) covered</u>
1-3	Introduction to production engineering; review of reservoir inflow	1-5
4-5	Skin effects and formation damage; well completion performance	6
6-9	Well stimulation, acidizing and hydraulic fracturing	14-18
10-13	Multiphase flow in pipes	7-10
14-15	Artificial lift; overview	11-12

## COURSE POLICIES

1. Attendance: Class attendance is important. I will supplement the material in the textbook with a considerable amount of additional published and unpublished material, some of which may be presented only during class time. I encourage you to attend class regularly.

2. Examinations: Examinations are not optional. Make-up of major examinations will be given only for university excused absences.

3. <b>GRADING:</b>	Mid-term Exam I (Oct. 23 <sup>rd</sup> )	35%
	Mid-term Exam II (Dec. 4 <sup>th</sup> )	35%
	Final Project (Due: Dec. 9 <sup>th</sup> )	30%

The course grade will be based on two mid-term exams, and a final project. There will be no final exam. There will be homework sets assigned approximately weekly. These will not be graded, but solutions will be posted a week after the homework is assigned so that you can check your work. I strongly encourage you to work the homework assignments to be prepared for the exams.

4. Late Work Policy: You are required to complete your work during the time allotted. For the final project, it is to be handed in at the start of class on the announced due date for in-class students and to be electronically submitted by the assigned date and time for Distance Learning students. Project reports turned in after the due time will not be accepted and will receive a grade of 0. For Distance Learning students, if you have a short-term work assignment that will prevent you from submitting an assignment on time, you must petition well ahead of time to get an exception to this rule. In general, you are given sufficient time to complete all assignments, so this circumstance should be rare. The two mid-term exams are required. For in-class students missing an exam, a valid medical excuse is required or the grade will be 0. Distance Learning students must submit the mid-term exams by the assigned date and time or the grade will be 0.

5. Academic Integrity Statement: *"An Aggie does not lie, cheat, or steal or tolerate those who do."* Collaboration on examinations and assignments is forbidden except when specifically authorized. Students violating this policy may be removed from the class roster and given an F in the course or other penalties as outlined in the *Texas A&M University Student Rules*. See <http://aggiehonor.tamu.edu/> for definitions of academic misconduct and other related information and resources.

6. ADA Policy Statement: The Americans with Disabilities Act (ADA) is a federal anti-discrimination statute that provides comprehensive civil rights protection for persons with disabilities. Among other things, this legislation requires that all students with disabilities be guaranteed a learning environment that provides for reasonable accommodation of their disabilities. If you believe you have a disability requiring an accommodation, please contact the Department of Student Life, Services for Students with Disabilities, in Cain Hall or call 845-1637.