

ChE 230-003 – Chemical Engineering Thermodynamics I

Fall 2009

Dr. Deran Hanesian
374 Tiernan Hall
973 - 596 - 3597

Class Hours:
Wednesday 8:30 AM – 9:55 AM
Classroom Faculty 407
Friday 4:00 AM – 5:25 PM
Classroom Faculty 407

Office Hours:

Tuesday 10:00 AM – 10:40 AM
Wednesday 12:15 PM – 12:55 PM
Friday 1:45 - 2:25 PM

GENERAL

The three introductory courses in the sophomore year, ChE 210, ChE 230 and ChE 240, are the basic courses in chemical engineering fundamental principles. What you learn in these three courses will appear over and over again throughout your junior and senior courses. Therefore, it is in your best interest to learn these subjects well now. Please plan to spend a minimum of 10 – 15 hours per week on your homework problems for this course. Failure to meet this goal will seriously jeopardize your successful completion of this course and will harm your efforts in the junior and senior years.

TEXTBOOKS

Smith, J. M., Van Ness, H. C., and Abbott, M. M.
“Introduction to Chemical Engineering Thermodynamics”, 7th Edition
McGraw – Hill Companies, Inc., New York, New York 2005

REFERENCE TEXTBOOK [LIBRARY, ON RESERVE]

Reid, Robert C., Prausnitz, John M. and Poling, Bruce E.
“The Properties of Gases and Liquids” 4th Edition
McGraw – Hill Book Companies, Inc., New York, New York 1987

HOMEWORK

Homework assignments are the responsibility of the students. You are strongly advised to work on the homework problems because you will not learn this material unless you get into the material “Hands-on”. The

homework problems will be collected at the time of each examination. I will keep a record of the number of problems that you have worked on.

WORKSHOP

There is a workshop in conjunction with this course with another instructor. Attendance is mandatory and at the end of the semester, a Grade of Satisfactory (S) or Unsatisfactory (US) depending upon your performance. If you receive a Grade of Unsatisfactory (US) you fail the course and you can not graduate until you pass the course

PROJECT

A comprehensive project will be assigned on real gases. The project will be graded at the end of the semester

EXAMINATIONS

There will be three semester examinations [1 hour and 25 minutes each] and a comprehensive final exam. A legal written excuse will be required for any examinations that are missed. There will be only **one** makeup examination, if you miss any examinations. That makeup examination is given at the end of the semester and will cover all of the semester topics. The makeup examination can only be taken by students who have missed a semester examination and have a legal excuse for missing that examination.

HOMEWORK

Homework assignments will be collected at the time of the semester Examinations. Homework assignments are the responsibility of the students. You are strongly advised to work on the homework problems because you will not learn this material unless you get into the material **"Hands-on"**.

COURSE GRADING

The final course grade will be based upon the following:

Exam 1	21%
Exam 2	21%
Exam 3	21%
Final Examination	33%
Project	<u>4%</u>
Total	100%

FINAL COURSE GRADE

Generally, the final grade distribution is on the following basis:

85 and above	A
80 - 84	B+
75 - 79	B
70 - 74	C+
65 - 69	C
55 - 64	D
< 55	F

WEEK	TOPICS	HOMEWORK PROBLEMS
1 08/31/09	Chap 1-2	Assignment 1 Chap 1: 6, 8, 13, 16, 18, 22, 24, 25 Chap 2: 1, 5, 17, 26, 29, 30, 33, 34, 36, 37, 39d, 42
2 09/07/09	Continue	
3 09/14/09	Chap 3	Assignment 2 Chap 3: 6, 9, 18, 22, 24, 35, 38b, 45, 49, 55, 65, 73
4 09/21/09	Quiz No. 1 09/25/09 Chapters 1-3	Homework on Chapters 1-3 is due
5 09/28/09	Chap 4	Assignment No. 3 Chap 4: 1-b, 3, 7, 9a (acetonitrile), 9b (benzene), 10b, 11c, 20, 43b, 45b
6 10/05/09	Continue	
7 10/12/09	Chap 5	Assignment 4 Chap 5: 3, 7, 9, 10, 16, 18b, 21, 26, 27a, 30, 34, 38, 39b, 47a
8 10/19/09	Continue	
9 10/26/09	Quiz No. 2 10/30/09 Chapters 4-5	Homework on Chapters 4-5 is due
10 11/02/09	Chap 6	Assignment No.5 Chap 6: 7, 9, 10, 14a, 17, 22, 24, 28, 32, 37, 39, 41, 47, 64, 65, 80
11 11/09/09	Continue	
12 11/16/09	Chap 7	Assignment No.6 Chap 7: 4, 10, 12, 18, 20, 23
13 11/23/09	Quiz No. 3 11/25/09 Chapters 6-7	Homework on Chapters 6-7 is due
14 11/30/09	Continue	Project is due 12/02/09
15 12/07/09	Final Exam	Review on Reading Day, which will be December 10, 2009