

MECH 332- Thermodynamics – Fall 2007

Prerequisite:	PHYS 204A (Mechanics), PHYS 204C (Heat, Wave Motion, Sound, Modern Topics) recommended
Course Times:	Meetings M W F 1:00 – 1:50 PM OCNL 121
Professor:	Dr. Joe Greene (jpgreene@csuchico.edu) Web page: http://www.csuchico.edu/~jpgreene
Office:	Location- O'Connell 422 – Phone: 898-4977 Hours M 10 – 10:50 AM W 11 – 11:50 AM, 2 – 2:50PM Homework sessions R 10 – 10:50 AM, 1-1:50PM

Course Description: Study of the properties of substances, ideal gas equation of state, heat and work, first and second laws of thermodynamics, steady-state analysis of closed and open systems, entropy, gas.

Textbook: *Thermodynamics -An Engineering Approach*, 6th edition by Y. A. Cengel and M. A. Boles, McGraw-Hill, 2007.

Student resources: available at <http://www.mhhe.com/cengel>

Homework: There will be homework problems assigned on a regular basis. The problems typically are selected from the *Problems* section at the end of each chapter. These problems usually are due a week after they are assigned. Problems sets are collected at the beginning of the class period. There will be a grade penalty for late homework. **NO LATE HOMEWORK WILL BE ACCEPTED AFTER THE SOLUTIONS ARE POSTED.**

Solutions to the assigned problems should be written and arranged in numerical order of problem numbers on **engineering computation paper**. For each problem, the 7-step solution procedure described in section 1.12 (Problem-Solving Techniques) should be followed. All pages should be stapled together at the top center with course number and **student's name** shown on every page. Solutions to the problems will be posted in the display case outside the instructor's office.

Exams: There will be four term tests and a final exam. Each short term test mainly covers a *specific area* while the final examination is more comprehensive with emphasis on topics covered after the last short term test. All tests are open-book tests. Materials allowed include textbook and 1-page summary notes. **Homework problems and solutions are not allowed.** There will be no make-up tests.



Students will take the final examination on the day and time scheduled by the university. Any scheduling conflicts with other final exams should be brought to the instructor's attention as early as possible.

Grading

Assignments	20%
4 Tests	55%
1 Final exam	<u>25%</u>
	100%

Schedule

<u>Week (of)</u>	<u>Topics</u>	<u>Reading</u>
1 (Aug 27)	Introduction and Basic Concepts	Chapter 1
2 (Sept 3)	Energy, Energy Transfer, and General Energy	Chapter 2
3 (Sept 10)	Properties of Pure Substances	Chapter 3
4 (Sept 17)	Energy Analysis of Closed Systems, Test No. 1	Chapter 4
5 (Sept 24)	Energy Analysis of Closed Systems	Chapter 4
6 (Oct 1)	Mass and Energy Analysis of Control Volumes	Chapter 5
7 (Oct 8)	Mass and Energy Analysis	Chapter 5
8 (Oct 15)	Second Law of Thermodynamics Test No. 2	Chapter 6
9 (Oct 22)	Entropy	Chapter 7
10 (Oct 29)	Entropy	Chapter 7
11 (Nov 5)	Gas Power Cycles Test No. 3	Chapter 9
12 (Nov 12)	Gas Power Cycles	Chapter 9
13 (Nov 19)	University Holidays ----	
14 (Nov 26)	Gas Power Cycles Test No. 4	Chapter 9
15 (Dec 3)	Vapor Power Cycles	Chapter 10
16 (Dec 10)	Vapor Power Cycles	Chapter 10

Final Exam Wednesday December 19 at 2 – 3:50 PM OCNL 121

