UNIVERSITY OF CALIFORNIA **ME 40 Thermodynamics**
Mechanical Engineering **Professor C. Fernandez-Pello**
Spring 2018

Lecture: MWF 2:00-3:00, Le Conte 4
Discussion: Th12:00-1:00, Barrows 170; Tu 1:00-2:00 Corey 289; Th 5:00-6:00 Le Conte 2
Instructor: Carlos Fernandez-Pello, 6105A Etcheverry Hall,
ferpello@me.berkeley.edu. Phone 510-642-6554
Office hours: MWF 11:00-12:00, 6105A Etch. Hall and by appt.
Text: *Thermodynamics: An Engineering Approach, Y.A. Cengel and M. A. Boles, McGraw Hill,*
Problem Sets: Weekly, due on Friday
Grading Policy: Homework 20%, Two Mid-terms 40%, Final Exam 40%

Teaching Assistant: Zhenyuan Liu, at zhenyuan@berkeley.edu Office hours: Tu. 3:30-5:00, Th 2:00-3:30 Location Hesse Hall and Abdullah Kuraan at abdullah_kuraan@berkeley.edu Office hours: M, We, 1:00-2:00, Location Hesse Hall

Week	Topics	Chapter
1 (1/17)	Introduction and basic concepts of thermodynamics.	1
2 (1/22)	General Energy Analysis	2
3 (1/29)	Thermodynamic properties and states. Property diagrams for phase change. The first law of thermodynamics	3/4
4 (2/5)	The first law of thermodynamics for closed systems, and applications	4
5 (2/12)	The first law of thermodynamics for control volumes. Analysis and applications to practical systems	5
6 (2/19)	The first law of thermodynamics review.	1-5
7 (2/26)	The second law of thermodynamics for enclosed systems and control volumes. **MT 1 (2/28)**	6
8 (3/5)	Entropy, and property diagrams involving entropy. Reversible work and irreversibility. Isentropic processes	7
9 (3/12)	The first and second law of thermodynamics review.	1-7
10 (3/19)	Gas and vapor power cycles	
11 (3/26)	Spring Recess	9,10
12 (4/2)	Refrigeration cycles**.** Review. **MT 2 (4/6)**	11
13 (4/9)	Gas mixtures	13
14 (4/16)	Gas vapor mixtures. Air conditioning	14
15 (4/23)	Review	
(5/8)	**Final Exam 11:30-2:30**	