

ME 40 Thermodynamics

Fall 2018 (version 5)

- Instructor:** Prof. J.Y. Chen
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Office: Etcheverry 6163
Office Hours: M (10-11 AM), W (10-11 AM)
- GSI:** Zhenyuan Liu zhenyuan@berkeley.edu
Office Hours: Tu (2-3 PM) 136 Hesse
- Reader:** Bhaskar Chaturvedi chaturvedibhaskar@berkeley.edu
- Text:** Cengel & Boles, *Thermodynamics: An Engineering Approach (any edition)*
- Lecture:** MWF 9-10AM, 105 North Gate
- Discussions:**
DIS 101 W 5:00P-5:59P | 3111 Etcheverry
DIS 102 Tu 1:00P-1:59P | 3111 Etcheverry
DIS 103 Th 5:00P-5:59P | 241 Cory
- Websites:** bCourses
- Grading:**
- | | |
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| Homework | 20% |
| | (will drop the lowest two homework grades) |
| Midterms (2) | 40% |
| September 21 (Friday), 9-10am | 105 North Gate |
| | Midterm #1 (Chapters 1-5) |
| October 19 (Friday), 9-10am | 105 North Gate |
| | Midterm #2 (Chapters 6-9) |
| Final | 40% |
| December 13 (Thursday) 7-10 PM | |
| Location to be announced later | Final (All materials) |
- Attendance:** Attendance to the lectures and discussions is expected but not required.
- Homework:** Working on homework problems is essential to your learning the course material. You will have a weekly problem set of approximately 5 or 6 problems of varying difficulty. The problems will be taken primarily from the textbook and will be posted on bCourses. You should attempt each homework problem for yourself, but we encourage you to work with

peers when you get stuck. The GSI and instructor will be available during their office hours for help. A few problems from each assignment will be spot graded. Solutions for all problems will be posted to bCourses. Submit homework to **Etcheverry Hall 1st floor Box #3 by 5pm** on due date (Wednesdays see Schedule section). **NO LATE HOMEWORKS WILL BE ACCEPTED.** Solutions will be posted on bCourses. Homework assignments will be returned during discussion periods and will be stored in instructor's office if not claimed after 1 week.

Midterms: Midterms will be closed book/notes/computers/phones. A single piece of paper (double sided) will be allowed for each midterm. A standard calculator defined by the department policy is allowed. Both multiple choice and open-ended questions will be present. What topics are relevant to each midterm will be covered in lecture and in the homework sets. Each midterm will be curved according to class performance. Midterms will be returned during discussion periods and will be stored in instructor's office if not claimed after 1 week.

Rules: When time is up, students must stop writing and sit on your seat. Pass you exam to the center aisle and wait for GSI or instructor to collect exams. After all exams are collected, students are allowed to leave. In order to have sufficient time to collect exams, all midterm will stop at 9:55.

Regrading: Request of regrade must be made within a week after the exam is graded. The original test must not be altered. Submit the original test with a sheet of paper stating 1) the problem to be grade, 2) reason(s) for regarding. There is no guarantee the regarding will result in an increase in the scores.

Final: The final will be comprehensive and all materials covered will be included. It will be open notes and book, a standard calculator defined by the department policy is allowed but computers or other devices are not allowed. Photo ID is required with assigned seat. Final will be curved.

SCHEDULE (based on 7-th edition)

DAY	DATE	CONTENT
W	August 22, 2018	Chapter 1 <i>Introduction & Basic Concepts</i>
F	August 24, 2018	Chapter 2 <i>Energy, Energy Transfer, General Energy Analysis</i>
M	August 27, 2018	Chapter 2/3 <i>Properties of Pure Substances</i>
W	August 29, 2018	Chapter 3, HW1 (Chaps1&2) DUE @ 5PM, SOLUTIONS POSTED
F	August 31, 2018	Chapter 3/4 <i>Energy Analysis of Closed Systems</i>
M	September 3, 2018	HOLIDAY (Labor day)
W	September 5, 2018	Chapter 4, HW2(Chap3) DUE @ 5PM, SOLUTIONS POSTED
F	September 7, 2018	Chapter 4
M	September 10, 2018	Chapter 5 <i>Mass and Energy Analysis of Control Volumes</i>
W	September 12, 2018	Chapter 5, HW3(Chap4) DUE @ 5PM, SOLUTIONS POSTED
F	September 14, 2018	Chapter 5
M	September 17, 2018	Chapter 5/6 <i>Second Law of Thermodynamics</i>
W	September 19, 2018	Chapter 6, HW4(Chap5) DUE @ 5PM, SOLUTIONS POSTED
F	September 21, 2018	Midterm #1 (Chapters 1-5)
M	September 24, 2018	Chapter 6
W	September 26, 2018	Chapter 6/7 <i>Entropy</i>
F	September 28, 2018	Chapter 7
M	October 1, 2018	Chapter 7
W	October 3, 2018	Chapter 7, HW5(Chap6) DUE @ 5PM, SOLUTIONS POSTED
F	October 5, 2018	Chapter 7/9 <i>Gas Power Cycles</i>
M	October 8, 2018	Chapter 9
W	October 10, 2018	Chapter 9, HW6(Chap7) DUE @ 5PM, SOLUTIONS POSTED
F	October 12, 2018	Chapter 9/10 <i>Vapor & Combined Power Cycles</i>
M	October 15, 2018	Chapter 10
W	October 17, 2018	Chapter 10, HW7(Chap9) DUE @ 5PM, SOLUTIONS POSTED
F	October 19, 2018	Midterm #2 (Chapters 6-9)
M	October 22, 2018	Chapter 11 <i>Refrigeration Cycles</i>
W	October 24, 2018	Chapter 11, HW8(Chap10) DUE @ 5PM, SOLUTIONS POSTED
F	October 26, 2018	Chapter 11
M	October 29, 2018	Chapter 12 <i>Thermodynamic Property Relations</i>
W	October 31, 2018	Chapter 12, HW 9(Chap11) DUE @ 5PM, SOLUTIONS POSTED
F	November 2, 2018	Chapter 12
M	November 5, 2018	Chapter 13 <i>Gas Mixtures</i>
W	November 7, 2018	Chapter 13, HW 10(Chap12) DUE @ 5PM, SOLUTIONS POSTED
F	November 9, 2018	Chapter 13
M	November 12, 2018	HOLIDAY (Veteran Day)
W	November 14, 2018	Chapter 14, HW 11(Chap13) DUE @ 5PM, SOLUTIONS POSTED
F	November 16, 2018	Chapter 14 <i>Gas-Vapor Mixtures & Air-Conditioning</i>

M	November 19, 2018	Chapter 14
W	November 21, 2018	No instruction
F	November 23, 2018	Thanksgiving Holiday
M	November 26, 2018	Chapter 15 <i>Chemical Reactions</i>
W	November 28, 2018	Chapter 15, HW12(Chap14) DUE @ 5PM, SOLUTIONS POSTED
F	November 30, 2018	Chapter 15/REVIEW
W	December 5, 2018	HW13(Chap15) DUE @ 5PM, SOLUTIONS POSTED
	December 10, 2018	FINAL EXAM WEEK

UC Berkeley honor code: "As a member of the UC Berkeley community, I act with honesty, integrity, and respect for others."

If you are unclear what constitutes dishonesty, especially regarding homework sets, ask your GSIs. As a member of the campus community, you are expected to demonstrate integrity in all of your academic endeavors and will be evaluated on your own merits. The consequences of academic dishonesty and misconduct — including a formal discipline file, possible loss of future internship, scholarship, or employment opportunities, expulsion, and denial of admission to graduate school — are simply not worth it.

Academic Misconduct/Plagiarism: Any paper or report submitted by you and that bears your name is presumed to be your own original work that has not been previously submitted for credit in another course unless you obtain prior written approval to do so from your instructor. As you are aware, UC Berkeley has a honor code that the ASUC adopted in May 2013:

"As a member of the UC Berkeley community, I act with honesty, integrity, and respect for others."

Please see the ASUC website: <http://www.asuc.org/honorcode/index.php>

Students with a Disability: If you need special accommodations in this class, such as for a disability, please inform the course instructor immediately.

Add/Drop: Visit <http://coe.berkeley.edu/students/current-undergraduates> for pertinent deadlines.

Emails Please do not expect immediate responses to emails; allow at least 24 hours for your GSI or instructor to get to your questions. GSIs and instructor will monitor emails as time allows.