

MEC ENG 40 Thermodynamics (CCN 14388)

Fall 2017, Monday, Wednesday, and Friday, 11 am to 12 pm
Wednesday August 23rd to Tuesday December 13th, 2017

Instructor: Dr. David Rich
Email: davidrich@berkeley.edu, rich@reaxengineering.com
Office Hours and Location: Following class, Hesse Hall

GSIs: Claire Funke
Email: csfunke@berkeley.edu
Office hours and location: Tuesdays 3-4pm and Thursdays 4-5pm (before discussion sections) in Hesse Hall

Text: Cengel & Boles, *Thermodynamics: An Engineering Approach*

Lecture: M, W, F, 11-12, 105 Northgate

Discussions: We 5:00 pm – 6:00 pm Etcheverry 3107
Th 5:00 pm – 6:00 pm Etcheverry 3111
Tu 4:00 pm – 5:00 pm Mulford 240

Final Exam: Tuesday, 12/12/17, 7-10 pm

Website: bCourses

| | | |
|-----------------|-------------------|-----|
| Grading: | Homework (Weekly) | 15% |
| | Midterms (2) | 50% |
| | Final | 35% |

Homework: Homework is assigned online through **bCourses**. It will be scheduled weekly and due one week from assigned date.

Midterm: 2 mid-terms (1 hour) closed book and notes. One sheet of notes prepared for the exam are permitted.

Final: 1 final (3 hours) closed book and notes. One sheet of notes prepared for the exam are permitted. Comprehensive.

Cheating: Don't do it. If you are unclear what constitutes cheating, ask your GSI. As a member of the campus community, you are expected to demonstrate integrity in your academic endeavors and will be evaluated on your own merits. The consequences of cheating and academic 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.

Students with a Disability: If you need special accommodations in this class, please inform the course administrator.

| Day | Date (2017) | Action |
|-----------|-------------|---|
| Wednesday | 23-Aug | Chpt. 1 Introduction and Basic Concepts |
| Friday | 25-Aug | Chpt. 1 Introduction and Basic Concepts |
| Monday | 28-Aug | Chpt. 2 Energy, Energy Transfer and Analysis |
| Wednesday | 30-Aug | Chpt. 2 Energy, Energy Transfer and Analysis |
| Friday | 1-Sep | Chpt. 3 Properties of Pure Substances |
| Monday | 4-Sep | Academic and Administrative Holiday |
| Wednesday | 6-Sep | Chpt. 3 Properties of Pure Substances |
| Friday | 8-Sep | Chpt. 3 Properties of Pure Substances |
| Monday | 11-Sep | Chpt. 4 Energy Analysis of Closed Systems |
| Wednesday | 13-Sep | Chpt. 4 Energy Analysis of Closed Systems |
| Friday | 15-Sep | Chpt. 4 Energy Analysis of Closed Systems |
| Monday | 18-Sep | Chpt. 5 Mass and Energy Analysis of Control Volumes |
| Wednesday | 20-Sep | Chpt. 5 Mass and Energy Analysis of Control Volumes |
| Friday | 22-Sep | Chpt. 5 Mass and Energy Analysis of Control Volumes |
| Monday | 25-Sep | Chpt. 6 Second Law of Thermodynamics |
| Wednesday | 27-Sep | Chpt. 6 Second Law of Thermodynamics |
| Friday | 29-Sep | Midterm 1 |
| Monday | 2-Oct | Chpt. 7 Entropy 1 |
| Wednesday | 4-Oct | Chpt. 7 Entropy 1 |
| Friday | 6-Oct | Chpt. 8 Exergy |
| Monday | 9-Oct | Chpt. 8 Exergy |
| Wednesday | 11-Oct | Chpt. 9 Gas Power Cycles |
| Friday | 13-Oct | Chpt. 9 Gas Power Cycles |
| Monday | 16-Oct | Chpt. 10 Vapor and Combined Power Cycles |
| Wednesday | 18-Oct | Chpt. 10 Vapor and Combined Power Cycles |
| Friday | 20-Oct | Chpt. 11 Refrigeration |
| Monday | 23-Oct | Chpt. 11 Refrigeration |
| Wednesday | 25-Oct | Review |
| Friday | 27-Oct | Midterm 2 |
| Monday | 30-Oct | Chpt. 12 Thermodynamic Property Relations |
| Wednesday | 1-Nov | Chpt. 12 Thermodynamic Property Relations |
| Friday | 3-Nov | Chpt. 12 Thermodynamic Property Relations |
| Monday | 6-Nov | Chpt. 12 Thermodynamic Property Relations |
| Wednesday | 8-Nov | Chpt. 13 Gas Mixtures |
| Friday | 10-Nov | Academic and Administrative Holiday |
| Monday | 13-Nov | Chpt. 13 Gas Mixtures |
| Wednesday | 15-Nov | Chpt. 14 Gas Vapor Mixtures and HVAC |
| Friday | 17-Nov | Chpt. 14 Gas Vapor Mixtures and HVAC |
| Monday | 20-Nov | Chpt. 15 Chemical Reactions |
| Wednesday | 22-Nov | Non-Instructional Day |
| Friday | 24-Nov | Academic Holiday (and Thursday 23-Nov) |
| Monday | 27-Nov | Chpt. 15 Chemical Reactions |
| Wednesday | 29-Nov | Chpt. 15 Chemical Reactions |
| Friday | 1-Dec | Formal Classes End |
| Monday | 4-Dec | Reading/Review/Recitation Week |
| Wednesday | 6-Dec | Reading/Review/Recitation Week |
| Friday | 8-Dec | Reading/Review/Recitation Week |
| Monday | 11-Dec | Start of Final Exam Week |
| Tuesday | 13-Dec | Final 7-10 PM |