

MEC ENG 40 Thermodynamics (CCN 28512)

Spring 2020, Monday, Wednesday, and Friday, 3 pm to 4 pm
Wednesday January 22nd to Friday May 1st, 2020

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

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

Lecture: M, W, F, 3-4 pm, 4 LeConte
Office hours: after class in 4 LeConte and by appointment

Discussions: Tu 12:00 pm – 1:00 pm Cory 247
Th 3:00 pm – 4:00 pm Haviland 12
Tu 11:00 am – 12:00 pm Cory 247

GSI office hours: Amanda Lee, Wed 1-3 pm, Hesse Hall
Zhenyuan Liu, Tu/Th 2-3 pm, Hesse Hall

Final Exam: Exam Group 12 Wed May 13th, 2020 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. Two sheets 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.

Week	Day	Date (2020)	Action
1	Monday	20-Jan	Academic and Administrative Holiday
	Wednesday	22-Jan	Chpt. 1 Introduction and Basic Concepts
	Friday	24-Jan	Chpt. 1 Introduction and Basic Concepts
2	Monday	27-Jan	Chpt. 1 Introduction and Basic Concepts
	Wednesday	29-Jan	Chpt. 2 Energy, Energy Transfer and Analysis
	Friday	31-Jan	Chpt. 2 Energy, Energy Transfer and Analysis
3	Monday	3-Feb	Chpt. 2 Energy, Energy Transfer and Analysis
	Wednesday	5-Feb	Chpt. 3 Properties of Pure Substances
	Friday	7-Feb	Chpt. 3 Properties of Pure Substances
4	Monday	10-Feb	Chpt. 3 Properties of Pure Substances
	Wednesday	12-Feb	Chpt. 4 Energy Analysis of Closed Systems
	Friday	14-Feb	Chpt. 4 Energy Analysis of Closed Systems
5	Monday	17-Feb	Academic and Administrative Holiday
	Wednesday	19-Feb	Chpt. 5 Mass and Energy Analysis of Control Volumes
	Friday	21-Feb	Chpt. 5 Mass and Energy Analysis of Control Volumes
6	Monday	24-Feb	Chpt. 5 Mass and Energy Analysis of Control Volumes
	Wednesday	26-Feb	Midterm 1
	Friday	28-Feb	Chpt. 6 Second Law of Thermodynamics
7	Monday	2-Mar	Chpt. 7 Entropy
	Wednesday	4-Mar	Chpt. 7 Entropy
	Friday	6-Mar	Chpt. 9 Gas Power Cycles
8	Monday	9-Mar	Chpt. 9 Gas Power Cycles
	Wednesday	11-Mar	Chpt. 10 Vapor and Combined Power Cycles
	Friday	13-Oct	Chpt. 10 Vapor and Combined Power Cycles
9	Monday	16-Mar	Chpt. 11 Refrigeration
	Wednesday	18-Mar	Chpt. 11 Refrigeration
	Friday	20-Mar	Midterm 2
10	Monday	23-Mar	Academic and Administrative Holiday
	Wednesday	25-Mar	Academic and Administrative Holiday
	Friday	27-Mar	Academic and Administrative Holiday
11	Monday	30-Mar	Chpt. 12. Thermodynamic Property Relations
	Wednesday	1-Apr	Chpt. 12. Thermodynamic Property Relations
	Friday	3-Apr	Chpt. 12. Thermodynamic Property Relations
12	Monday	6-Apr	Chpt. 12. Thermodynamic Property Relations
	Wednesday	8-Apr	Chpt. 13. Gas Mixtures
	Friday	10-Apr	Chpt. 14. Gas Vapor Mixtures and Air Conditioning
13	Monday	13-Apr	Chpt. 14. Gas Vapor Mixtures and Air Conditioning
	Wednesday	15-Apr	Chpt. 14. Gas Vapor Mixtures and Air Conditioning
	Friday	17-Apr	Chpt. 14. Gas Vapor Mixtures and Air Conditioning
14	Monday	20-Apr	Chpt. 15 Chemical Reactions
	Wednesday	22-Apr	Chpt. 15 Chemical Reactions
	Friday	24-Apr	Chpt. 15 Chemical Reactions
15	Monday	27-Apr	Chpt. 16 Chemical and Phase Equilibrium
	Wednesday	29-Apr	Chpt. 16 Chemical and Phase Equilibrium
	Friday	1-May	Chpt. 16 Chemical and Phase Equilibrium
16	Monday	4-May	Reading/Review/Recitation Week
	Wednesday	6-May	Reading/Review/Recitation Week
	Friday	8-May	Reading/Review/Recitation Week
17	Monday	11-May	Start of Final Exam Week
	Wednesday	13-May	Final Exam Group 12 (7-10 PM)