

UNIVERSITY OF CALIFORNIA, DAVIS
Department of Chemical Engineering and Materials Science

ENG 45: Properties of Materials
COURSE SYLLABUS - Winter 2015

- Instructor: Professor Yayoi Takamura
2009 Kemper Hall
email: ytakamura @ ucdavis.edu
Office hours: Tuesdays @ 1pm; Thursdays @ 11am
- Teaching Assistants:
- A01: Tuesday: Giedt 1007 (discussion)/Kemper 163 (lab): 6:10 – 9:00pm
Jamie Dunaway Haoyan Sha
email: jsdunaway @ ucdavis.edu email: hsha @ ucdavis.edu
Office hours: R @ 10 am Office hours: T @ 9:45 am
- A02: Wednesday: Bainer 1134 (discussion) Kemper 163 (lab): 5:10 – 8:00pm
Harsh Maheshwari Josh Deetz
email: hmaheshwari @ ucdavis.edu email: jddeetz @ ucdavis.edu
Office hours: M @ 9 am (Kemper 155) Office hours: T @ 12 pm
- A03: Thursday: Giedt 1007 (discussion)/Kemper 163 (lab): 5:10 – 8:00pm
Harsh Maheshwari Yue Jia
email: hmaheshwari @ ucdavis.edu email: yuejia @ ucdavis.edu
Office hours: W @ 9am (Kemper 155) Office hours: W @ 1 pm (Kemper Lobby)
- A04: Friday: Giedt 1006 (discussion)/Kemper 163 (lab): 2:10 – 5:00pm
Cheng Peng Michael Lee
email: pcpeng @ ucdavis.edu email: mswlee @ ucdavis.edu
Office hours: R @ 4 pm Office hours: R @ 2 pm
- Homework Reader: Ariel Parker
email: aiparker @ ucdavis.edu
Office hours: M @ 10 am

Unless otherwise noted, all TA/reader office hours will be held in Kemper 163, Prof. Takamura's office hours will be in Kemper 2009 (or possibly Kemper 2051 – conference room).

- Course Times: **Lecture:** MWF 11:00-11:50am in Wellman 106
Labs: Locations of the discussions section vary for each lab (see locations above). The lab experiments will be performed in Kemper 163. Each section will be divided into two groups. Group A will meet for discussion for Lab 1 on Week 1 and will meet to perform the lab experiment on Week 2. Group B will meet for discussion for Lab 1 on Week 2 and will meet to perform the lab experiment on Week 3. Each Group is assigned a different TA. This staggered schedule will continue for the remaining four labs. Each Group will be further divided into two Sub-Groups so that no more than eight students will be performing an experiment at a given time. These divisions of Groups and Sub-Groups will be determined in each discussion section on Week 1.

Announcements: Announcements will be made via the course *SmartSite*. Only consult material available for this offering of the class.

Textbook: *Introduction to Materials Science for Engineers, 7th or 8th edition*, James Shackelford, Prentice Hall, 2009, ISBN: 978-0-13-601260-3

Prerequisites: grade of C- or better in Math 16C or 21C, grade of C- or better in Chem 2A and Phys 9A

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<u>Grading:</u>	Homework	20%
	Lab reports	25%
	Midterm Exam 1 (Wednesday, Jan 28)	15%
	Midterm Exam 2 (Wednesday, Feb 25)	15%
	Final Exam (Tuesday, March 17, 1:00-3:00pm)	25%

NOTE: A passing grade for the Lab section is necessary to obtain a passing grade for the overall course.

Course Policies:

1. Homework will be due at 5pm on the specified due date to the homework box assigned to the class in Kemper 2131. **No late homework will be accepted.** Be sure to include your name and section number on your homework.
2. Exams will be closed book, closed notes, but you will be allowed one 8 ½ x 11 cheat sheet (*single sided*) for each of the midterm exams and three 8 ½ x 11 cheat sheets (*single sided*) for the final exam. The material on the final exam will be cumulative.
3. Unless you are instructed otherwise, you may discuss homework problems with other students in the class, but submitted work must be your own. The UC Davis Code of Academic Conduct will be strictly enforced. (see <http://sja.ucdavis.edu/cac.html>)
4. It is expected that students will abide by the UC Davis Principles of Community (see <http://occr.ucdavis.edu/poc/>).

TENTATIVE READING LIST - Winter 2015

Note: The lecture and lab schedules may not match up as nicely as you would like.

<i>Topics</i>	<i>Text Reading</i>
Organization/Introduction Bonding Crystalline Structures	Ch.1 Ch.2 Ch.3
MIDTERM 1 - Wednesday, Jan 28, in class	
Defects Mechanical Properties Phase Diagrams	Ch.4 Ch.6 Ch.9
MIDTERM 2 - Wednesday, Feb 25, in class	
Diffusion Kinetics Electronic Materials	Ch. 5 Sections of Ch. 10 Sections of Ch. 13
FINAL EXAM - Tuesday, March 17, 1:00-3:00pm	<i>Cumulative</i>