

MSE 170 A/B Spring 2010

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Lab TA's		office hours	location
Lead TA: Matt Ferguson	mferg47@uw.edu	F: 10-11.	Mue 168
Lab TA: Anh Ho	hoa@uw.edu	F: 11-12 .	Mue 168
Monika Marciniak	monik956@uw.edu	Th 10-11.	Rob 319
Katherine Mazzio	mazzio@uw.edu	M 2:30-3:30.	Rob 319
Tianlong Wen	halong@uw.edu	W 11-12 .	Mue 168
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MS&E Engineering Technicians

Tuesday Kuykendall tuesday@u.washington.edu

Lectures

Section A: 8:30 AM MWF MUE153
Section B: 12:30 PM MWF MUE 153

LAB

Mueller 168
Mueller 168

Course Web Site: <http://courses.washington.edu/mse170>

TEXT: William D Callister, Jr., Materials Science and Engineering an Introduction, 7th Edition
Course information in general found on the web at:

Grading:

Homework:	20%
Midterm	20%
Final	30%
Labs	30%

Homework: Homework is due at 5PM every Friday, stapled with your name, section, TA name, and student number on the first page; lacking any of this information or **any HW not done legibly** may result in a penalty to your grade. A lock box labeled "MSE170 Homework Drop Box" is provided on the 4th floor of Roberts Hall (directly behind Mueller Hall) to turn in homework. **NO LATE HOMEWORK WILL BE ACCEPTED.** Students will be allowed to drop their lowest homework grade at the end of the quarter. Graded homework will be returned to Mueller 168. Solutions will be posted on the website.

Labs: You must have safety glass or goggles. You **MUST** attend the lab section for which you have enrolled. If you do not attend your lab section the first week and do not notify your respective lab TA or the lead TA, you may be **DROPPED** from the class list. Prior to each lab, you will be expected to print out a copy of the lab handout from the Web page, read the lab handout, be prepared to answer designated pre-lab questions and make lab notebook entry as discussed below. Some labs will only require answering questions and such; others will require a formal write-up. Labs are due at the beginning of your lab section the week following the completion of the lab.

Late Lab reports: Late lab reports will be accepted for a partial credit under the following conditions: a maximum of 80% if you turn it in within 24 hours after the due date, and a maximum of 50% for turning in later than 24 hours but before one week (at the beginning of your following lab session), no points after that.

Lab notebooks: Lab notebooks are due at the beginning of your lab section on the dates announced by your TA. Lab Notebooks will include assigned study questions, pre-lab objectives, experimental observations, data, and experimental summaries. In addition, they should include all project information, including notes from group meetings, experimental data, and research information. No late lab notebooks will be accepted. Lab notebooks are to be bound, not spiral or 3-ring, and all writing must be in ink. Numbering your pages and keeping a table of contents may be useful.

Tentative Course Schedule - CHECK WEB SITE REGULARILY FOR UPDATES AND CHANGES

CLASS SCHEDULE

Last up date: March 30, 2009

Week	Lecture Topic	Reading	Homework	Laboratory
Week 1 March 30	<ul style="list-style-type: none"> • Introduction; Bonding in Solids • Metallic Crystal Structures • Ionic Crystal Structures 	1: 1-5, 2: 1-8 3: 1-7 12: 1-4	<i>No homework due this week</i>	NO LAB
Week 2 April 5	<ul style="list-style-type: none"> • Crystal Directions & Planes • Crystalline & Noncrystalline solids • Imperfections in Crystals 	3: 8-12 3: 13-17 4: 1-11	TBD	Lab Safety Tour Lab I: What is in it and Why?
Week 3 April 12	<ul style="list-style-type: none"> • Diffusion • Elastic Properties • Mechanical Properties 	5: 1-6 6: 1-5 6: 6-12	TBD	Lab II: Crystal Structure Notebooks due
Week 4 April 19	<ul style="list-style-type: none"> • Slip in Crystalline Materials • Strengthening Mechanisms • Recrystallization and Grain growth 	7: 1-6 7: 8-10 7: 11-17	TBD	LabIV: Work Hardening and Annealing Notebooks Due
Week 5 April 26	<ul style="list-style-type: none"> • Failure • Failure • MIDTERM EXAM April 30 	8: 1-6 Chaps. 1-7.10	TBD	Open Review
Week 6 May3	<ul style="list-style-type: none"> • Solubility Limits • Phase Diagrams • Binary microstructures 	8: 7-15 9: 1-8; 9: 9-11	TBD	Lab Va: Heat Treatment Notebooks Due
Week 7 May 10	<ul style="list-style-type: none"> • Fe-C Phase Diagram • Phase Transformations • Phase Transformations 	9: 12-17 9: 18-20 10: 1-9	TBD	Lab Vb: Discussion of microstructure Notebooks Due
Week 8 May 17	<ul style="list-style-type: none"> • Heat Treatment of metals • Polymers • Polymer properties 	11: 1-9 14: 1-14 15: 1-14	TBD	Lab III: Mechanical Testing
Week 9 May 24	<ul style="list-style-type: none"> • Ceramic properties • Composites • Electrical Properties 	12: 8-11 16: 1-10, 14-15 18: 1-9	TBD	Lab VI: What is in it and why? Part 2.
Week 10 May31	<ul style="list-style-type: none"> • May 31 Memorial day • Electrical Properties • Corrosion 	18: 10-13 17: 1-13	TBD	Open Review
	<ul style="list-style-type: none"> • Final Exam 	Thursday June 10, 8:30-10:20 AM		