

Lecture Schedule and Reading Assignments: NOTE: Syllabus will be continually updated and posted on the course web page: HW and GW assignments will be marked and specific reading assignments updated. *Topics and dates are tentative and subject to change. Exam dates will not change. Completed at time of posting.

#	Dates	Topic	Corresponding Reading Assignment & Other Assignments
Structure of Materials			
1	August 31 (M)	Introduction	Chapter 1
2	September 2 (W)	Atomic Structure and Bonding	Chapter 2
3	September 4 (F)	Atomic Structure and Bonding	Chapter 2
4	September 7 (M)	Atomic Structure and Bonding	Chapter 2
5	September 9 (W)	Structures of Metals	Chapter 3 (Sections 3.1-3.10, 3.12, 3.17 (excluding pp 54-55 and 59-60 hcp)
6	September 11 (F)	Structure of Metals	Chapter 3 (see sections above) GW#1 due date for HW#1 moved to 9/14/08
7	September 14 (M)	Structure of Metals	Chapter 3 (see sections above) HW#1 due
8	September 16 (W)	Structures of Metals	Chapter 3 (see sections above); Begin Ceramics
9	September 18 (F)	NO 😊 CLASS	Independent Review Day
10	September 21 (M)	Structures of Ceramics and Bioactive Glasses	Chapter 12 (Sections 12.1-12.4) and supplemental information (posted article on Bioactive Glasses)
11	September 23 (W)	Structure of Polymers	Chapter 14 (Sections 14.1-14.12)
12	September 25 (F)	Structure of Polymers	HW#2 due Chapter 14 (Sections 14.1-14.12)
13	September 28 (M)	Structure of Polymers	Chapter 14 (Sections 14.1-14.12) Chapter 15 (Sections 15.12 and 15.13)
14	September 30 (W)	Structure of Polymers Review for Exam	Chapter 14 (Sections 14.1-14.12) Chapter 15 (Section 15.12 and 15.13)
15	October 2 (F)	EXAM #1	On all information covered in Lectures # 1-14
Imperfections, Diffusion, and Mechanical Properties of Materials			
16	October 5 (M)	Review Exam 1, Imperfections	Sections 4.1-4.8, 3.14, 12.5, and 14.13
17	October 7 (W)	Imperfections	Sections 4.1-4.8, 3.14, 12.5, and 14.13
18	October 9 (F)	Imperfections, Diffusion	Chapter 5
19	October 12 (M)	Diffusion	Chapter 5
20	October 14 (W)	Mechanical Properties of Metals	Sections 6.1-6.10
21	October 16 (F)	Mechanical Properties of Metals	Sections 6.1-6.10
22	October 19 (M)	Dislocation & Strengthening Mechanisms	Sections 7.1, 7.8-7.13, 11.4
23	October 21 (W)	Dislocation & Strengthening Mechanisms	Sections 7.1, 7.8-7.13, 11.4
24	October 23 (F)	Guest Lecture	Must attend for homework credit (no make-ups)
25	October 26 (M)	Mechanical Properties of Ceramics	Sections 12.8 – 12.11, 13.11
26	October 28 (W)	Mechanical Properties of Polymers	Sections 15.1-15.4, 15.6-15.9

27	October 30 (F)	Mechanical Properties of Polymers	Sections 15.1-15.4, 15.6-15.9
28	November 2 (M)	Mechanical Properties of Polymers	Sections 15.1-15.4, 15.6-15.9
29	November 4 (W)	Mechanical Properties of Polymers Review for Exam 2	Sections 15.1-15.4, 15.6-15.9
30	November 6 (F)	EXAM #2 🍌	<u>On all information covered in Lectures # 16-29</u>
Applications of Biomaterials			
31	November 9 (M)	Review Exam, Metallic Biomaterials	Sections 9.18-9.19 (pp 290-295); 10.5 (basic concepts only per lecture notes); pp. 364-365 Handout: Metallic Biomaterials (pp. 36-50)
32	November 11 (W)	Metallic Biomaterials	Sections 11.4, 11.5 Handout: Metallic Biomaterials (pp. 36-50)
33	November 13 (F)	Metallic Biomaterials for Hard Tissue Fixation/Repair	Handout: Hard Tissue Replacements (pp. 9-1 – 9-10)
34	November 16 (M)	Ceramic Biomaterials, Heart Valves	Handout: Joint Replacement (pp. 9-10 – 9-15)
35	November 18 (W)	Pyrolytic carbon, heart valves	Handout: Pyrolytic Carbon (pp. 1308-1318) Handout: Heart Valve Prostheses (pp. 8-2 – 8-10)
36	November 20 (F)	PEEK, silicone elastomers, IOLs, soft contact lenses, hydrogels, thermal-responsive hydrogel (PNIPAAm)	<i>Reading: lecture slides only</i>
37	November 23 (M)	Biodegradable polymers	Handout: Biomaterials journal article (Middleton)
38	November 25 (W)	Biodegradable polymers	
39	November 27 (F)	Thanksgiving Holiday- no class 🍌	
40	November 30 (M)	Biodegradable polymers Sterilization of implants	Handout: Sterilization of implants (pp. 415-420)
41	December 2 (W)	Sterilization of implants	Handout: Sterilization of implants (pp. 415-420)
42	December 4 (F)	Host reaction to implanted biomaterials	Handout: Host reactions (pp.165-173)
43	December 7 (M) (LAST CLASS)	Review for Final	We will do a short in-class “practice quiz” (will NOT be for a grade) for a review
December 16		FINAL EXAM (comprehensive)	WEDNESDAY @ 10:30 am – 12:30 pm

Americans with Disabilities Act (ADA) Policy Statement:

The Americans with Disabilities Act (ADA) is a federal anti-discrimination statute that provides comprehensive civil rights protection for persons with disabilities. Among other things, this legislation requires that all students with disabilities be guaranteed a learning environment that provides for reasonable accommodation of their disabilities. If you believe you have a disability requiring an accommodation, please contact Disability Services, in Cain Hall, Room B118, or call 845-1637. For additional information visit <http://disability.tamu.edu>.

Academic Integrity Statement:

Aggie Honor Code: "An Aggie does not lie, cheat, or steal, or tolerate those who do."

It is the responsibility of students and instructors to help maintain scholastic integrity at the university by refusing to participate in or tolerate scholastic dishonesty (*Student Rule 20. Scholastic Dishonesty*, <http://student-rules.tamu.edu>). New procedures and policies have been adopted effective September 1, 2004. Details are available through the Office of the Aggie Honor System (<http://www.tamu.edu/aggiehonor/>). An excerpt from the Philosophy & Rationale section states:

"Apathy or acquiescence in the presence of academic dishonesty is not a neutral act -- failure to confront and deter it will reinforce, perpetuate, and enlarge the scope of such misconduct. Academic dishonesty is the most corrosive force in the academic life of a university."