

**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
<b>Structure of Materials</b>			
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) <b>GW#1</b> due date for HW#1 moved to 9/14/08
7	September 14 (M)	Structure of Metals	Chapter 3 (see sections above) <b>HW#1 due</b>
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	<b>HW#2 due</b> 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) <b>GW#1</b>
15	<b>October 2 (F)</b>	<b>EXAM #1</b>	<b>On all information covered in Lectures # 1-14</b>
<b>Imperfections, Diffusion, and Mechanical Properties of Materials</b>			
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 <b>HW#3 due</b>
22	October 19 (M)	Dislocation & Strengthening Mechanisms	Sections 7.1, 7.8-7.13, 11.4
23	October 21 (W)	Dislocation & Strengthening Mechanisms Mechanical Properties of Ceramics	Sections 7.1, 7.8-7.13, 11.4 Sections 12.8 – 12.11, 13.11
24	October 23 (F)	<b>Guest Lecture – Prof. Hahn</b>	Must attend for <b>HW#5</b> credit (no make-ups)
25	October 26 (M)	Mechanical Properties of Polymers	Sections 15.1-15.4, 15.6-15.9 <b>HW#4 due</b>
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	<b>November 6 (F)</b>	<b>EXAM #2</b> 🍌	<b><u>On all information covered in Lectures # 16-29</u></b>
<b>Applications of Biomaterials</b>			
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)	<b>Thanksgiving Holiday- no class</b> 🍌	
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
<b>December 16</b>		<b>FINAL EXAM (comprehensive)</b>	<b>WEDNESDAY @ 10:30 am – 12:30 pm</b>

**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."