

**MSE 201: Materials Science Spring 2010
COURSE SCHEDULE**

MWF: 1:00-1:50PM 114 Whitehall Classroom Bldg.

<u>Date:</u>	<u>Topic:</u>	<u>Reading:</u>	
January			
13	Introduction to the course		
15	Overview of Materials	2-19	
18	MLK holiday – no class		
20	Atomic Structure & Valence	23-30	
22	Primary Bonds	30-43	
25	Atomic Packing & Coordination	43-55	
27	Crystal Unit Cell	60-71	
29	Miller Indices	71-77	HW1
February			
1	Crystal Density & Packing	78-84	
3	Crystal Structure & Interstices	85-98	
5	Crystal Structure & Interstices		HW2/Q1
8	X-ray Diffraction	98-104	
10	Point Defects	110-116	
12	<i>problems & review</i>		HW3
15	EXAM ONE		
17	Impurities	116-122	
19	Solid-State Diffusion	122-141	HW4
22	Solid-State Diffusion		
24	Linear Defects	146-167	
26	Linear Defects		HW5/Q2
March			
1	Planar & Volume Defects	167-174	
3	Strengthening Mechanisms	174-180	
5	<i>problems & review</i>		HW6

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<u>Date:</u>	<u>Topic:</u>	<u>Reading:</u>	
March			
8	EXAM TWO		
10	The Glass Transition	184-192	
12	Structure & Properties of Polymers	192-206	
15	<i>spring break</i>		
17	<i>spring break</i>		
19	<i>spring break</i>		
22	Structure & Properties of Polymers		
24	Structure & Properties of Polymers		
26	Structure & Properties of Glasses	206-212	HW7/Q3
29	Structure & Properties of Elastomers	212-220	
31	One-component Phase Diagrams	226-232	
April			
2	Two-component Phase Diagrams	232-247	HW8
5	Eutectic Phase Diagrams	247-265	
7	Eutectic Phase Diagrams		
9	Complex Phase Diagrams	265-270	HW9/Q4
12	Mechanical Properties	358-385	
14	Mechanical Properties		
16	<i>problems & review</i>		HW10
19	EXAM THREE		
21	Standard Testing Methods		
23	Standard Testing Methods		HW11
26	Materials Processing: casting	668-678	
28	Materials Processing: forming	679-702	
30	<i>course review</i>		HW12

The final exam is scheduled for Wednesday, May 5, 2010 at 1:00 PM (114 CB).