

IBS 520 BIOCHEMISTRY AND MOLECULAR BIOLOGY (Fall 2002)

LECTURE	M, W, F 8:10-9:20 am 230 Dental Building	85 % final grade based on 3 exams, no final.
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SMALL GROUPS	Review/ Preview Program-Specific	Tu 8:10-9:20 308 Dental Bldg. Th 8:10-9:20 place TBA	Optional, attend as needed. 15% of final grade is based on small groups.
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REQUIRED TEXT:
Biochemistry, 2nd edition.
Donald Voet and Judith G. Voet
(1995) John Wiley and Sons

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Website: Blackboard (<http://classes.emory.edu>)

Mirror Site: <http://www.biochem.emory.edu/IBS520/>

Date	Section	Chapter	Topics (230 Dental)	Lecturer	Review/Preview (308 Dental)	Small Group Sections	
30-Aug		1 & 2	Introduction	Wilkinson			
2-Sep			Labor Day				
3-Sep					Chemical equilibria		
4-Sep		3	Thermodynamics and equilibria	Wilkinson			
5-Sep	Proteins	5	Protein properties and purification	"			
6-Sep		6	Primary structure & peptide chemistry	Hodel			
9-Sep						Amino acids and peptide bonds	
10-Sep			7	Secondary and tertiary structure	"		
11-Sep		8	Protein folding and domain structure	"		Ligand Binding and Equilibria	
12-Sep		9	Hemoglobin structure and function	"			
13-Sep					Hemoglobin and Problem Sets		
16-Sep	Enzymes	13	MM and the steady state approximation	Matsumura			
17-Sep						Protein Domains and Sequence Motifs	
18-Sep			12	Two substrate reactions & inhibitors	"		
19-Sep			12	Specificity and rate enhancement	Wilkinson		
20-Sep		14	Selected enzyme mechanisms	"	Chemical kinetics		
23-Sep						Kinetics and Time Courses	
24-Sep	Carbohydrates	10	Carbohydrate structure	Kinkade			
25-Sep			Carbohydrate synthesis	"			
26-Sep					EXAM 1		
27-Sep	Lipids	11	Lipid structure and properties	Stevens			
30-Sep						Carbohydrates and Cell Surfaces	
1-Oct							
2-Oct			Membranes, fluid mosaic model	"			
3-Oct			Biological membranes and lipoproteins	"			
7-Oct					Carbohydrates and lipids		
8-Oct	Nucleic acids	28	Structural properties of nucleic acids	Doetsch			
9-Oct						Lipids and Biological Membranes	
10-Oct				NO CLASS (Fall Break Bonus)			
11-Oct				Fall Break			
14-Oct							
15-Oct					Fall Break		

Date	Section	Chapter	Topics (230 Dental)	Lecturer	Review/Preview (308 Dental)	Small Group Sections
16-Oct			Nucleic acid manipulation & analysis	"		
17-Oct						Nucleic Acid Chemistry
18-Oct			DNA sequencing	"		
21-Oct			Topology, chromatin structure	"		
22-Oct					Nucleosides/Nucleotides	
23-Oct			DNA Repair	"		
24-Oct						Higher-Order Chromosomal Structure
25-Oct	Replication	31	Enzymes of DNA metabolism	Shadel		
28-Oct			Prokaryotic replication	"		
29-Oct					Replication	
30-Oct			Eukaryotic replication	"		
31-Oct						Replication
1-Nov			Recombination	Devine		
4-Nov			Recombination	"		
5-Nov					EXAM 2	
6-Nov	Transcription	27	Biochemical definition of the gene	Reines		
7-Nov						Recombination
8-Nov		29	Functions of RNA & polymerases	"		
11-Nov			Prokaryotic gene expression	"		
12-Nov					Recombination	
13-Nov		33	Eukaryotic gene expression	"		
14-Nov						Gene Expression & Expression Arrays
15-Nov	Translation	30	The genetic code and translation machinery	Feng		
18-Nov			The process of translation	"		
19-Nov					Transcription and Translation	
20-Nov			Translational regulation	"		
21-Nov	Genetic Engineering	27&32				Translation
22-Nov			Genome anatomy and gene mapping	Fridovich-Keil		
25-Nov			Recombinant DNA I	"		
26-Nov					Molecular genetics I	
27-Nov			Thanksgiving Holiday			Thanksgiving Holiday
28-Nov			Thanksgiving Holiday			
29-Nov			Thanksgiving Holiday			
2-Dec			Recombinant DNA II	"		
3-Dec					Molecular genetics II	
4-Dec			Genetic cloning and transgenic systems 1	"		
5-Dec						The Genome Projects
6-Dec			Genetic cloning and transgenic systems 2	"		
9-Dec			Thought exercise in genetic cloning	"		
10-Dec					Course Evaluations & Review	
13-Dec					EXAM 3	