

Chemistry 460/395  
Biophysical Chemistry  
Fall 2005

<u>Lecture</u>	<u>Date</u>	<u>Subject</u>
1	8/30	Introduction; Protein Composition
2	9/1	Protein Structure
3	9/6	Protein Structure (cont.)
4	9/8	Protein Stability
5	9/13	Energy Minimization & Molecular Dynamics
6	9/15	Nucleic Acids: Comp. and Structure
7	9/20	Other Biological Systems
8	9/22	Dialysis & Gel Filtration
9	9/27	Diffusion & Sedimentation
10	9/29	Centrifugation & Dynamic Light Scattering
11	10/4	Electrophoresis & Viscosity
12	10/6	Review
13	10/13	FIRST EXAM (lectures 1 through 11)
14	10/18	X-ray crystallography
15	10/20	Ligand Interactions at Equilibrium
16	10/25	Kinetics of Ligand Interactions
17	10/27	" " "
18	11/1	UV/Vis. Spectroscopy

Lecture	Date	Subject
19	11/3	Circular Dichroism
20	11/8	Fluorescence
21	11/10	IR and Raman Spectroscopy
22	11/15	NMR
23	11/17	NMR
24	11/22	ESR
25	11/29	Student Presentations
26	12/1	" "
27	12/6	" "
28	12/8	Review

The final examination will be given on Thursday, 12/15/04, 5:30 - 7:30 pm, FH127, and will test the material covered in lectures 14 through 24.

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Classroom: FH 129

Classtime: Tu, Th 5:30 p.m. - 6:50 p.m.

Office Hours: Tu, Th 4:00 p.m. - 5:00 p.m. Other times by appointment - call Ext.83091 and leave a message.

Grading Policy: 100 points for each exam, and 100 points for the class presentation. No make-up exams will be given. A missed exam requires written supporting documentation from a physician or equivalent.

Academic Integrity: Please refer to the policies on dishonest academic behavior in the Graduate Studies Catalog (pp. 44-47).

Suggested Textbooks:

Biophysics Textbook online: <http://www.biophysics.org/btol>

K.E. van Holde, W.C. Johnson, and P.S. Ho, Principles of Physical Biochemistry, second edition, Prentice-Hall, 2006.

I. Tinoco, Jr., K. Sauer, J.C. Wang, & J.D. Puglisi Physical Chemistry: Principles and Applications in Biological Sciences, fourth edition, Prentice-Hall, 2002.

Other Useful Texts

J.M. Berg, J.L. Tymoczko, and L. Stryer, Biochemistry, fifth edition, W. H. Freeman & Co., 2002.

I.H. Segel, Enzyme Kinetics, Wiley & Sons, 1993.

C. Cantor & P. Schimmel, Biophysical Chemistry, W. H. Freeman & Co., 1980. (Three volumes - a very good, but somewhat outdated reference text)

G. E. Schulz & R. H. Schirmer, Principles of Protein Structure, Springer-Verlag, 1979.

R. Gabler, Electrical Interactions in Molecular Biophysics, Academic Press, 1978.