I - Structural Principles

Mon-8/25
   Overview, molecular 3D Literacy
   Introduction to macromolecular computer graphics

Wed-8/27
   Peptide geometry and handedness

Fri-8/29
   Polypeptide chain and amino-acids

Mon-9/1 - Labor Day
   – No Class –

Wed-9/3
   Secondary structures and motifs

Fri-9/5
   Domains, Subunits, and Superfolds

Mon-9/8
   Hydrogens: all-atom contacts,
   H-bonds, and waters

Wed-9/10
   Structural roles of the amino acids

Fri-9/12
   Motions

Mon-9/15
   Alternate Conformations and Ensembles
II - Structure, Function & Engineering

Wed-9/17
Protein-nucleic acid recognition: General Principles

Fri-9/19
Sequence-specific DNA recognition: Procaryotic and eukaryotic transcription factors

Mon-9/22
Enzyme catalysis: Serine & HIV-1 proteases

Wed-9/24
Enzyme catalysis: DNA polymerases & HIV-1 reverse transcriptase

Fri-9/26
The Ribosome

III - Structural Techniques

Mon-9/28
Structure determination by X-ray crystallography

Wed-10/1
Structure determination (continued)

Fri-10/3 – Pei Zhou
Structure determination by NMR

Mon-10/6
Immunoglobins

Wed-10/8
Frontiers in Structural Biology

Fri-10/10 - BCH retreat
– No Class –