SCHEDULE FOR SECTION 1 (MW 2PM)

Week 1

April 1 Introduction to the course.
Discussion of quantum mechanics and molecular mechanics

April 3 Discussion: Monte Carlo
All Groups: Allantoin Part I: Conformational analysis in the gas phase.

Week 2

April 8 Lecture: NMR part I, PSB-N 4606
Group A: Allantoin Part II: Monte Carlo Simulations
Group B: Allantoin Part III: NMR data collection, no quiz

April 10 Lecture: NMR, part II, CHEM 1005D
Group A: Allantoin Part III: NMR data collection, NMR quiz
Group B: Allantoin Part II: Monte Carlo Simulations, NMR quiz

Week 3

April 15 Discussion of enzyme kinetics I
Group A, B3: Enzyme kinetics: Multi-substrate kinetics with GAPDH (no quiz)
Group B1: Circular dichroism study of protein folding (35 °C) (no quiz)
Group B2: Independent study

April 17 Discussion of enzyme kinetics II
Group A: Enzyme kinetics: Inhibition of GAPDH
Group B1, B2: Enzyme kinetics: Multi-substrate kinetics with GAPDH
Group B3: Circular dichroism study of protein folding (48 °C) (no quiz)

Week 4

April 22 Discussion of enzyme kinetics III
Group A: Independent study
Group B1 and B3: Enzyme kinetics: Inhibition of GAPDH
Group B2: Circular dichroism study of protein folding (22 °C) (no quiz)

April 24 ***"Allantoin" lab report due***
Discussion of peptides & proteins: structure, folding, binding (part 1)
Group A1: Circular dichroism study of protein folding (30 °C)
Groups B1: Independent study
Group B2: Enzyme kinetics: Inhibition of GAPDH

Week 5

April 29 Discussion of peptides & proteins: structure, folding, binding (part 2)
All groups: CD quiz
Group A2: Circular dichroism study of protein folding (12 °C)
Group A1, B: Independent study

May 1 Data Analysis Tutorial/Discussion (Chemistry Computer Lab) (TA)

Week6

May 5 "***Enzyme Kinetics and Inhibition" report due***
Group A: Ligand Binding to Lysozyme (NAG, 20 ºC)
Group B: Protein mass spectrometry (no quiz)

May 8 ***"Circular Dichroism and Protein Folding" project due***
Lecture: Mass Spectrometry (in PSB-N 4606)
Group B: Ligand Binding to Lysozyme (NAG, 15 ºC)
Group A: Protein mass spectrometry (at 2 PM)

Week7

May 13 ***First Exam***

May 15 Discussion of protein crystallography
All groups: Protein crystallography: setting up protein crystallization trials

Week8

May 20 **All groups:** ***"Ligand Binding to Lysozyme" report due***
All groups: Protein crystallography: microscopic analysis of protein crystals

May 22 **All groups:** "***Mass Spectrometry***" ***project due***.
All groups: Protein crystallography: analysis of diffraction data

Week9

May 27 **Memorial Day Holiday**

May 29 Make-up day

Week10

June 3 **All groups:** Discussion: How to prepare for the poster session (Kahn)
All Groups: "*Protein Crystallography*" *project due*
All groups: Possible Pre-Steady-State Kinetics Demo

June 5

June 7 **Class will meet on June 7 (Friday) for the poster presentation (Noon ?)**

Second Exam