SCHEDULE FOR SECTION 2 (TR)

**Week 1**
March 29  Introduction to the course. Discussion of quantum mechanics and molecular mechanics (Dr. Kalju Kahn).
*All groups*: Allantoin Part I: Conformational analysis in the gas phase.

March 31 Discussions of Monte Carlo and Molecular Dynamics (Dr. Kalju Kahn)
*All groups*: Allantoin Part II: Monte Carlo simulation in solution

**Week 2**
April 5  *All groups*: NMR Lecture (Dr. Kalju Kahn) at 2 PM
*All groups*: Demonstration of the CD spectrophotometer at 3 PM
*All groups*: Review of the program SCIENTIST in the Mesa lab (Phelps 1525) at 4 PM

April 7  *Group A1*: Allantoin Part III: NMR data acquisition
*Group B1*: UV/VIS binding study of NAG to lysozyme
*Group A2 and B2*: Independent work with SCIENTIST (Mesa lab open from 4 – 5:50 PM)

**Week 3**
April 12  *Group A2*: Allantoin Part III: NMR data acquisition
*Group B2*: UV/VIS binding study of NAG to lysozyme
*Group A1 and B1*: Independent work with SCIENTIST (Mesa lab open from 2 – 5:50 PM)

April 14  *Group B1*: Allantoin Part III: NMR data acquisition
*Group A1*: UV/VIS binding study of NAG to lysozyme
*Group A2 and B2*: No meeting

**Week 4**
April 19  *All Groups*: **SCIENTIST assignment due on April 18!**
*Group B2*: Allantoin Part III: NMR data acquisition
*Group A2*: UV/VIS binding study of NAG to lysozyme
*Group A1*: Preparation of solutions for the lysozyme unfolding at 17 °C

April 21  *All Groups*: Lecture and Discussion: Enzyme Kinetics I (Dr. Kalju Kahn)
*Group A1*: Circular dichroism: Unfolding of lysozyme at 17 °C
*Group A2*: Enzyme kinetics: Multi-substrate kinetics with GAPDH
*Group B1*: Preparation of solutions for the lysozyme unfolding at 20 °C

**Week 5**
April 26  *All Groups*: Lecture and Discussion: Enzyme Kinetics II (Dr. Kalju Kahn)
*Group B1*: Circular dichroism: Unfolding of lysozyme at 20 °C
*Group A2*: Enzyme Kinetics: Inhibition of GAPDH
*Group B2*: Preparation of solutions for the lysozyme unfolding at 25 °C

April 28  *All groups*: **“Conformational Analysis of Allantoin” project due.**
*Group A1*: Enzyme kinetics: Multi-substrate kinetics with GAPDH
*Group A2*: Preparation of solutions for the lysozyme unfolding at 30 °C

April 27  *All groups*: **Reserved lab time in the Leadbetter Computer Lab 4 PM – 5 PM**
Week 6
May 3
All Groups: *“Ligand Binding to Lysozyme” project due.*
All Groups: Mass spectrometry lecture (Dr. James Pavlovich)
Group A1: Enzyme kinetics: Inhibition of GAPDH
Group A2: Circular dichroism: Unfolding of lysozyme at 30 °C
Group B1 and B2: MS demonstration and data collection

May 5
Group A1 and A2: MS demonstration and data collection
Group B1: Enzyme kinetics: Multi-substrate kinetics with GAPDH
Group B2: RNA association equilibrium

Week 7
May 10
All Groups: *“Circular dichroism: Unfolding of lysozyme” project due.*
Groups A1 and A2: Protein crystallography: set up crystallization trials at 2 PM
Groups B1 and B2: Protein crystallography: set up crystallization trials at 2 PM

May 12
All Groups: First Midterm. Computer modeling, NMR, CD, UV, protein folding, and ligand binding
All Groups: Protein crystallography lecture (Dr. Martin Sagermann): from crystals to structure

Week 8
May 17
All Groups: *“Protein Mass Spectrometry” project due*
Groups A1 and A2: Protein crystallography: microscopic analysis of crystals
Group B2: Enzyme kinetics: Multi-substrate kinetics with GAPDH
Group B1: RNA association equilibrium

May 19
Groups A1 and A2: Protein crystallography: analysis of diffraction patterns
Group B1: Enzyme kinetics: Inhibition of GAPDH at 2 PM
Group B2: Enzyme kinetics: Inhibition of GAPDH at 4 PM

Week 9
May 24
Groups A1 and A2: *“Enzyme Kinetics” project due*
All groups: Discussion: How to prepare for the poster session (Kahn)
Groups B1 and B2: Protein crystallography: microscopic analysis of crystals
Group A1: RNA association equilibrium
Group A2: No experiment today

May 26
Groups B1 and B2: *“RNA association equilibrium” project due*
Groups B1 and B2: Protein crystallography: analysis of diffraction patterns
Group A2: RNA association equilibrium
Group A1: No experiment today

Week 10
May 31
Memorial Day on Monday;
Groups B1 and B2: *“Enzyme Kinetics” project due*
Groups A1 and A2: *“Protein Crystallography” project due*

June 2
Groups A1 and A2: *“RNA association equilibrium” project due*
Groups B1 and B2: *“Protein Crystallography” project due*

June 3
Class will meet on June 3 (Friday) for the poster presentation (Noon ?)

Second midterm (MS, Enzyme Kinetics, Protein Crystallography) will be at the time allocated by the registrar for the final