Course Outline (tentative as of Sep. 2013**)**

(Chapter numbers refer to the new (**6th**) edition of the text **Lehninger**: **Principles of Biochemistry by Nelson and Cox**)

The **precise date and time for each topic is not fixed**, but the pace will be adjusted to cover the subjects in the order indicated below. (There are thirty 50 min lectures in the fall quarter)
Certain sections in each chapter will be omitted due to time limitations. The lectures will define the content of the course for the purpose of examinations.
Slides from the PowerPoint presentation of each lecture will be made available and help define the material covered in each lecture

Topics will be covered in the following order

(Chapter 3, 4 and 6 in LN&C)
Introduction to the Course/ Announcements

Proteins, Enzymes, Enzyme Kinetics
Enzyme Catalysis
Michaelis-Menten Kinetics
Inhibitors and Enzyme Kinetics
Intro to Allosteric Enzymes

(Chapter 13, LN&C)
Bioenergetics and Thermodynamics
Phosphate Group Transfers and ATP
Biological Oxidation-Reduction Reactions

(Chapter 14, 15 in LN&C)
GLYCOLYSIS AND GLYCOGEN METABOLISM
Glycolysis
Degradation of Glycogen and Starch
Biosynthesis of Glycogen and Starch
Control of Glycogen Metabolism
Glycogen Storage Diseases

(Chapter 16 and 19 in LN&C)
The Citric Acid Cycle (TCA Cycle)
Glyoxylate Cycle

(Chapter 19 in LN&C)
MITOCHONDRIA
Electron Transport and Oxidative Phosphorylation
The Chemiosmotic Hypothesis

(Chapter 14 in LN&C)
Carbohydrate Metabolism
Pentose Phosphate Pathway

(Chapter 19 and 20 in LN&C)
PHOTOSYNTHESIS
Light and Dark Reactions

(Chapters 17 and 21 in LN&C)
LIPIDS
Fatty Acid Oxidation
Fatty Acid Synthesis
Cholesterol biosynthesis
Polyisoprenoids

(Chapter 18 in LN&C)
Amino Acid Metabolism (Introduction)
The Urea Cycle

Catch-Up and Review