Biochemistry I (Chemistry 371/650) – Summer 2017

Department of Chemistry & Biochemistry
Queens College – CUNY
65-30 Kissena Blvd.
Flushing, NY 11367

June 6 – August 15, 2017 10 weeks, 4 credits
(Pre-requisite: Grade of C or higher in CHEM 252.4, 252.1 and BIOL 105)

Lectures – Monday, Tuesday & Thursday (11AM – 12:30 PM); Remsen 105
Instructors: Prof. Sanjai Kumar & Prof. Susan A. Rotenberg
Email: Sanjai.Kumar@qc.cuny.edu
Email: Susan.Rotenberg@qc.cuny.edu

Office Hours: Prof. Kumar (Mondays and Thursdays 1:30 PM – 2:15 PM), Remsen 117
Prof. Rotenberg (Mondays and Thursdays 1:30 – 2:15 PM), Remsen 117

Course Structure
(ii) 3 midterm exams & final exam (non-cumulative) - 25% each

General Guidelines
This course is standard first semester course in Biochemistry. It has two parts that will be taught by two instructors: Prof. Sanjai Kumar (Part I) and Prof. Susan A. Rotenberg (Part II).

You must take all four class examinations. Please note that there will be NO makeup examination. In case of an emergency that you are unable to attend an examination, a legal valid proof of absence must be presented. In the event that you are unable to furnish a valid proof of absence within a reasonable time period, a zero grade will be assigned for the examination. The use of cell phones is NOT permitted during the class and during examinations.

It is strongly recommended that you study the ‘Reading Assignments’ listed in this syllabus. These assignments will help you to understand the lecture material with greater depth.

All course-related announcements will be posted on Blackboard (an on-line site). You must obtain a valid Queens College email id, so you may access these course materials.
Schedule of Classes and Examinations (subject to change):

**Part I: Proteins and Enzymes (June 5 – July 7)**

June 5th – Chapter 1 – Foundations of Biochemistry
June 6th and June 8th – Chapter 2 & 3 – Structure of Water; Amino Acids, Peptides and Proteins
June 12th – Chapter 4 – The 3-D Structure of Proteins
June 13th and June 15th – Chapter 5 – Protein Function (Hemoglobin and Allosteric Regulation)

**Midterm Examination 1 – June 19th (Monday), 2017**

June 20th and June 22nd - Chapter 6 – Enzyme Catalysis and Enzyme Kinetics
June 27th – Chapter 7 – Carbohydrates and Glycobiology
June 26th and June 27th – Chapter 10 and 11 – Lipids; Biological Membrane and Transport
June 29th – Chapter 12 – Signal Transduction and Review

**Midterm Examination 2 – July 6th (Monday), 2017**

**Part II: Metabolism (July 10 – August 15)**

July 10th – Chapter 13 – Bioenergetics and Introduction to Metabolism
July 11th, July 13th, July 17th, July 18th – Chapter 14th and Chapter 15th – Glycolysis, Gluconeogenesis, and the Pentose Phosphate Pathway; Glycogen Metabolism
July 20th and July 24th - Chapter 16th - The Citric Acid Cycle

**Midterm Examination 3 – July 25th (Tuesday), 2017**

July 27th and July 31st – Chapter 17 – Fatty Acid Breakdown and Synthesis
Aug. 1st – Chapter 18 – Amino Acid Breakdown & The Urea Cycle
Aug. 3rd and Aug 7th – Chapter 19 – Oxidative Phosphorylation
Aug. 8th and Aug 10th – Chapter 23 - Integration of Metabolic Pathways
Aug 14th - Review

**FINAL EXAMINATION – August 15th (Tuesday)**

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**Recommended Reading Assignments**

(From 6th Edition)

Chapter 1 (Page 2-35); Chapter 2 (47-69); Chapter 3 (75-104); Chapter 4 (115-149); Chapter 5; Chapter 6 (189-228); Chapter 7 (243-274); Chapter 10 (357-380); Chapter 11; Chapter 12 (433-438 and 484-488); Chapter 13; Chapter 14 ; Chapter 15 (612-626); Chapter 16; Chapter 17 (667-688); Chapter 18; Chapter 19 (731-762), Chapter 23 (929-961)