Biochemistry I (Chemistry 371/650) – Spring 2015
(Pre-requisite: Grade of C or Higher in CHEM 252.4, 252.1 and BIOL 105)
Department of Chemistry & Biochemistry
Queens College – CUNY
65-30 Kissena Blvd.
Flushing, NY 11367

Lectures – Monday & Wednesday (4.30 – 6.20 PM); Remsen 101
Professor Sanjai Kumar
Email: Sanjai.Kumar@qc.cuny.edu
Office Hours: Monday and Wednesday between 2 PM – 3 PM in Remsen 117C or 256 (Lab)

Course Structure:

(i) Text – Lehninger Principles of Biochemistry by David L. Nelson and Michael M. Cox,
(ii) Two Midterms (30% Each) & A Final Examination (40%)

General Guidelines:

You must appear in all three 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. It is strongly recommended that you study the ‘Reading Assignments’ listed in this syllabus. It is anticipated that the reading assignments will help you understand the lecture material more effectively.

You must obtain a valid Queens College email id, so you can access the course materials online, posted periodically on the Blackboard version 8.0. The use of cell phones is NOT permitted during the class and during the periods of examination. Use of a scientific calculator is permitted during the examination. If you need extra help with the course, please do not hesitate to ask me.

Tentative Schedule of Classes and Examinations (Subject to modifications, when required):

Jan. 28th – Chapter 1 – Foundations of Biochemistry
Feb. 2nd and Feb 4th – Chapter 2 & 3 – Structure of Water; Amino Acids, Peptides and Proteins
Feb. 9th – Chapter 4 – The 3-D Structure of Proteins
Feb. 11th and Feb. 18th – Chapter 5 – Protein Function (Hemoglobin and Allosteric Regulation)

Midterm Examination 1 – February 23rd (Monday), 2015

Feb. 25th and Mar. 2nd – Chapter 6 – Enzyme Catalysis and Enzyme Kinetics
Mar. 4th – Chapter 7 – Carbohydrates and Glycobiology
Mar. 9th and Mar. 11th – Chapter 10 and 11 – Lipids; Biological Membrane and Transport
Mar. 16th – Chapter 12 – Signal Transduction
Mar. 18th – Chapter 13 – Bioenergetics and Introduction to Metabolism
Mar. 23rd, Mar. 25th, Mar. 30th, Apr. 1st – Chapter 14th and Chapter 15th – Glycolysis, Gluconeogenesis, and the Pentose Phosphate Pathways; Glycogen Metabolism

Midterm Examination 2 – April 13th (Monday), 2015

Apr. 15th and Apr. 20th – Chapter 16 – The Citric Acid Cycle
Apr. 22nd and Apr. 27th – Chapter 17 – Fatty Acid Catabolism
Apr. 29th – Chapter 18 – Amino Acid Oxidation & The Production of Urea
May 4th and May 6th – Chapter 19 – Oxidative Phosphorylation
May 11th and May 13th – Chapter 23 - Integration of Metabolism; Final Thoughts and REVIEW

FINAL EXAMINATION – To be announced by the Registrar’s Office

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)

OR

(From 5th Edition)

Chapter 1 (Page 2-33); Chapter 2 (43-68); Chapter 3 (71-102); Chapter 4 (113-148); Chapter 5; Chapter 6 (184-227); Chapter 7 (235-263); Chapter 10 (343-357); Chapter 11; Chapter 12 (419-455 and 469-478); Chapter 13; Chapter 14 ; Chapter 15 (595-608); Chapter 16; Chapter 17 (647-668); Chapter 18; Chapter 19 (707-742) ; Chapter 23 (901-935)