Biochemistry I (Chemistry 371/650) – Fall 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 – Tuesday & Thursday (12.10 – 2 PM); Remsen 101
Professor Sanjai Kumar, Ph.D.
Email: Sanjai.Kumar@qc.cuny.edu
Office Hours: Tuesday and Thursday between 10 - 11 AM in Remsen 117C or 256 (Lab)

Course Structure:

(i) Text – Lehninger Principles of Biochemistry by David L. Nelson and Michael M. Cox,
4292-3414-6

(ii) 3 Midterms & a Final Examination (25% Each)

General Guidelines:

You must appear in 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. 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. All course-related announcements will be posted on
Blackboard. The use of cell phones is NOT permitted during the class and during the periods of
examination. Use of only a scientific calculator is permitted during the examination. If you need extra
help with the course, please do not hesitate to ask me. Please note that the Final Examination is
CUMULATIVE.

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

Aug. 27th – Chapter 1 – Foundations of Biochemistry
Sept. 1st and Sept. 3rd – Chapter 2 & 3 – Structure of Water; Amino Acids, Peptides and Proteins
Sept. 8th – Chapter 4 – The 3-D Structure of Proteins
Sept 17th and Sept. 24th – Chapter 5 – Protein Function (Hemoglobin and Allosteric Regulation)

Midterm Examination 1 – September 29th (Tuesday), 2015
Sept. 25th and Oct 1st - Chapter 6 – Enzyme Catalysis and Enzyme Kinetics
Oct. 6th – Chapter 7 – Carbohydrates and Glycobiology
Oct. 8th and Oct. 13th – Chapter 10 and 11 – Lipids; Biological Membrane and Transport
Oct. 15th – Chapter 12 – Signal Transduction

Midterm Examination 2 – October 20th (Tuesday), 2015

Oct. 22nd – Chapter 13 – Bioenergetics and Introduction to Metabolism
Oct. 27th, Oct. 29th, Nov. 3rd, Nov. 5th – Chapter 14th and Chapter 15th – Glycolysis, Gluconeogenesis, and the Pentose Phosphate Pathways; Glycogen Metabolism
Nov. 10th and Nov. 12th - Chapter 16th - The Citric Acid Cycle

Midterm Examination 3 – November 17th (Tuesday), 2015

Nov. 19th and Nov. 24th – Chapter 17 – Fatty Acid Catabolism
Dec. 1st – Chapter 18 – Amino Acid Oxidation & The Production of Urea
Dec. 3rd and Dec. 8th – Chapter 19 – Oxidative Phosphorylation
Dec. 10th – Chapter 23 - Integration of Metabolism; Final Thoughts and Review

THE FINAL EXAMINATION – 12/17/2015 (Thursday) at 11 AM

Recommended Reading Assignment:

(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)