Brooklyn College of the City University of New York
Department of Chemistry
Spring 2018 Syllabus – Professor Davenport
Chemistry 4581 ET6 (32207) / Chemistry 7581G ET6 (32222)
Biochemistry II: Intermediary Metabolism
(3 credits; 3 hours)

Course Goals and Learning Objectives. The goal of this course is to provide students with an introduction to intermediary biochemical metabolism. Specifically students will become proficient in the fundamental key metabolic pathways for carbohydrates, lipids and selected amino acids, along with associated metabolic disorders. Students are also introduced to biochemical methodologies used for elucidation of metabolic pathways including basic metabolomic approaches for screening altered cellular states.

Recommended Texts:

Biochemistry, 4th edition, C.K. Mathews, K.E. van Holde, D.R. Appling and S.J. Anthony-Cahill. Pearson, 2013 (ISBN: 978-0-13-800464-4).

Biochemistry, 8th edition, J.M. Berg, J.L. Tymoczko, G.J. Gatto, Jr. and L. Stryer. W.H. Freeman and Co., New York, 2015 (ISBN: 1-46-412610-0).

Note: Lecture notes are posted using Blackboard. Please ensure that you have access to this class through Blackboard, and check that the posted email address is the one that you access regularly.

Attendance:

Chemistry 4581 and 7581G are not on-line courses and to do well, attendance in lectures is highly recommended. Attendance will be recorded, but not graded.

Instructor Contact Information:

Professor Lesley Davenport
Email: LDvnport@brooklyn.cuny.edu
Tel: 718-951-5000 (ext. 2825)

Office Hours (344NE):

Monday: 2:00pm – 3:00pm
Tuesday: 2:00pm – 3:00pm
Wednesday: 8:00pm – 9:00pm
And by appointment (please email first).

Examination Dates (Chem. 4581 and 7581G students):

(Lecture exams are non-cumulative)
First Lecture Examination:
Tuesday, March 6th, 2018
Second Lecture Examination:
Tuesday, April 17th, 2018.
Final Lecture Examination:
Tuesday, May 22nd, 2018 (6:00pm – 8:00pm)

Term Paper (Chem. 7581 students ONLY):

Due (electronically) before midnight on May 8th, 2018.

Schedule of Lectures:

Class meets weekly (6:30pm – 9:00pm) in 1127N
Tuesdays: January 30th - May 15th, 2018.

No Classes: Tuesday, February 20th, 2018.
Spring Recess: March 30th – April 8th, inclusive.

Important Dates (2018):

Friday, February 2: Last day to add a course
Sunday, February 16: Last day to drop a course without a "W" grade.
Monday, April 16: Last day to withdraw from a course with a "W" (non-penalty) grade.
Friday, April 20: Last day to resolve Fall 2017 incomplete (INC) grades.

Lecture Topics:

Topic 1: Metabolism: Basic Logic and Design; Introduction to Metabolomics.
Chapter 12(Mathews)/15(Stryer).
Topic 2: Glycogen Metabolism
Chapter 13(M)/21(S).
Topic 3: Glycolysis
Chapter 13(M)/16(S).
Topic 4: Pentose Phosphate Pathway
Chapter 13(M)/20(S).
Topic 5: Gluconeogenesis: Chapter 13(M)/16(S).
Topic 6: Citric Acid and Glyoxylate Cycles:
Chapter 14(M)/17(S).
Topic 7: Oxidative Phosphorylation:
Chapter 15(M)/18(S).
Topic 8: Photosynthetic Electron Transport and Phosphorylation: Chapter 16(M)/19(S).
Topic 9: Fatty Acid Metabolism:
Chapter 17(M)/22(S).
Topic 10: Membrane Lipids & Cholesterol Metabolism: Chapter 19 (pp.794-803)(M) /Chapter 26 (S)(pp. 767-788).
Topic 11: Protein Turnover/Urea Cycle:
Chapter 20(M)/23(S).
Topic 12: Biosynthesis of Amino Acids/Shikimic Acid Pathway: Chapter 21(M)/24(S).

Grade Breakdown:

Chem. 4581: Final grades are calculated as an average of three (non-cumulative) lecture examinations.

The grade breakdown is as follows:

33% first lecture exam grade

34% second lecture exam grade

33% final lecture exam grade

Exams will be based on lecture material and will have: true/false; multiple choice; and matching column type questions to test your factual knowledge and understanding of concepts. NO makeup exams will be allowed. Unjustified absences on midterm exams will be assigned a grade of zero (0). For justified absences (e.g. unavoidable issues; doctor's note), your semester average will be based on the weighted average of the other two exams. You will not receive a grade for the course if you miss two lecture exams or the final lecture exam. No "extra-credit projects" will be accepted.

Chem. 7581G: Final grades are calculated as an average of three (non-cumulative) lecture examinations plus a term paper (due electronically by midnight on **Tuesday, May 8th, 2018**).

The grade breakdown is as follows:

25% first lecture exam grade

25% second lecture exam grade

25% final lecture exam grade

25% term paper

Please upload a copy of your selected term paper by midnight on Tuesday, March 13th using the Assignments folder found in Blackboard.

Exams will be based on lecture material and will have: true/false; multiple choice; and matching column type questions to test your factual knowledge and understanding of concepts. NO makeup exams will be allowed. Unjustified absences on midterm exams will be assigned a grade of zero (0). For justified absences (e.g. unavoidable issues; doctor's note), your semester average will be based on the weighted average of the other two exams. You will not receive a grade for the course if you miss two lecture exams or the final lecture exam. No "extra-credit projects" will be accepted.

Honors (H) Credit: Please discuss the option with Professor Davenport if you are planning to take this class for honors credit. A letter grade of B or better in the course in required in order to receive Honors credit for this course. Please upload a copy of your selected research article through the Assignments folder in Blackboard by March 13th, before midnight.

Accommodations for Students with Disabilities: In order to receive disability-related academic accommodations, students must first be registered with the Center for Student Disability Services. Students who have a documented disability or suspect they may have a disability are invited to set up an appointment with the Director of the Center for Student Disability Services, Ms. Valerie Stewart-Lovell (vstewart@brooklyn.cuny.edu) at 718-951-5538 in Room 138 Roosevelt Hall. If you have already registered with the Center for Student Disability Services, please provide your professor with the course accommodation form and discuss your specific accommodation with him/her.

Academic Integrity: The faculty and administration of Brooklyn College support an environment free from cheating and plagiarism. Each student is responsible for being aware of what constitutes cheating and plagiarism and for avoiding both. The complete text of the CUNY Academic Integrity Policy and the Brooklyn College procedure for implementing that policy can be found at this site: http://www.brooklyn.cuny.edu/bc/policies. If a faculty member suspects a violation of academic integrity and, upon investigation, confirms that violation, or if the student admits the violation, the faculty member MUST report the violation. All students should read carefully and thoroughly the 2017-2018 Brooklyn College Bulletin: (http://www.brooklyn.cuny.edu/web/about/administration/enrollment/registrar/bulletins.php) for a complete listing of academic regulations of the College.

The state law regarding non-attendance because of **religious beliefs** shall be followed as given in the 2017-2018 Brooklyn College Bulletin, Undergraduate Programs: (http://www.brooklyn.cuny.edu/web/about/administration/enrollment/registrar/bulletins.php)