

**Brooklyn College of the City University of New York**  
**Department of Chemistry**  
**Spring 2017 Syllabus – Professor Davenport**  
**Chemistry 4581 EM6 (21946) / Chemistry 7581G EM6 (21961)**  
**Biochemistry II: Intermediary Metabolism**  
**(3 credits; 3 hours)**

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**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.

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**Recommended Texts:**

Biochemistry, 4<sup>th</sup> 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, 8<sup>th</sup> 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 your posted email address is the one that you access regularly.

**Instructor Contact Information:**

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

**Office Hours (344NE):**

Monday: 11:00am – 12:30pm  
Wednesday: 11:00am – 12:30pm  
And by appointment (please email first).

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

(Lecture exams are non-cumulative)

First Lecture Examination:

Monday, March 6<sup>th</sup>, 2017

Second Lecture Examination:

Thursday, April 20<sup>th</sup>, 2017.

Final Lecture Examination:

Monday, May 22<sup>nd</sup>, 2017 (6:00pm – 8:00pm)

**Term Paper (Chem. 7581 students ONLY):**

Due (electronically) before midnight on May 1<sup>st</sup> 2017.

**Schedule of Lectures:**

Class meets weekly (6:30pm – 9:00pm)  
Mondays: January 30<sup>th</sup> - May 15<sup>th</sup>, 2017.  
Room 2127N Ingersoll Hall

No Classes: Monday, February 13<sup>th</sup>, 2017 and Monday, February 20<sup>th</sup>, 2017.

Makeup Classes: Wednesday, February 15<sup>th</sup>, 2017 and Thursday, April 20<sup>th</sup>, 2017.

Spring Recess: April 10<sup>th</sup> – April 18<sup>th</sup>, inclusive.

**Important Dates (2017):**

Sunday, February 5: Last day to add a course

Sunday, February 19: Last day to drop a course without a grade.

Wednesday, April 19: Last day to withdraw from a course with a W (non-penalty) grade.

Friday, April 7: Last day to resolve Fall 2016 incomplete (INC) grades.

**Lecture Topics:**

**Metabolism: Basic Logic and Design;**

**Introduction to Metabolomics:** Chapter 12(Mathews)/15(Stryer).

**Glycogen Metabolism:** Chapter 13(M)/21(S).

**Glycolysis:** Chapter 13(M)/16(S).

**Pentose Phosphate Pathway:** Chapter 13(M)/20(S).

**Gluconeogenesis:** Chapter 13(M)/16(S).

**Citric Acid and Glyoxylate Cycles:** Chapter 14(M)/17(S).

**Oxidative Phosphorylation:** Chapter 15(M)/18(S).

**Photosynthetic Electron Transport and Phosphorylation:** Chapter 16(M)/19(S).

**Fatty Acid & Cholesterol Metabolism:** Chapter 17(M)/22(S) & Chapter 19 (pp.794-803)/Chapter 26 (pp. 767-788).

**Urea Cycle:** Chapter 20(M)/23(S).

**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 grade

**34%** second lecture grade

**33%** final lecture grade

**Chem. 7581G:** Final grades are calculated as an average of three (non-cumulative) lecture examinations plus a term paper (due electronically by midnight on **Monday, May 1<sup>st</sup>, 2017**).

The grade breakdown is as follows:

**25%** first lecture grade

**25%** second lecture grade

**25%** final lecture grade

**25%** term paper

**Honors (H) Credit:** Please discuss with Professor Davenport if you are planning to take this class for honors credit.

**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](mailto: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 2016-2017 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 2016-2017 Brooklyn College Bulletin, Undergraduate Programs:

(<http://www.brooklyn.cuny.edu/web/about/administration/enrollment/registrar/bulletins.php>)