

Spring 2022

Chemistry 4581 R5 [20424]

Biochemistry II: Metabolism/Enzymology

## Syllabus

Instructor: Professor Richard S. Magliozzo ([rmaglio@brooklyn.cuny.edu](mailto:rmaglio@brooklyn.cuny.edu); 718-951-5000 X2845)

Office Hours: Rm. 3148N; hour before class *and by appointment*

Course Goals and Learning Objectives. The goal of this course is to provide students with an introduction to the chemistry of metabolism in prokaryotes and eukaryotes and the enzymes that catalyze metabolic reactions and their regulation and control.

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). Third Edition also can be used.

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). The 5th edition (2002) is free and searchable at the NCBI/NIH Pubmed website: <https://www.ncbi.nlm.nih.gov/books/NBK21154/?depth=10>.

Course Materials: Lecture notes will be posted in Course Documents on the Blackboard site for the course.

Examination Dates (tentative) Exam 1: Thursday February 24<sup>th</sup>; Exam 2: Thursday, March 31; Exam 3 during Finals week: TBA

Important dates: you are responsible for checking the college Academic Calendar for key dates and for any changes/ here

<http://www.brooklyn.cuny.edu/web/about/administration/enrollment/registrar/bulletins/spring22/calendar.php>

- Tuesday, February 8 – Conversion Day  
Classes follow a **FRIDAY** schedule
- Friday, February 11 – Lincoln’s Birthday Observed  
College Closed, No Classes Scheduled
- Tues, May 17 – Tuesday Meetings Shifted Due to Above  
14th Tuesday Class Meetings

February 8	Tuesday	Conversion Day – Classes follow Friday schedule
April 15–22	Friday	Spring Recess – No classes scheduled
May 17	Tuesday	Last day to drop a course with a grade of W
May 18–24	Wednesday–Tuesday	Final Examinations

Class meets weekly 5:05pm – 7:35pm in 1127N starting Thursday, February 3 - May 12.

Lecture Schedule/Topics: (subject to change as the course progresses)

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

Grade Breakdown: Grades will be based on the average of three (non-cumulative) lecture examinations. Exams will be based on lecture material and may have true/false, multiple-choice and matching column-type questions, to test your factual knowledge and understanding of concepts. Additionally, case studies may be used and may also provide the basis for examination questions. Letter grades for the course are determined using a curve if required. The class average (typically 65-70%) usually establishes a “C” grade

Please note that there are NO makeup exams. Unjustified absences will be assigned a grade of zero (0). For justified absences (e.g. unavoidable issues; official documentation is required) the first or second lecture exam score will count as the missed lecture exam grade. You will not receive a grade for the course if you miss two lecture exams or the final exam. No “extra-credit projects” will be assigned nor accepted.

INC Grades: If you must miss the final lecture examination due to a documented emergency, you MUST notify me within 24-hours of the final examination if you wish to receive an INC grade. This assumes that all other course requirements have been satisfied and that you are intending to take a makeup final examination. Please do not let the INC age into an FIN by planning to take a make-up exam.

Religious accommodations: Please let me know if there are certain dates on which you cannot fulfill course requirements in the regular schedule.