

# Chem1810: Chemical Biology

Fall 2018, MWF: 3:00-3:50pm, **Chevron 655**

**Instructor:** Professor Xinyu Liu

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**Office Location:** 507-CSC

**Office Hours:** by appointment

**Course Description:** This lecture will discuss the underlying basic principles in modern biology with the focus on how (organic) chemistry contributes to the understanding and advancement of modern biology and vice versa. The lectures will be organized based on the information flow in modern biology, that is, from DNA, to RNA, to protein and to small molecules, lipids and carbohydrate. This course is not a classical biochemistry course, as it requires your efforts to understand both organic chemistry and modern biology.

## Required Textbook:

"Introduction to Bioorganic Chemistry and Chemical Biology" by David Van Vranken and Gregory Weiss, ISBN-10: 0815342144 (Reserved in the Chem-Library)

## Supplementary Textbooks:

Your introductory organic chemistry textbook "Organic Chemistry, Structure and Function" by Vollhardt and Schore, 6<sup>th</sup> or 7<sup>th</sup> Edition and Your introductory biology/biochemistry textbook

## Prerequisites

Organic Chemistry I and II (Chem0310 and Chem0320). Although knowledge in biology (basic concepts of replication, transcription and translation) is not required, you should expect to spend more time in the first of this course to learn these materials.

## Recitation

Recitation will be orientated towards problem solving. We will both review lecture materials covered in the previous week and work on problems from suggested homework and in-class quizzes.

## Grading (scaled to 100%)

15%: First Midterm (on nucleic acid chemical biology)  
15%: Second Midterm (on protein/peptide chemical biology)  
15%: Third Midterm (on small molecule chemical biology)  
15%: Homework (six total)  
30%: Final Exam (Comprehensive)  
10%: Attendance and class participation

## Academic Integrity:

Students in this course will be expected to comply with the *University of Pittsburgh's Policy on Academic Integrity* (<http://www.bc.pitt.edu/policies/>). Any student suspected of violating this obligation for any reason during the semester will be required to participate in the procedural process, initiated at the instructor level, as outlined in the University Guidelines on Academic Integrity. This may include, but is not limited to, the confiscation of the examination of any individual suspected of violating University Policy. Furthermore, no student may bring any unauthorized materials to an exam, including dictionaries and programmable calculators.

## Disabilities:

If you have a disability that requires special testing accommodations or other classroom modifications, you need to notify both the instructor and the Disability Resources and Services no later than the 2nd week of the term. You may be asked to provide documentation of your disability to determine the appropriateness of accommodations. To notify Disability Resources and Services, call 648-7890 (Voice or TTD) to schedule an appointment. The Office is located in 140 William Pitt Union.