

CHEMISTRY 135 – CHEMICAL BIOLOGY (3 UNITS)

COURSE OVERVIEW

Summary

Chemistry 135 is an introductory course to Chemical Biology, required for chemical biology majors and also commonly taken by ChemE Majors with a biotech emphasis. The course is taught from the perspective of a chemist and focuses more on mechanisms and chemical reasoning than MCB 102 (biochemistry). This course does not have a lab component or discussion section, and is primarily lecture based.

Terms offered

- Fall semester only

Prerequisites

- Bio 1A (Required)*
- Chem 12B or 3B or knowledge about carbonyl chemistry (Required)
*Depending on the professor, this may or may not be a prerequisite. Matt Francis, for instance, emphasized that Chem 3/12B is more important than Bio 1A.

Topics Covered (may change slightly depending on the professor)

- Protein Structure
- Enzyme Kinetics and Mechanisms
- Glucose and Lipid Metabolism
- Mechanisms of Glycolysis and the Citric Acid Cycle
- Terpene and Steroid Biosynthesis
- Plasmids and Protein Expression
- Transcription
- Protein Biosynthesis
- Carbohydrate Structure and Metabolism

WORKLOAD

Course Work

- Problem sets every ~2 weeks
- 3 midterms and a final

Time Commitment

3 hours of lecture per week, 5-8 hours per problem set

CHOOSING THE COURSE

When to take

The class is predominantly juniors and seniors, as this is an upper-division elective. Chemical biology majors typically take it in the Fall of Junior year. This class is not time-intensive (in terms of spending time in class) since there is no discussion or lab, but do treat it like a typical 3-unit technical course in terms of workload.

What next?

- Chem 274: Graduate-Level Chemical Biology
- Chem C130: Biophysical Chemistry: Physical Principles and Molecules of Life

ADDITIONAL COMMENTS/TIPS

This course is a great choice for those wanting to take an upper division biology-related course that isn't pure biology. Would highly recommend!

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