

BIOC 101: Biochemistry in Health and Diseases

This course is designed to provide a broad overview of basic biological chemistry and its relationship to human health and disease. Each class will cover a major category of the molecules of life and a human disease and/or health issue that relates to the topics: why we should eat fruits and vegetables; why milk is supplemented with vitamin D; why some people are lactose intolerant; or, how insulin helps people with diabetes. Particular emphasis will be placed on the interactions between metabolic pathways, the basis of human diseases, and current medical therapies. Lectures will be followed by group discussions of real-life case studies. By taking this course, students will gain a fundamental knowledge of biochemistry and the role of the molecules of life in control of human health and well-being.

Learning Objectives

- Describe major categories of the molecules of life
- Discuss how major metabolic pathways control human health
- Explain the 'Central Dogma' of molecular biology and give examples of genetic diseases
- Prepare an original presentation about a disease of interest to discuss with the class

Credits: 2

Class Type: Graduate Course

Prerequisites:

open to anyone with an interest in science and basic (high-school or undergraduate-level) knowledge of chemistry and biology.

Program: Biochemistry, Chemistry, Pharmacology, and Toxicology