

# MEDI 309: Introduction to Molecular Medicine

The objective of this course is to introduce students to the molecular basis of human diseases and current medical therapies, providing a bridge between medicine and biochemistry. The course is designed to cover fundamental concepts of molecular biology, genetics, and basic biochemical principles and to use these principles to analyze commonly occurring health-related problems. Each lecture will be set in the context of a major disease or a public-health concern, such as obesity, diabetes, cardiovascular diseases, cancer, infectious diseases, HIV/AIDS, Alzheimer's, and other neurodegenerative diseases. Presentation, analysis, and group discussions of clinical cases selected to exemplify the subject topic will be integral part of the lectures. An historical perspective of how molecular medical knowledge and recent technological developments that have been instrumental in medical treatments will be also presented. The course differs significantly from a comprehensive biochemistry or biology course and is aimed at students in the health sciences or prospective medical students.

## Learning Objectives

- Identify interactions between metabolic pathways and human diseases
- Describe recent advances in medical applications of biotechnology and genetics
- Discuss health issues in relation to molecular mechanisms of the cell
- Prepare an original presentation about a disease of interest to the class

**Credits:** 2

**Class Type:** Graduate Course

**Prerequisites:**

college-level knowledge of biology and/or chemistry.

**Program:** Biology, Genetics, and Medicine