

BIOL-UA.30 Genetics

Instructor:

Christine Rushlow

Course Description:

An introductory course in genetics covering classical mendelian genetics, gene function and regulation, gene editing, gene editing techniques and applications, and aspects of cancer genetics and developmental genetics. Recent studies in the genetic basis of human diseases are discussed throughout the course.

Co-requisite:

Molecular and Cell Biology I (BIOL-UA 21)

Textbook and Required Materials:

An Introduction to Genetic Analysis, 11th edition. Griffiths et al. published by Freeman.
The Student Companion (solutions to end-of- chapter textbook problems).

Grading:

Exams (two midterms & final)	75%
Quizzes (two)	10%
Recitation Discussion and Presentation	15%

Topics:

Mendelian Genetics
Single Gene Inheritance
Linkage Analysis Genetic Interactions
Genetic screens
Gene Editing and Engineering
Molecular Genetics
Chromosome Mutations and Autism
Comparative Genomics
Population Genomics
Cancer Genetics
Developmental Genetics
Stem Cells and Organoids