

Physics 324 : Biophysics

The application of concepts and approaches from physics and mathematics (e.g. mechanics, thermodynamics, electromagnetism, quantum physics, probability) to deepen understanding of molecular and cell biology. We will focus on simplified models that capture the salient features of biological systems. Example topics include diffusion, hydrodynamics and cellular locomotion, free energy transduction, ligand binding, entropic forces, molecular motors, macromolecular conformation, signal propagation in neurons, gene expression, and vision. Includes exercises in computation; no prior coding experience assumed. Three one-hour lectures per week; weekly problem sets; exams. May be elected as BBMB 324. Open to non-BBMB/Physics majors only with consent of instructor.

Credits 3

Cross-Listed

Biochemistry, Biophysics, and Molecular Biology 324

Prerequisite Courses

[Mathematics and Statistics 225: Calculus III](#)

[Physics 156: General Physics II](#)