

8.241

Introduction to Biological Physics

co-taught with

20.315/20.415

Physical Biology

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Course Description

The field of biological physics has experienced tremendous growth and excitement in recent years, and this Spring the Departments of Physics and Biological Engineering will collaborate to offer an introduction to the field. This course will explore how biophysics attempts to provide unifying explanations for the beautiful phenomena observed in living systems.

Core Topics

- Random walks in biology
- Nanoscale molecular motors
- Fluctuations and dissipation in the cell
- Challenges to life at the microscale
- Macromolecular structure and dynamics

Core Techniques

- Fluorescence imaging and spectroscopy
- Single-molecule manipulation
- Quantitative biochemistry
- Probabilistic, deterministic, and network modeling
- Statistical inference

Course Format

3 hours lecture and 1 hour recitation per week

Lectures meet MW 11am–12:30pm

For questions or inquiries please e-mail:
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