

Topics for Exam 2

1. Stochastic Models

- 1.1 Random variables
- 1.2 Random processes

2. Diffusion

- 2.1 Random walks and Brownian motion
- 2.2 The diffusion equation

3. Case Studies

- 3.1 Modeling bacterial mutations.
- 3.2 Modeling Brownian motion
- 3.3 Diffusion

Relevant chapters and sections in the online class notes:

Chapter 4

Sections 5.1, 5.2, 5.3 and 5.4

Important Concepts: Random variable, random process.

Important Skills

- 1. Know how to construct models involving random variables and the use of state diagrams.
- 2. Know how to use the properties of probability to derive stochastic models.