

CHAPTER OVERVIEW

16: Markov Processes

A Markov process is a random process in which the future is independent of the past, given the present. Thus, Markov processes are the natural stochastic analogs of the deterministic processes described by differential and difference equations. They form one of the most important classes of random processes.

- [16.1: Introduction to Markov Processes](#)
- [16.2: Potentials and Generators for General Markov Processes](#)
- [16.3: Introduction to Discrete-Time Chains](#)
- [16.4: Transience and Recurrence for Discrete-Time Chains](#)
- [16.5: Periodicity of Discrete-Time Chains](#)
- [16.6: Stationary and Limiting Distributions of Discrete-Time Chains](#)
- [16.7: Time Reversal in Discrete-Time Chains](#)
- [16.8: The Ehrenfest Chains](#)
- [16.9: The Bernoulli-Laplace Chain](#)
- [16.10: Discrete-Time Reliability Chains](#)
- [16.11: Discrete-Time Branching Chain](#)
- [16.12: Discrete-Time Queuing Chains](#)
- [16.13: Discrete-Time Birth-Death Chains](#)
- [16.14: Random Walks on Graphs](#)
- [16.15: Introduction to Continuous-Time Markov Chains](#)
- [16.16: Transition Matrices and Generators of Continuous-Time Chains](#)
- [16.17: Potential Matrices](#)
- [16.18: Stationary and Limiting Distributions of Continuous-Time Chains](#)
- [16.19: Time Reversal in Continuous-Time Chains](#)
- [16.20: Chains Subordinate to the Poisson Process](#)
- [16.21: Continuous-Time Birth-Death Chains](#)
- [16.22: Continuous-Time Queuing Chains](#)
- [16.23: Continuous-Time Branching Chains](#)

This page titled [16: Markov Processes](#) is shared under a [CC BY 2.0](#) license and was authored, remixed, and/or curated by [Kyle Siegrist](#) ([Random Services](#)) via [source content](#) that was edited to the style and standards of the LibreTexts platform.