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Syllabus Draft for MATH 573

Applied Probability and Stochastic Processes

Books for Reference:

- 1. N. C. van Kampen, Stochastic Processes in Physics and Chemistry.
- 2. B. Oksendal, Stochastic Differential Equations, An Introduction with Applications

Topics:

- 1. General info and examples of stochastic processes
- 2. Markov processes
- 3. Queues and renewal processes
- 4. Brownian motion
- 5. Stochastic Integrals and Ito Formula
- 6. SDEs and Diffusions

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