

Stat 620 (Fall 2009)

Applied Probability and Stochastic Modeling

TuTh 10:00–11:30; 237 Dennison

Instructor: Ed Ionides

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Office hours: Tue 2:00–3:00; Thu 11:30–12:30.

Textbook: S. Ross “Stochastic Processes” (2nd edition)

Supplementary texts (not required): “Introduction to Probability Models” (S. Ross, 9th edition); “Essentials of Stochastic Processes” (R. Durrett)

Homework assignments: (25%) weekly, due Tuesdays. Discussion of homework problems is encouraged, but solutions must be written up individually. Direct copying from other students or from solutions (e.g. online resources) is not acceptable.

Tests: (closed book, a single sided page of notes is allowed)

Midterm (in class): (25%) Thursday, October 22

Final (237 Dennison): (50%) Monday, December 21, 10:30–12:30

Syllabus:

1. Probability reviewed
2. Poisson processes
3. Renewal processes
4. Markov chains in discrete time
5. Markov chains in continuous time
6. Martingales
7. Random walks
8. Brownian motion
9. Diffusion processes
10. Poisson approximations

GSI: Adelle Wang

Office hours: to be determined (check the course web site)

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