

Statistics 6540 (Spring 2020)
Applied Stochastic Processes

Instructor	Prof. Shili Lin, 440K Cockins Hall, (614) 292-7404
Lectures	MW 9:45 – 11:15 AM, Enarson 245. No classes on Jan 20, Mar 9, & 11
Office Hours	MW 11:15 AM – 12:15 PM and by prior appointment
Grader	Mr. Chenggong Han; email: han.1071@osu.edu Tutor room & hours: TBA
Website	http://carmen.osu.edu
Required Textbook	Taylor and Karlin (1998) <i>An Introduction to Stochastic Modeling</i> , 3rd Edition. Academic Press.
Prerequisites	Statistics 6301 or equivalent
Course Description	An introduction to some of the commonly encountered stochastic processes, including Markov chains and Poisson processes. Basic theory as well as applications will be discussed.
Learning Objectives	Develop technical skills for working with discrete-time Markov chains; understand the theory and applications of Poisson processes; gain familiarity with branching processes, birth and death processes, and Gaussian processes
Homework	There are (approximately) weekly homework assignments. You may discuss with other students, but DO NOT simply copy any part of someone else's work or solutions from any other sources. Violations will be treated as academic misconducts. Homework will be collected in class. The lowest score will be dropped from the final grade calculation. No late homework will be accepted.
Midterm	Wednesday March 4 (in class). One 8.5" X 11" sheet of notes (double-sided) may be used for the exam. No make-up exam will be given.
Final Exam	Thursday Apr 23, 10:00 – 11:45 AM. Two 8.5" X 11" sheets of notes (double-sided) may be used for the exam. No make-up final will be given.
Grading	The final numerical grade will be determined as follows: Attendance 5% Homework 15% Exams 1 & 2 30% Final Exam 50%
Special Accommodations	If you need any accommodations based on the impact of a documented disability, contact the instructor privately to discuss your specific needs. You should also contact the Office of Disability Services to coordinate special accommodations.
Academic Misconduct	Academic misconduct will not be tolerated and will be dealt with procedurally in accordance with university policy.

Tentative Schedule

Topics	Chapters	No. of Lectures
Introduction and probability review	1, 2	2
Discrete-time Markov chains	3	10
Limiting behavior	4	4
Poisson processes	5	6
Continuous-time Markov chains	6	4