

*From University Course Catalogue: MAT 526 - Introduction to Stochastic Processes (3 Credits - Offered every year): Discrete time Markov chains, Poisson process, continuous time Markov chains and other selected stochastic processes.*

**Instructor:** Thomas John, PhD

**Contact Info:** Carnegie 219A, Ph: 443-1587, thjohn@syr.edu

**Office Hours:** MW 10:00-11:00AM or by appointment (at least 2 days' notice).

**Class:** MW 12:45PM - 2:05PM, Carnegie 124

**Course Description:** This is a first course in the theory of stochastic processes. Topics to be covered include Markov chains, branching processes, the Poisson process and queuing theory.

**Text:** An Introduction to Stochastic Modeling, 4th edition, by Pinsky and Taylor, ISBN: 9780123814166.

**Prerequisite:** MAT 521 or graduate standing in mathematical sciences.

**Learning Goals:** Students will be expected to

1. Use and understand basic mathematical notation;
2. Select and apply an appropriate mathematical model for certain elementary probabilistic problems;
3. Do basic hand calculations with accuracy.

**Calculator:** No calculator is required. If you wish to use one, a TI-84 or TI-83 is recommended.

**Homework:** Below you will find a list of homework problems. These may be supplemented on occasion with additional problems assigned during class. It is your responsibility to be aware at all times of which homework problems are assigned. Time will be set aside in class to discuss the homework assignments.

**Tests:** The dates for the tests will be announced at least one week in advance in class. If you miss any exam for a valid reason, an appropriate adjustment will be made to your point total at the end of the semester. There will be no make-ups.

**Final Exam:** The final exam is scheduled for Wednesday 12/11/2013, 5:15PM - 7:15PM in Carnegie 124. Every student must take the exam at this time – no exceptions.

**Grading:** There will be three tests and a final. The tests (20% each), the final (25%), and the homework (15%) will be used to determine the final course grade. The dates for the tests will be announced in class at least 1 week ahead. Grades for the course will be determined solely by the total number of points accumulated. There will be no extra credit assignments given.

**Attendance:** You are expected to attend every class. If you are absent, it is your responsibility to find out what you missed, including any announcements. Frequent unexcused absences may be taken into account in determining your course grade.

**Students with Disabilities:** If you believe that you need accommodations for a disability, please contact the Office of Disability Services (ODS), <http://disabilityservices.syr.edu>, located in Room 309 of 804

University Avenue, or call (315) 443-4498 for an appointment to discuss your needs and the process for requesting accommodations. ODS is responsible for coordinating disability-related accommodations and will issue students with documented disabilities Accommodation Authorization Letters, as appropriate. Since accommodations may require early planning and generally are not provided retroactively, please contact ODS as soon as possible. You are also welcome to contact me privately to discuss your academic needs although I cannot arrange for disability-related accommodations. Making arrangements with ODS takes time. Do not wait until just before the first test.

**Academic Integrity:** The Syracuse University Academic Integrity Policy holds students accountable for the integrity of the work they submit. Students should be familiar with the Policy and know that it is their responsibility to learn about instructor and general academic expectations with regard to proper citation of sources in written work. The policy also governs the integrity of work submitted in exams and assignments as well as the veracity of signatures on attendance sheets and other verifications of participation in class activities. Serious sanctions can result from academic dishonesty of any sort. For more information and the complete policy, see <http://academicintegrity.syr.edu>.

**Cell Phones:** Cell phones should be turned off and put away during class. Calculators on cell phones may not to be used on tests or quizzes.

**Homework Assignments:**

	<b>Exercises</b>	<b>Problems</b>
<b>Chapter 1</b>	2.3, 2.4, 2.9	2.1, 2.3
	3.2, 3.5, 3.6	
	4.1, 4.6	
<b>Chapter 2</b>	1.1, 1.6	
	3.1	
<b>Chapter 3</b>	1.2, 1.5	1.1
	2.1, 2.4, 2.6	
	3.2, 3.5	3.1
	4.1, 4.2, 4.4, 4.5	4.1, 4.2, 4.4, 4.8, 4.11
	6.1	5.1
<b>Chapter 4</b>	1.1, 1.4, 1.8	1.1, 1.2
	3.1, 3.2, 3.4	3.2, 3.3
	4.1, 4.3	4.4
	5.2	5.1
<b>Chapter 5</b>	1.4, 1.7 1.9	
	2.4	2.4
	3.1, 3.2, 3.3, 3.4, 3.6	
	4.2, 4.3,	4.5
<b>Chapter 6</b>	1.1, 1.2	1.3, 1.4
	2.2	2.2, 2.4, 2.6
	3.1	3.1
	4.2, 4.6	
<b>Chapter 3</b>		8.2, 8.3
	9.1, 9.3	9.1