MAT 526 – Introduction to Stochastic Processes - Spring 2016

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

Prerequisite Solid backgrounds in calculus (MAT 397) and probability (MAT 521)

Instructor Prof. JT Cox, 311B Carnegie, 443-1488, jtcox@syr.edu

Class Time and Location Tu/Thur 2:00-3:20, Carnegie 100

Office Hours Held in **Carnegie 311B**

- Mon 2:00–3:30, Wed 2:00-3:30
- and at other times by appointment

Texts

- A comprehensive calculus book
- An Introduction to Stochastic Modeling, 4th edition, by Pinksy and Karlin

Course Web page Some use of BlackBoard and/or WebWork may be made.

Homework/Reading Reading and homework assignments will be given in class. You are expected to keep up with both. Both are essential for learning the course material. There are *exercises* and *problems* given in the text, with *hints* for some of the exercises in an appendix. In addition, *calculus problems* will be assigned. Homework will not be collected or graded or used to determine course grades.

Exams There will be 2 midterm exams (**tentative**[1] dates are Feb 18 and Mar 31) and a final exam (on May 10) all based on class notes and examples, readings in the text, and homework assignments. Definitions, problems and short proofs will be asked on exams. *No make-up exams will be given.* The final exam is scheduled for Tuesday, May 10, 10:15AM – 12:15PM, it will be offered at no other time! **Do not make travel plans that conflict with any exam date.**

> ***No calculators will be allowed on any midterm exam or on the final exam in this course. Using or having available any calculator or other electronic device (such as a phone) during any midterm exam or during the final exam is a violation of the Academic Integrity Policy.***

1 These dates may change!

Grading The course grade is based entirely on the exams. Each midterm exam will count 30% and the final exam will count 40% in determining the course grade. Please note: **there will be no extra credit assignments.**

Attendance Attendance is **required.** You are responsible for all announcements made in class. You are expected to attend **every class,** arriving **on time.** *Please do not take this course if you cannot arrive on time every day.*

Learning Goals

- understand the role of stochastic modeling
- gain practice developing and analyzing simple stochastic models
- learn and master some of the basic mathematical tools and techniques of stochastic modeling
- understand the relevant mathematical concepts and methods

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 303 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 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.

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

Religious observances policy SU religious observances policy recognizes the diversity of faiths represented among the campus community and protects the rights of students, faculty, and staff to observe religious holidays according to their tradition. Under the policy, students are provided an opportunity to make up any examination, study, or work requirements that may be missed due to are religious observance provided they notify their instructors before the end of the second week of classes. For fall and spring semesters, an online notification process is available through MySlice (Student Services -> Enrollment -> My Religious Observances) from the first day of class until the end of the second week of class.