# MAT 521 – Introduction to Probability  – Fall 2015

**Course Description:** Algebra of sets. Probability in finite sample spaces. Binomial and multinomial coefficients. Random variables. Expected value and standard deviation. Density functions. Statistical applications. *MAT 521 is a prerequisite for further study in statistics (MAT 525) or stochastic processes (MAT 526).*

**Prerequisites:** 12 credits of calculus (calculus through infinite series, partial derivatives, and multiple integrals).

**Instructor: JT Cox,  jtcox@syr.edu,** 443-1488

**Class Time and Location: TTh** 11:00─12:20, Carnegie 114

**Office Hours:** held in **Carnegie 213B**
- Mon 9:00—10:30 am
- Wed 1:00—2:30 pm
- At other times by appointment

**Texts:** (1) A calculus book, (2) *Probability and Statistics 3rd Ed*., by Morris DeGroot and Mark J. Schervish. We will cover parts of Chapters 1-6. It is essential that you read *and study* the sections that are assigned.

**Homework:** Problems will be assigned regularly, both calculus review problems and probability problems. It is essential that you work all assigned problems.

**WeBWorK:** In addition to problems assigned from the text there will be weekly assignments using the web-based system *WeBWorK :* http://webwork.syr.edu

**Quizzes:** There may be occasional quizzes.

**Exams:** There will be 2 midterms and a comprehensive final exam. No make-up exams will be given. The tentative midterm exam dates are Feb 19 and April 9. **These dates are subject to change.** The final exam is scheduled for May 1, 5:15—7:15 pm

**Calculators:** A calculator is useful for homework problems. However, no calculators will be allowed on any midterm exams or on the final exam in this course. **Using or having available any calculator, cell phone or other electronic device during any midterm exam or during the final exam is a violation of the Academic Integrity Policy.**

**Grading:** The following *approximate* grading scheme will be used. Homework/Quiz 25%,  midterm exams 40%, final exam 35%.

**Attendance and Participation:** Attendance is required. If you miss a class, you are responsible for obtaining notes for that class from a student who attended. It is also your responsibility to find out about any announcements made in class. Note that missing even two classes amounts to missing a full week of classes.

**Learning Goals:** Students will be expected to
- understand the nature and role of deductive reasoning in mathematics
- ability to apprehend and enunciate the limitations of conclusions drawn from mathematical models
- ability to do hand calculations accurately and appropriately
- select and apply an appropriate mathematical model for certain elementary probabilistic problems
- use calculus-based techniques to solve problems in probability

**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.