# MAT 521, INTRODUCTION TO PROBABILITY AND STATISTICS
## Spring Semester 2013

**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.

**Instructor:** Declan Quinn, 229D Physics Building.

**Office Hours:** Monday 11:40am - 12:35pm, Wednesday 1:40 - 2:35pm, Thursday 4:20 - 5:15pm or by appointment. (Any changes will be announced in class or via email.)

**Telephone:** 443-1484.

**Text:** *Probability and Statistics,* 4$^{rd}$ Edition, by Morris H. DeGroot and Mark J. Schervish. The material covered in this course appears in Chapters 1 – 6.

**Mathematics Requirements:** MAT 397.

**Grading** Grades for the course will be based on the total number of points accumulated on quizzes, two mid-term exams and the final examination. The two mid-term exams will each count 25%, the quizzes 20% and the final exam 30% toward your grade. The dates for the exams are given below. There will be no make-ups exams. If you miss an exam for a valid reason, the corresponding portion of the final will be used to make up the missing score. There are no make-ups for missed quizzes but to allow for emergencies, you may miss up to two quizzes. If you take more than the minimum number of quizzes, your lowest score(s) will be dropped.

**Exams:**
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|---|---|---|
| First Exam: | Friday, February 22$^{nd}$ | |
| Second Exam: | Friday, April 5$^{th}$ | |
| Final Exam: | This will be announced in class or see MySlice. | |

**Quizzes:** There will be a short quiz at the end of class most Fridays. These will cover the most recent material. Quizzes are the easiest way to improve your grade and preparing for them will help you keep current with the material. This in turn will improve your exam scores.

**Homework:** In order to learn this material it is vital that you do problems. Time will be allotted at the beginning of each class period to discussing the homework assignments. In addition, the quizzes and exams will have a very large overlap with homework, although it is also important to have also studied the material covered in class.

**Class Attendance and Participation:** You are expected to attend and participate in class. Missing class is the most common reason for poor performance in the course. If you must 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.

**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.

**Learning Goals and Expectations:** Students are expected to master the basic notions of probability and to acquire the skills necessary for the application of these notions to the further

study of probability and/or statistics.

**Disabilities**: Students who may need academic accommodations due to a disability are encouraged to discuss their needs with the instructor at the beginning of the semester.   In order to obtain authorized accommodations, students should be registered with the Office of Disability Services (ODS), 804 University Avenue, Room 309, 315-443-4498 and have an updated accommodation letter for the instructor.  Accommodations and related support services such as exam administration are not provided retroactively and must be requested in advance.  For more information contact the Office of Disability Services.

**Office of Disability Services**: Office of Disability Services, 804 University Avenue Room 309, Syracuse, New York 13244-2330   (315) 443-4498 TDD: (315) 443-1371 e-mail: odssched@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 a religious observance provided they notify their instructors before the end of the second week of classes. For fall and spring semesters, an online registration is available through MySlice (Student Services -> Enrollment -> My Religious Observances) from the first day of class until the end of the second week of classes.

**Homework Assignments:** (Attempt the relevant homework as soon as the section is covered in class.)

**SECT.  PROBLEMS**

| SECT. | PROBLEMS | SECT. | PROBLEMS |
|---|---|---|---|
| 1.4 | 1, 6, 7 | 3.7 | 1, 5, 6, 7, 9, 12 |
| 1.5 | 1, 2, 3, 4, 5, 6, 7, 8, 10 | 3.8 | 1, 2, 4, 6, 7, 8, 15 |
| 1.6 | 1, 2, 3, 4, 5, 6, 8 | 3.9 | 1, 2, 3, 4, 5, 6, 7, 8, 14 |
| 1.7 | 1, 2, 3, 4, 5, 6, 7, 8, 9, 10 | 4.1 | 1, 2, 3, 4, 5, 6, 7, 8, 9 |
| 1.8 | 1, 4, 9, 10, 11, 12, 13, 14, 16, 17, 18 | 4.2 | 2, 3, 4, 6, 8, 9 |
| 1.9 | 1, 2, 3, 4, 6, 7, 8, 9, 10 | 4.3 | 1, 2, 3, 4, 6, 7 |
| 1.10 | 2, 3, 4, 6, 7, 8, 10, 11 | 4.4 | 1, 2, 3, 6, 7, 8, 10, 11, 12 |
| 2.1 | 1, 2, 3, 4, 6, 7, 8, 9, 11, 12 | 4.5 | 2, 3, 4, 6, 9, 12, 17 |
| 2.2 | 1, 4, 9, 10, 11, 12, 13, 16, 17, 18 | 4.6 | 1, 3, 5, 10, 12, 13, 14 |
| 2.3 | 1, 3, 4, 6, 7, 8, 13 | 4.8 | 2, 5, 6, 8 |
| 3.1 | 1, 2, 3, 4, 5, 6, 7, 8, 10 | 5.2 | 1, 3, 4, 5, 6, 7, 11 |
| 3.2 | 1, 2, 3, 4, 7, 8 | 5.3 | 2, 3, 4, 5 |
| 3.3 | 1, 2, 4, 5, 6, 7, 8, 11 | 5.4 | 2, 3, 4, 6, 7, 12, 13, 14 |
| 3.4 | 1, 2, 3, 4, 5, 6, 8 | 5.6 | 2, 3, 5, 6, 7, 9, 10, 11, 13, 14 |
| 3.5 | 1, 2, 3, 4, 5, 6, 7, 8, 10, 11, 12, 15 | 6.2 | 1, 5, 6, 8 |
| 3.6 | 1, 2, 4, 6, 7, 8, 10, 12 | 6.3 | 1, 2,3, 4, 7, 9 |
|  |  | 6.4 | 2, 4, 5 |