

SYRACUSE UNIVERSITY
MAT 525, INTRODUCTION TO PROBABILITY AND STATISTICS
SPRING 2013 SYLLABUS

Section: M001(34156)

Instructor: Thomas John, Ph.D.

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Class: Tue & Thu 12:30 PM - 1:50 PM in Carnegie 124

Office Hours: Tue & Thu 2:00-3:00 PM, and by appointment

Text: *Probability and Statistics*, 4th Ed, by DeGroot and Schervish, ISBN-13: 9780321500465.

Course Description:

(per course catalogue: *Estimation and confidence intervals. Normal distribution and central limit theorem. Testing hypotheses, chi-square, t, and F distributions. Least squares, regression, and correlation.*)

Contents in Chapters 5 through 9 of DeGroot and Schervish will be covered (see course schedule for specific sections).

The course will discuss statistical estimation and hypothesis testing. Point estimation will be taught with discussion on efficiency. Interval estimation and hypothesis testing will be discussed focusing on the likelihood ratio test. Goals of this course would be to understand basic ideas of statistical inference (estimation and testing), to learn theoretical basis of fundamental inferential procedure, and to apply them in real data analysis.

Prerequisite: Calculus and MAT 521 or equivalent. You need at least 12 credit hours of calculus to be able to handle the multiple integration and infinite series in the course.

Grading: Grades for the course will be based on the total number of points accumulated on homework, quizzes, two tests, and the cumulative final. The two tests will count 25% each, homework/quizzes/attendance will count 20% and the cumulative final exam 30% toward your grade. **There will be absolutely no make-ups for any reason.** If you miss a quiz/test for a valid reason (which must be verified by a note from a physician or your dean's office), performance from the corresponding part of a test/final will be used as replacement.

Exams: The (tentative) dates for the exams are:

- Exam 1: Tuesday, February 12
- Exam 2: Thursday, March 21
- Final: Friday, May 3, 2013, 10:15 AM - 12:15 PM, Carnegie 124

The final will only be given at this time, so do not make plans to leave town before 12:15 PM on Friday, 5/3/2013.

Homework: Homework will be assigned in each lecture. You may discuss these problems among yourselves, but each of you is expected to write up your own solutions independently. The best way to learn this material is to do homework problems. Some of the problems will be asked to be turned in.

Quiz: There will be a quiz almost every other lecture. These quizzes will be one or two problems very similar to the homework problems. The specifics will be announced in lecture ahead of time.

Attendance: You are expected to attend every class, every exam, and the final exam. Attendance record based on quiz/hw collection will be used for the attendance grade part. If you miss a class, it is your responsibility to obtain a copy of the lecture notes for that class from another student. You are also responsible for any announcements about changes to the course schedule, the exam schedule, or the course requirements that were made during that 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. For more information and the complete policy, see <http://academicintegrity.syr.edu>.

Learning Goals and Expectations: Students are expected to use/understand probability & statistics related mathematical notations & concepts, master the basic notions of probability & statistics, select/apply appropriate mathematical models for probability & statistics problems, and acquire the skills necessary for the applications of these topics.

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.

Tentative Schedule:

Tuesday		Thursday	
15-Jan	Intro/Rev	17-Jan	5.6
22-Jan	6.2	24-Jan	6.3
29-Jan	7.5	31-Jan	7.6
5-Feb	7.7-7.8	7-Feb	Review
12-Feb	Exam 1	14-Feb	5.7
19-Feb	8.1	21-Feb	8.2
26-Feb	8.3	28-Feb	8.4-8.5
5-Mar	8.7	7-Mar	8.8

Tuesday		Thursday	
March 9 - 17: Spring Break			
19-Mar	Review	21-Mar	Exam 2
3/26 & 3/28: Intro to Tests of Hypotheses			
2-Apr	9.1	4-Apr	9.1
9-Apr	9.2	11-Apr	9.3
16-Apr	9.5	18-Apr	9.6
23-Apr	9.7	25-Apr	Catchup
30-Apr	Review	Fri, 5/3	FINAL

Key Dates:

Monday, February 4: Financial deadline to drop class

Tuesday, March 19: Academic drop deadline

Tuesday, April 16: Withdrawal deadline