MAT 525: Introduction to Probability and Statistics

Syllabus – Fall 2011

<u>Instructor:</u>   Asst. Professor Aaron Skewes   Life Sciences Center 247
askewes@syr.edu   Carnegie 224E

<u>Office Hours:</u> Fridays 9:30AM - 10:30AM and by appointment

<u>Text:</u> Probability and Statistics, 3rd Edition, Morris H. DeGroot and Mark J. Schervish, Addison Wesley

<u>Course Description:</u>

Contents in Chapters 5.6 - 8 of DeGroot and Schervish will be covered.

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.

<u>Prerequisite:</u>

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.

<u>Calculator:</u>

You will need a calculator for the course.   No specific calculator is required.

<u>Grading Policy:</u>

Homework/Quizzes/Class participation (20%), Two Midterm Exams (40%), Final (40%)

<u>Exams:</u>

There will be two midterm exams and a final exam.

<u>Some Important Class Policies:</u>

- You must provide written documentation for any absence before a make-up assignment is given. No make-up work will be considered without written, justifiable documentation for your absence.
- Students who are in need of disability-related academic accommodations must register with the Office of Disability Services (ODS), 804 University Avenue, Room 309, (315) 443-4498. Students with authorized disability-related accommodations should provide a current Accommodation Authorization Letter from ODS to the instructor and review those accommodations with the instructor. Accommodations, such as exam administration, are not provided retroactively; therefore, planning for accommodations as early as possible is necessary.   For further information, see the ODS website, http://disabilityservices.syr.edu/.
- Religious Observance Policy
    "SU's religious observances policy, found at
    http://supolicies.syr.edu/emp_ben/religious_observance.htm, recognizes the diversity of

faiths represented among the campus community and protects the rights of students, faculty, and staff to observe religious holy days 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 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."
> *[taken from Provost's office communication on religious observances)*

The tentative calendar of this course lists the assignments due dates. If your religious observance day/s conflict with the tentative assignment due dates, you need to fulfill the assignment <u>prior to</u> your absence.

- Violations of Academic Honesty will not be tolerated. This means that homework assignments and exams must be your own work. The University has established the following statement as its understanding of what constitutes a student's breach of the principles of academic honesty. The College of Arts and Sciences accepts this as its policy as well:

    Syracuse University students shall exhibit honesty in all academic endeavors. Cheating in any form is not tolerated, nor is assisting another person to cheat. The submission of any work by a student is taken as a guarantee that the thoughts and expressions in it are the student's own except when properly credited to another. Violations of this principle include: giving or receiving aid in an exam or where otherwise prohibited, fraud, plagiarism, the falsification or forgery of any record, or any other deceptive act in connection with academic work. Plagiarism is the representation of another's words, ideas, programs, formulae, opinions, or other products of work as one's own either overtly or by failing to attribute them to their true source. (Section1.0, University Rules and Regulations.)

- All cellular phones must be turned off or muted during class time. If your phone rings during class, you will lose the participation grade for that day. NO texting is allowed. Laptops will be allowed EXCLUSIVELY to take notes or during a presentation.
- ***No Extra Credit is available for this course.***

MAT 525 Tentative Schedule – Meets MoWe 2:15-3:35PM in Carnegie 219

	Monday		**Wednesday**	
August	29	First day /Introduction	31	5.6-5.7
September	5	Labor Day – No class	7	5.8-5.9
	12	6.1-6.2	14	Quiz/6.5-6.6
	19	6.7	21	6.8
	26	6.9	28	Quiz/6.9
October	3	Exam I	5	7.1
	10	7.2	12	Quiz/7.3
	17	7.4	19	7.5
	24	7.7	26	Quiz/7.8
November	31	Exam II	2	8.1
	7	8.2	9	Quiz/8.3
	14	8.3	16	8.4
	21	Thanksgiving Break	23	Thanksgiving Break
	28	8.5	30	8.6
December	5	Quiz/8.7	7	Makeup/Review
	15	**Final Exam 5:15- 7:15PM**		

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;

4) use appropriate hardware and/or software related to certain probability distributions.