

**MAT 525: Mathematical Statistics (Fall 2010)  
Course Information (TTh 12:30-1:50)**

**Instructor:** Professor Hyune-Ju Kim                      Carnegie 304E  
443-1494, 443-1471(message)  
[hjkim@syr.edu](mailto:hjkim@syr.edu)  
Office Hours: M and Th 11:00-12:00 and by appointment

**Text:** Mathematical Statistics with Applications, 7rd Edition, Wackerly, Mendenhall and Scheaffer, Brooks/Cole  
  
For supplementary materials, go to  
<http://www.cengagebrain.com/shop/ISBN/9780495110811?cid=APL1>  
Or go to <http://academic.cengage.com>, do the search with “wackerly”, and click “Access Free Companion Content.”

**Course Description:**

The course will discuss statistical inference: statistical estimation and hypothesis testing. Sampling distributions, which provide theoretical tools for statistical inference, will be covered first and the central limit theorem will be reviewed as well. Point estimation will be taught with discussion on accuracy and efficiency, and concepts and applications of confidence intervals will be covered. For hypothesis testing, the course will introduce some intuitive testing procedures, and then consider underlying theory and formal methods of statistical testing. Some practical analysis including the analysis of categorical data and linear models will be covered using a statistical package. Goals of this course would be to understand basic ideas of statistical inference, to learn theoretical basis of fundamental inferential procedures, and to apply them in real data analysis.

**Prerequisite:** Calculus and MAT 521 or equivalent.

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

**Grading Policy:** Homework/Quizzes/Class participation (20 %), Midterm Exams (50 %),  
Final Exam (30 %)

**Exams:** Exam 1 (October 7, Thursday)  
Exam 2 (Nov 16, Tuesday)  
Final (December 16, Thursday, 5:15-7:15 PM)

**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://academic.integrity.syr.edu>

**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 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.

**Learning Goals:** Students will be expected to

1. derive point and interval estimates and evaluate the goodness of an estimator,
2. understand concepts of statistical testing and conduct a hypothesis testing,
3. conduct chi-square analysis and simple linear regression analysis.

### MAT 525 Tentative Schedule

	Tuesday		Thursday	
<b>Aug./Sep.</b>	31	7.1-7.2	2	7.2
	7	8.1-8.2	9	8.3-8.4
	14	8.5	16	8.6-8.7
	21	8.8-8.9	23	9.6
	28	9.7	30	9.7
<b>Oct.</b>	5	Review	7	Test 1
	12	9.2-9.3	14	9.4-9.5
	19	9.8	21	10.1-10.2
	26	10.3	28	10.4-10.5
<b>Nov.</b>	2	10.6-10.7	4	10.8-10.9
	9	10.10-10.11	11	Review
	16	Test 2	18	Ch. 11
	23	Ch. 11	25	No Class
<b>Nov./Dec.</b>	30	Ch. 11	2	Ch. 14
	7	Ch. 14	9	Review for Final
<b>Final Exam (December 16, Thursday)</b>				

**Important Dates:**

Add Deadline	Tuesday, Sep. 7
Academic Drop Deadline	Tuesday, Oct. 26
Withdrawal Deadline	Friday, Nov. 19