

## STT843 Multivariate Analysis Spring 2009

**Instructor:** Yuehua Cui  
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**Class Time:** MWF 3:00pm-3:50pm, C311 WH

**Office Hours:** MW 4:00-5:00 and by appointment.

**Textbook:** *Applied Multivariate Statistical Analysis*, 6th Edition, 2007  
By Richard A. Johnson and Dean W. Wichern, Prentice-Hall

**Prerequisite:** STT 442 or STT 862 (or approval of instructor)

**Assignments:** About 6-8 homework assignments will be given during the semester. These will be graded by the grader and you should check the grading carefully. I will look at anything that you think has been incorrectly graded or that you don't understand. Please do not worry about getting an extra half point here and there—it couldn't make any difference to your overall grade! Assignments will be due at the beginning of the lecture on the days indicated. Late homework is not accepted.

**Exams:** There will be a mid-term and a final exam. The midterm will be in class on March 6<sup>th</sup> and the final will be on Thursday May 7<sup>th</sup> 3:00-5:00pm.

**Grading:**

Midterm	20%
Final	40%
Homework	40% (this is a learning exercise. Make your errors here!) (The actual grading of each homework assignment may be out of 20 or 30 points, but the total will be scaled to 40% of the grand total at the end of the course).

4.0( $\geq 90\%$ ), 3.5(85%-89%), 3.0(80%-84%), 2.5(75%-79%), 2( $\leq 74\%$ )

**Computing:** SAS or R. You are encouraged to use other statistical software packages

**Important Dates:**

1/12	First day of class
1/16	Close of online adds
1/19	Martin Luther King Day (No Classes)
2/6	End of 100% Refund
3/4	Middle of the semester, last day to drop with no grade
3/9-13	Spring Break
5/1	Last day of Class
5/7	Final exam

**Tentative materials to be covered:**

1. Introduction to multivariate analysis and matrix algebra (Chapters 1 & 2)
2. Multivariate sample statistics (Chapter 3)
3. Multivariate normal distribution (Chapter 4)
4. Principal components (Chapter 8)
5. Factor analysis (Chapter 9)
6. Canonical correlation analysis (Chapter 10)
7. Multivariate tests for 1 or 2 means (chapter 5)
8. Multivariate analysis of variance (Chapter 6)
9. Classification and discriminant analysis (Chapter 11)
10. Clustering (Chapter 12)

**Academic Honesty:**

The Department of Statistics and Probability adheres to the policies of academic honesty as specified in the General Student Regulations 1.0, Protection of Scholarship and Grades, and in the all-University of Integrity of Scholarship and Grades, which are included in Spartan Life: Student Handbook and Resource Guide. Students who plagiarize may receive a 0.0 on the assignment or fail the course.

To arrange for accommodation, students with disabilities should contact the Resource Center for People with Disabilities (353-9642).

The instructor reserves the right to make changes and additions that are academically advisable to any part of this syllabus. Such changes, if any, will be announced in class. Please note that it is your responsibility to attend the class and keep track of the proceedings.