

Professor: Dr. Thomas Fisher

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Office Hours: Monday and Wednesday, 3:30-4:30pm and by appointment

Personal Web Site: <http://f.web.umkc.edu/fishertho/>

Class Materials: Textbook, notes and Calculator.

Text: J.E. Freund's Mathematical Statistics with Applications (7th ed) by Miller & Miller

Course Objectives: Stat436 is the first of a two-semester sequence on Mathematical Statistics and covers probability theory, the foundation for mathematical statistics. At the conclusion of the course students should be familiar with the concepts of probability, common discrete and continuous distributions, evaluating expectations and variances, the law of large numbers, the central limit theorem and sampling distributions.

Topic Outline: Essentially the first 8 chapters will be covered with a tentative outline as follows: Axioms and counting (1-week); conditional probability, independence, Bayes' Theorem (2-weeks); Random variables, expectations, variances, distributions (2-weeks); Common discrete distributions (2-weeks); Common continuous distributions (2-3-weeks); Change of variables, joint distributions (1-week); Properties of expected values, variances and covariance (1-2-weeks); Law of Large Numbers, Central Limit Theorem (1-2-weeks); Sampling Distributions (1-2-weeks).

Exams: Two in class exams will be given (each worth 15%) and a cumulative final exam (worth 30%). Tentative Dates:

Exam 1 – in class Wednesday October 3

Exam 2 – in class Wednesday November 14

Final Exam – Thursday, December 13, 8:00 a.m.-10:00 a.m. (student confirm?)

Details will be determined closer to the exams.

Homework: Homework will be given throughout the semester and will count as 40% of your final grade. I expect to give roughly 8 or 9 graded homework assignments (at least one assignment every two weeks).

Attendance Policy: The pace of this class is such that it will not be advisable to miss any sessions. If you know you will be absent, please inform me in advance. When you are absent, it will be your responsibility to contact another student for the notes and announcements. While attendance does not factor into your grade, I will often take attendance for my own records.

You are expected to be an active participant for the entire 75-minute class. Indications that this is not happening include sleeping, surfing the web or instant messaging on your laptop, text-messaging on your cell-phone, studying for another class, etc. Please turn your cell phone to silent before class.

Students are expected to wait quietly for 15 minutes after class is scheduled to begin. If I have not yet appeared the students are free to leave

Letters of Accommodation: If you have a letter stating specific testing accommodations to which you are entitled, please come by my office to discuss the accommodations that you will need and to give me a copy of the letter. Even if you do not anticipate using any accommodations, it is a good idea to turn in the letter as soon as possible. *Please note that unless I have at least one week's notice I will be unable to provide any accommodation on an exam*

Prerequisites: The prerequisite for the class is Math250 (Calculus III). The student should be thoroughly comfortable with one-variable calculus. Multivariate Calculus is used sparingly throughout the semester.

Student Code of Conduct: Any violation of the *Student Code of Conduct* will not be tolerated. This includes cheating, plagiarism, storing information in a calculator, sabotage of another's work, disrupting class. See the below website for a complete listing of the student code of conduct. All violations will be handled in accordance with established procedures and policies concerning student academic responsibility.

<http://www.umsystem.edu/ums/departments/gc/rules/programs/200/010.shtml>

Final Grades: At the end of the semester, the final grades will be compiled using the most favorable of the two methods shown below:

Instrument	Value
Graded Homework	40%
2 Test @ 15% each	30%
Cumulative Final Exam	30%
Total	100%

Grades will be assigned based on the follow:

Percentage	Grade
[90, 100)	A
[87, 90)	A-
[84, 87)	B+
[80, 84)	B
[77, 80)	B-
[74, 77)	C+
[70, 74)	C
[67, 70)	C-
[64, 67)	D+
[60, 64)	D
[57, 60)	D-
[0, 57)	F