MIME 4000 – Engineering Statistics I
Summer 2008

Classroom: PL 1030 (Palmer Hall)
Classes: Mondays, Tuesdays, Wednesdays, and Thursdays 11:00 AM to 11:50 AM
Instructor: Dr. Matthew Franchetti
Phone: 419-530-8051
E-mail: matthew.franchetti@utoledo.edu (best way to get in touch with me)
Office: NI 4006-E
Office Hours: After class or by appointment

Textbook: Probability and Statistics for Engineers and Scientists, 8th Edition Myers and Walpole, Prentice Hall, 2007

Prerequisite: MATH 2850 – Calculus III (or instructor permission)

Course Description: This course introduces the student to the areas of probability theory and statistical inferences. Topics include sample spaces, the concepts of random variables, probability distributions, functions of random variables, transformations of variables, moment generating functions, sampling and estimation theory, T, F and chi-square distributions.

Course Objectives:

- Understand the concept of probability
- Understand and distinguish between discrete and continuous random variables
- Ability to count sample points by using theorems of counting
- Ability to calculate the probability of random events such as the number of defective parts in a sample
- Ability to calculate discrete and continuous probability distributions given the probabilities of random events
- Ability to calculate expected values of functions of random variables such as means and variances
- Ability to recognize frequently used discrete probability distributions such binomial and geometric distributions
- Ability to recognize frequently used continuous probability distributions such as the negative exponential distribution
- Ability to recognize probability distributions commonly used to analyze parameters calculated from random samples
- Ability to calculate point estimates for statistics such as mean and variance
- Ability to calculate interval estimates for statistics such as mean and variance
- Ability to calculate sample sizes required to estimate statistical parameters

Grading:	Homework	25%
	Examination 1	25%
	Examination 2	25%
	Final Examination	25%
	TOTAL	100%

- Any act of dishonesty may result in a grade of 'F' or a dismissal from the class in accordance with University of Toledo and College of Engineering academic policy.

Grading Scale:	100 – 90 A/A-	69 – 60 D+/D-
	89 – 80 B+/B-	59 – 0 F
	79 – 70 C+/C-	

Homework: Homework will be assigned regularly and be due at the beginning of class on the date specified. The homework will be discussed in the following class. Late homework subject to a 15% per day deduction and will not be accepted after it is discussed in class without a valid excuse. Homework will be graded 60% on effort and 40% on correctness. Extra credit may be given for exceptionally neat homework. It will be to your advantage to completely understand the homework, as exams may strongly reflect the assigned problems.

Examinations: Exams will NOT be comprehensive and will last the entire class period. *Make-up exams will not be given except in extreme documented circumstances and then only upon arrangement made prior to the scheduled examination.*

If you have any questions or comments regarding the class or course material please see me or e-mail me. I will be more than happy to discuss these issues with you.

Class Schedule: (Subject to Change)

Week Starting	Chapters	Material Covered
May 12	1	Introduction to Statistics and Data Analysis
May 19	2	Probability
May 26		**MEMORIAL DAY (No Class)**
May 26	3	Random Variables
May 29		**EXAM 1: Chapter 1 – 2**
June 2	3	Random Variables
June 6		**Last Day to Withdraw**
June 9	4	Mathematical Expectation
June 16	4/5	Mathematical Expectation/Discrete Distributions
June 23	5	Discrete Distributions
June 30	6	Continuous Probability Distributions
July 3		**EXAM 2: Chapter 3 – 5**
July 7	6	Continuous Probability Distributions
July 14	8	Sampling Distributions
July 21	9	Estimation
July 28	9	Estimation
July 31		**FINAL EXAM: Chapters 6 – 9**