

Engineering Statistics I - IE 6613/4613
Spring 2009
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Objectives:

- To learn the mathematics of probability and statistics
- To learn procedures for collecting and analyzing data when used in the context of parameter estimation and test of hypothesis.
- To learn the theory and procedures for using statistical inferences to interpret empirically derived data.
- To formulate and solve engineering problems involving random variables.

Texts:

Montgomery, D. C. and G. C. Runger, *Applied Statistics and Probability for Engineers*, 4th Edition, John Wiley & Sons, Inc., 2007.

Additional Course Tools:

MINITAB Statistical Software, Student Version, Release 15 for Windows.

Prerequisites:

Calculus II – MA 1723

Assignment and quizzes:

Quizzes will be given and homework will be collected frequently. Homework is due at the beginning of class. The quizzes or homework accounting for your lowest 30 points will be dropped. I may assign bonus problems; however, your semester average for homework and quizzes cannot exceed 100%.

Grading:

Homework/Quizzes	15%
Tests (3 X 20%)	60%
Final	25%

MyCourses Website: Course information will be available on myCourses. The website is <http://mycourses.msstate.edu>. **I encourage you to contact me through the email on myCourses.** This will allow me to keep all email together.

Honor Code: "As a Mississippi State University student I will conduct myself with honor and integrity at all times. I will not lie, cheat, or steal, nor will I accept the actions of those who do."

Upon accepting admission to Mississippi State University, a student immediately assumes a commitment to uphold the Honor Code, to accept responsibility for learning, and to follow the philosophy and rules of the Honor Code. Students will be required to state their commitment on examinations, research papers, and other academic work. Ignorance of the rules does not exclude any member of the MSU community from the requirements or the processes of the Honor Code. For additional information, please visit: <http://students.msstate.edu/honorcode/>.

Tentative Class Schedule:

Class	Dates	Topics	Chapter
1	1/8	Syllabus & Introduction	1
2 - 5	1/13, 1/15, 1/20, 1/22	Probability	2
6	1/27	Test 1	
7 - 10	1/29, 2/3, 2/5, 2/10	Discrete Distributions	3
11 - 14	2/12, 2/17, 2/19, 2/24	Continuous Distributions	4
15	2/26	Test 2	
16	3/3	Linear Combinations	5.5
17	3/5	Descriptive Statistics	6
18	3/10	Parameter Estimations	7
19	3/12	Statistical Intervals	8
20-23	3/24, 3/26, 3/31, 4/2	Hypothesis tests (σ^2 known)	9
24	4/7	Test 3	
25	4/9	Hypothesis tests (σ^2 unknown)	9
26	4/14	χ^2 Distribution – Hypothesis Tests	9
27	4/16	Hypothesis Tests - Proportions	9
28	4/21	Goodness of Fit Tests	9
	4/30 (3:00 – 6:00pm)	Final Exam	

Sample