

Mathematics 107 – Introduction to Probability and Statistics
Fall 2004

Instructor: Dr. Karen Rogers

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Office hours will be announced.

Text: Elementary Statistics, 5th ed., Allan G. Bluman

Materials: Calculator (TI-83) and Math 107 Notebook

Course Content: Visual displays of data, measures of central tendency and of variability, classification of data, counting, probability, Chebyshev's Theorem, normal distribution, binomial distribution, Central Limit Theorem, hypergeometric distribution, Poisson distribution, confidence intervals, hypothesis testing (means, proportions, variances), simple linear regression and correlation, analysis of variance (one-way), contingency tables, nonparametric methods. Emphasis is on inference.

Goals: At the end of this course students should be able to: categorize a data set; work various simple probability problems; understand the role of functions in statistics; describe major misuses of statistics; recognize several distributions and characterize them; analyze interval data for which statistical tests involving means, proportions, medians, rankings, and variances are the parameters; interpret relationships in bivariate data; know the difference between parametric and nonparametric statistics in relation to inherent assumptions of the general statistical model; recognize the limitations of statistics; understand the role of statistics in analyzing data and in inference; use a calculator to find measures of central tendency, measures of variability, basic test statistics; interpret statistical findings in relation to the situation from which the data was drawn, describe the experimental nature of mathematical statistics, draw inferences using the vocabulary of statistics. The goal is for students to begin to be good consumers of information.

Grading: Grades will be determined by student performance on four tests (best of five), three experiments and a comprehensive final exam:

5 tests @ 100	400 (drop lowest)	In general,	
3 experiments @ 50	150	A, A-	720 points and above
1 final exam	<u>250</u>	B+, B, B-	640 - 719 points
	800	C+, C, C-	560 - 639 points
		D+, D	480 - 559 points
		F	below 480 points

Each **test** will have 100 points and will be given on the dates below. Tests should take around 75 minutes. The best four grades will be used to help determine your grade. **There are no provisions for making up tests.** Emergencies will be handled on an individual basis. It is the responsibility of the student to provide the instructor with appropriate verification for any special testing needs at least two days prior to the testing time so arrangements may be made.

Test dates: Friday, September 17 @ 2:15pm
 Thursday, October 7 in class
 Friday, October 29 @ 2:15pm
 Friday, November 12 @ 2:15pm
 Friday, December 3 @ 2:15pm

Each **experiment** has a potential of 50 points. Example experiments are provided in the notebook for this course. All experiments require group work. Each student is expected to participate in a somewhat “equal” manner. Each student will provide individual contributions on a signed form that must accompany each experiment. **No experiment will be accepted after the due date and time.**

Your **final exam** will include material selected from the **entire course**. The final exam will be given at the time designated on the final exam schedule.

You may use formula sheets that are provided and your calculator for appropriate portions of tests, experiments, and the final exam.

Homework: Class time will be used to enrich topics in statistics but will not be used to summarize information from the text. It is the student’s responsibility to read the textbook. Homework problems will not be collected but are to benefit the student. Basic problems and concepts information for which the student is responsible is included in the notebook for this course. To do well in this course, the average student will need to study about 3-4 hours outside of class for every class meeting or around 6-8 hours per week. Preparing experiments and studying for tests will take additional time.

Attendance: Students are expected to attend all classes since each student is responsible for work covered in class. An inordinate number of absences will be handled in accordance with school policies.

Students are expected to take tests at the scheduled times. Any conflicts, problems, or emergencies will be handled on an individual basis. Since one test grade is dropped, there are **no provisions for making up tests**. Experiments involve group work that **cannot be made up**. Students must be present on the day the experiment is assigned to be in a group and have a grade for the assigned experiment.

Tutors: Student tutors are scheduled for a limited amount of time per week, in the evenings, in the Gregory Study room. Homework problems may be discussed with tutors. A listing of tutors for mathematics courses, with times and places, may be found posted outside the mathematics offices after the first week of classes.

There is a Math 107 conference site through LearnLink for students enrolled in Math 107.

Honor Code: The Honor Code of Oxford College applies to all work submitted for credit in this course. To receive credit for work submitted you must place your name on it. By placing your name on such work, you pledge that the work has been done in accordance with the given instructions and that you have witnessed no Honor Code violations in the conduct of the assignment.

