

Mathematics MAT 112 : Basic Statistics
Spring 2007
MWF 8:30 a.m. - 9:20 a.m., Gordon 272
MWF 9:30 a.m. - 10:20 a.m., Gordon 272

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Course Materials

Introductory Statistics, Sixth Edition, Prem S. Mann (required)

A four-function calculator

Introduction

Statistics is the branch of mathematics devoted to the study of collecting, organizing and interpreting data. We will be studying both descriptive and inferential statistics throughout the course. We will find out how to organize data in a meaningful way, and how to make decisions based on data.

Exams

There will be two in-class exams as well as a final cumulative exam. The exams will test your ability to work through some of the computations, as well as your ability to apply the techniques to certain applications. The first exam is scheduled for Friday, February 16, the second exam is scheduled for Friday, March 30, and the final exam will be held on Tuesday May 8 from 9:00 to 11:30 for section A, and on Saturday, May 5 from 1:00 to 3:30 for section B. All exams will count for 20 percent of your final grade. There will be NO make-ups for missed exams. Please look over your schedule as soon as possible. If you see a potential conflict, inform me immediately.

Homework

The best way to learn Mathematics is to solve problems. Homework will be assigned at the end of each class period and collected the following class period. I will choose 4 or 5 problems to grade in each assignment. To earn full credit for a problem, a complete solution to the problem must be submitted. Just writing down the answer will not earn full credit. In addition to points for each graded problem, 5 points on each assignment will count for completeness and neatness of the graded assignment. Late assignments will not be graded, but they will be eligible for the 5 completion points. If you are not in class the day an assignment is collected, you may turn in your assignment into my office later that day. However, your assignment will be considered late. The homework is designed to help you identify where you might have difficulties. If you encounter any trouble with an assignment or a concept, seek help! The homework will count for 20% of your final grade.

Quizzes

Every other Friday, starting with January 26th, we will have an in-class quiz. There will be a total of 6 quizzes throughout the semester. You should treat the quizzes as mini-exams, covering material from approximately 6 days worth of course work. The quizzes will consist of 4 or 5 problems similar to problems from your graded homework, and they are to make sure that you are keeping up with the concepts presented in class, and to identify where you are having problems before you take the exams. The quizzes will count for 20% of your final grade.

Attendance

Attendance in MAT 112 is extremely important. Although there is no official attendance policy, note that if you are not in class on a particular day, your homework will not be graded for a score. I will also require that you be in class at 8:30 am (or 9:30 for section B) and no later. If you are late to class, you may stay to enjoy the wonderful learning experience. However, your homework assignment for the day will be considered late.

Grading

Your grade in this course will be based on three main factors: homework, quizzes and exams. The homework will be worth 20% of your final grade, the quizzes 20%, and the exams 60%. In addition

to these factors, minor ethereal factors such attendance, class participation, attitude, and improvement over the course of the semester can also affect your grade. To determine your final grade, 90–100% = A, 80–89% = B, 70–79% = C, 60–69% = D, 59 and below = F, with the top two percents receiving a + and the bottom two percents receiving a –.

Calculators

Because we will be dealing with a reasonable amount of data in this course, the use of calculators will be allowed on homework, quizzes, and exams. However, the only type of calculator that you can use during the exams are the basic four-function calculators. That is, programmable calculators or cell phone calculators will not be allowed.

Important Dates

Friday, January 26 – Quiz I
Friday, February 9 – Quiz II
Friday, February 16 – Exam I
Friday, March 2 – Quiz III
Monday, March 12 - Friday, March 16 – Spring Break
Friday, March 23 – Quiz IV
Friday, March 30 – Exam II
Friday, April 13 – Quiz V
Friday, April 27 – Quiz VI
Saturday, May 5, 1:00 - 3:30 – Final Exam, Section B
Tuesday, May 8, 9:00 - 11:30 – Final Exam, Section A

Suggestions

Come to class with your homework assignment completed every day
Study for at least 30 minutes each day in addition to completing your homework assignment
Read the section we will be covering in class *before* arriving to class
Do not fall behind!
Come to office hours to discuss homework and concepts. I am here to help!

Syllabus

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Week 1	January 17	Course Policies, Syllabus, Basic Terms
	January 19	Section 1.8 – Summation Notation
Week 2	January 22	Section 2.2 – Qualitative Data
	January 24	Section 2.3, 2.4 – Quantitative Data
	January 26	Section 3.1 – Measures of Central Tendency, Quiz I
Week 3	January 29	Section 3.2 – Measures of Dispersion
	January 31	Section 3.3 – Mean, Variance for Grouped Data
	February 2	Section 3.4 – Standard Deviation
Week 4	February 5	Section 4.1 – Experiments, Outcomes, and Sample Space
	February 7	Section 4.2 – Calculating Probability
	February 9	Section 4.3, 4.4 – Marginal and Conditional Probability , Quiz II
Week 5	February 12	Sections 4.5 - 4.7 – Types of Events
	February 14	Review
	February 16	Exam I
Week 6	February 19	Sections 4.8, 4.9 – Intersections and Unions
	February 21	Sections 5.2 – Probability Distribution of a DRV
	February 23	Sections 5.3, 5.4 – Mean and Standard Deviation of a DRV
Week 7	February 26	Section 5.5 – Factorials and Combinations
	February 28	Section 5.6 – Binomial Distribution
	March 2	Section 5.7 – Hypergeometric Distribution, Quiz III
Week 8	March 5	Section 5.7 – Hypergeometric Distribution
	March 7	Sections 6.1 - 6.3 – The Normal Distribution
	March 9	Section 6.4 – Standardizing a Normal Distribution
Week 9	March 12	NO CLASS
	March 14	NO CLASS
	March 16	NO CLASS
Week 10	March 19	Section 6.4 – Standardizing a Normal Distribution
	March 21	Section 6.6 – Determining z and x Values
	March 23	Section 6.7 – Normal Approximation to Binomial Distribution, Quiz IV
Week 11	March 26	Sections 7.1, 7.2 – Population and Sampling Distributions
	March 28	Review
	March 30	Exam II
Week 12	April 2	Sections 7.3, 7.4 – The Sampling Distribution of \bar{x} .
	April 4	Section 7.5 – Applications of the Sampling Distribution of \bar{x} .
	April 6	Sections 7.6, 7.7 – The Sampling Distribution of \hat{p} .
Week 13	April 9	Section 7.8 – Applications of the Sampling Distribution of \hat{p} .
	April 11	Section 8.3 – Est. of μ : σ known
	April 13	Section 8.3 – Est. of μ : σ known, Quiz V
Week 14	April 16	Section 8.5 – Est. of p : Large Samples
	April 18	Sections 8.6 - 8.7 – Determining Sample Size for Estimation of Proportion
	April 20	Section 9.1 – Hypothesis Testing : Introduction
Week 15	April 23	Section 9.2 – Hyp. Tests about μ : σ known
	April 25	Section 9.4 – Hyp. Tests About p : Large Samples
	April 27	Review, Quiz VI
Week 16	April 30	Review