

Mathematics MAT 112 : Basic Statistics
Fall 2009
MWF 8:30 a.m. - 9:20 a.m., Hubbard 213
MWF 9:30 a.m. - 10:20 a.m., Hubbard 213

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Course Materials

Introductory Statistics, Sixth Edition, Prem S. Mann (required)
A four-function calculator (required)

Introduction

Statistics is the branch of mathematics devoted to the study of collecting, organizing and interpreting data. Increasingly it is recognized that any educated person, regardless of the field of study, shall be acquainted with statistical reasoning. It is a goal of this class to make you more familiar with how statistical reasoning plays a roll in our lives. 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 understanding of statistical concepts, 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, October 2, the second exam is scheduled for Friday, November 6. The final exam will be held on Wednesday, December 16 from 9:00 - 11:30 for section A, and on Friday, December 18 from 9:00 - 11:30 for section B. All exams will count for 25 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. I will be offering suggested problems to look at for the next class, but these problems will not be turned in for a grade. The homework problems will range in difficulty and include both computational problems as well as conceptual problems. The purpose of this is to help you identify where you might have difficulties. If you encounter any trouble with an assignment or a concept, seek help!

Quizzes

Every other Friday, starting with September 11th, 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 consists 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 25% of your final grade.

Attendance

Attendance in MAT 112 is extremely important. There is no official attendance policy for my courses. Although I *highly recommend* that you make an effort to be in class each day, on time, and willing to learn. If you are late to class, you may stay to enjoy the wonderful learning experience. But please be respectful of the rest of the class and join us quietly.

Grading

Your grade in this course will be based on three main factors: homework, quizzes and exams. The quizzes will be worth 25% of your final grade, and the exams 75%. In addition to these factors, minor ethereal factors such as 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, September 11 – Quiz I
Friday, September 25 – Quiz II
Friday, October 2 – Exam I
Monday, October 12 – Fall Break
Friday, October 16 – Quiz III
Friday, October 30 – Quiz IV
Friday, November 6 – Exam II
Friday, November 20 – Quiz V
Wednesday, November 25 - Sunday, November 29 – Thanksgiving Break
Friday, December 11 – Quiz VI
Monday, December 14 – Last Day of Classes
Wednesday, December 16, 9:00 - 11:30 – Final Exam, Section A
Friday, December 18, 9:00 - 11:30 – Final Exam, Section B

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 concepts. I am here to help!

Syllabus

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Week 1	September 2	Course Policies, Syllabus, Basic Terms
	September 4	Section 1.8 – Summation Notation
Week 2	September 7	Section 2.2 – Qualitative Data
	September 9	Section 2.3, 2.4 – Quantitative Data
	September 11	Section 3.1 – Measures of Central Tendency, Quiz I
Week 3	September 14	Section 3.2 – Measures of Dispersion
	September 16	Section 3.3 – Mean, Variance for Grouped Data
	September 18	Section 3.4 – Standard Deviation
Week 4	September 21	Section 4.1 – Experiments, Outcomes, and Sample Space
	September 23	Section 4.2 – Calculating Probability
	September 25	Section 4.3, 4.4 – Marginal and Conditional Probability, Quiz II
Week 5	September 28	Sections 4.5 - 4.7 – Types of Events
	September 30	Review
	October 2	Exam I
Week 6	October 5	Sections 4.8, 4.9 – Intersections and Unions
	October 7	Sections 5.2 – Probability Distribution of a DRV
	October 9	Sections 5.3, 5.4 – Mean and Standard Deviation of a DRV
Week 7	October 12	NO CLASS
	October 14	Section 5.5 – Factorials and Combinations
	October 16	Section 5.6 – Binomial Distribution, Quiz III
Week 8	October 19	Section 5.7 – Hypergeometric Distribution
	October 21	Section 5.7 – Hypergeometric Distribution
	October 23	Sections 6.1 - 6.3 – The Normal Distribution
Week 9	October 26	Section 6.4 – Standardizing a Normal Distribution
	October 28	Section 6.4 – Standardizing a Normal Distribution
	October 30	Section 6.6 – Determining z and x Values, Quiz IV
Week 10	November 2	Sections 7.1, 7.2 – Population and Sampling Distributions
	November 4	Review
	November 6	Exam II
Week 11	November 9	Sections 7.3, 7.4 – The Sampling Distribution of \bar{x}
	November 11	Section 7.5 – Applications of the Sampling Distribution of \bar{x}
	November 13	Sections 7.6, 7.7 – The Sampling Distribution of \hat{p}
Week 12	November 16	Section 7.8 – Applications of the Sampling Distribution of \hat{p}
	November 18	Section 8.3 – Est. of μ : σ known
	November 20	Section 8.3 – Est. of μ : σ known, Quiz V
Week 13	November 23	Section 8.5 – Est. of p : Large Samples
	November 25	NO CLASS
	November 27	NO CLASS
Week 14	November 30	Sections 8.6 - 8.7 – Determining Sample Size for Estimation of Proportion
	December 2	Section 9.1 – Hypothesis Testing : Introduction
	December 4	Section 9.2 – Hyp. Tests about μ : σ known
Week 15	December 7	Section 9.3 – Hyp. Tests about μ : σ unknown
	December 9	Section 9.4 – Hyp. Tests About p : Large Samples
	December 11	Review, Quiz VI
Week 16	December 14	Review