Mathematics MAT 112 : Basic Statistics
Fall 2007
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

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, September 28, the second exam is scheduled for Friday, November 2, and the final exam will be held on Monday, December 17 from 1:00 to 3:30 for section A, and on Saturday, December 15 from 9:00 to 11:30 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 September 7th, 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 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, September 7 – Quiz I
Friday, September 21 – Quiz II
Friday, September 28 – Exam I
Monday, October 8 – Fall Break
Friday, October 12 – Quiz III
Friday, October 26 – Quiz IV
Friday, November 2 – Exam II
Friday, November 16 – Quiz V
Friday, December 7 – Quiz VI
Saturday, December 15, 9:00 - 11:30 – Final Exam, Section B
Monday, December 17, 1:00 - 3:30 – 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
MAT 112 : Basic Statistics
Fall 2007

Week 1	August 29	Course Policies, Syllabus, Basic Terms
	August 31	Section 1.8 – Summation Notation
Week 2	September 3	Section 2.2 – Qualitative Data
	September 5	Section 2.3, 2.4 – Quantitative Data
	September 7	Section 3.1 – Measures of Central Tendency, **Quiz I**
Week 3	September 10	Section 3.2 – Measures of Dispersion
	September 12	Section 3.3 – Mean, Variance for Grouped Data
	September 14	Section 3.4 – Standard Deviation
Week 4	September 17	Section 4.1 – Experiments, Outcomes, and Sample Space
	September 19	Section 4.2 – Calculating Probability
	September 21	Section 4.3, 4.4 – Marginal and Conditional Probability , **Quiz II**
Week 5	September 24	Sections 4.5 - 4.7 – Types of Events
	September 26	Review
	September 28	**Exam I**
Week 6	October 1	Sections 4.8, 4.9 – Intersections and Unions
	October 3	Sections 5.2 – Probability Distribution of a DRV
	October 5	Sections 5.3, 5.4 – Mean and Standard Deviation of a DRV
Week 7	October 8	`NO CLASS`
	October 10	Section 5.5 – Factorials and Combinations
	October 12	Section 5.6 – Binomial Distribution, **Quiz III**
Week 8	October 15	Section 5.7 – Hypergeometric Distribution
	October 17	Section 5.7 – Hypergeometric Distribution
	October 19	Sections 6.1 - 6.3 – The Normal Distribution
Week 9	October 22	Section 6.4 – Standardizing a Normal Distribution
	October 24	Section 6.4 – Standardizing a Normal Distribution
	October 26	Section 6.6 – Determining z and x Values, **Quiz IV**
Week 10	October 29	Sections 7.1, 7.2 – Population and Sampling Distributions
	October 31	Review
	November 2	**Exam II**
Week 11	November 5	Sections 7.3, 7.4 – The Sampling Distribution of $\overline{x}$
	November 7	Section 7.5 – Applications of the Sampling Distribution of $\overline{x}$
	November 9	Sections 7.6, 7.7 – The Sampling Distribution of $\widehat{p}$
Week 12	November 12	Section 7.8 – Applications of the Sampling Distribution of $\widehat{p}$
	November 14	Section 8.3 – Est. of μ : σ known
	November 16	Section 8.3 – Est. of μ : σ known , **Quiz V**
Week 13	November 19	Section 8.5 – Est. of p : Large Samples
	November 21	`NO CLASS`
	November 23	`NO CLASS`
Week 14	November 26	Sections 8.6 - 8.7 – Determining Sample Size for Estimation of Proportion
	November 28	Section 9.1 – Hypothesis Testing : Introduction
	November 30	Section 9.2 – Hyp. Tests about μ : σ known
Week 15	December 3	Section 9.3 – Hyp. Tests about μ : σ unknown
	December 5	Section 9.4 – Hyp. Tests About p : Large Samples
	December 7	Review, **Quiz VI**
Week 16	December 10	Review