Mathematics MAT 112 : Basic Statistics
Fall 2012
MWF 8:30 a.m. - 9:20 a.m., Hubbard 210
MWF 9:30 a.m. - 10:20 a.m., Hubbard 210

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Course Materials

Introductory Statistics, Seventh 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, September 28, the second exam is scheduled for Friday, November 2. The final exam will be held on Saturday, December 15 from 11:30 a.m. to 2:30 p.m. for section A, and on Monday, December 17 from 1:00 - 4:00 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 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 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 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 142– Quiz III
Friday, October 26 – Quiz IV
Friday, November 2 – Exam II
Friday, November 16 – Quiz V
Wednesday, November 21 - Sunday, November 25 – Thanksgiving Break
Friday, December 7 – Quiz VI
Monday, December 10 – Last Day of Classes
Saturday, December 15, 11:30 - 2:30 – Final Exam, Section A
Monday, December 17, 1:00 - 4:00 – 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
MAT 112 : Basic Statistics
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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