Mathematics MAT 112 : Basic Statistics
Fall 2008
MWF 8:30 a.m. - 9:20 a.m., Hubbard 209 A
MWF 9:30 a.m. - 10:20 a.m., Hubbard 209 A

Instructor: Dr. Brad Emmons
Office: DePerno Hall 121
Telephone: 792-3413 (Don't leave voicemail!)
Office Hours: Tuesday, 9:30 - 10:30, Thursday 10:30 - 11:30, or by appointment
Email: bemmons@utica.edu
Homepage: http://www.utica.edu/faculty_staff/bemmons

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. 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 26, the second exam is scheduled for Friday, October 31. The final exam will be held on Saturday, December 13 from 8:00 to 10:30 for section A, and on Wednesday, December 10 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 5th, 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 5 – Quiz I
Friday, September 19 – Quiz II
Friday, September 26 – Exam I
Friday, October 10 – Quiz III
Monday, October 13 – Fall Break
Friday, October 24 – Quiz IV
Friday, October 31 – Exam II
Friday, November 14 – Quiz V
Wednesday, November 26 - Sunday, November 30 – Fall Break
Friday, December 5 – Quiz VI
Monday, December 8 – Last Day of Classes
Wednesday, December 10, 9:00 - 11:30 – Final Exam, Section B
Saturday, December 13, 8:00 - 10:30 – 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 concepts. I am here to help!

Syllabus
MAT 112 : Basic Statistics
Fall 2008

Week 1	August 27	Course Policies, Syllabus, Basic Terms
	August 29	Section 1.8 – Summation Notation
Week 2	September 1	Section 2.2 – Qualitative Data
	September 3	Section 2.3, 2.4 – Quantitative Data
	September 5	Section 3.1 – Measures of Central Tendency, **Quiz I**
Week 3	September 8	Section 3.2 – Measures of Dispersion
	September 10	Section 3.3 – Mean, Variance for Grouped Data
	September 12	Section 3.4 – Standard Deviation
Week 4	September 15	Section 4.1 – Experiments, Outcomes, and Sample Space
	September 17	Section 4.2 – Calculating Probability
	September 19	Section 4.3, 4.4 – Marginal and Conditional Probability, **Quiz II**
Week 5	September 22	Sections 4.5 - 4.7 – Types of Events
	September 24	Review
	September 26	**Exam I**
Week 6	September 29	Sections 4.8, 4.9 – Intersections and Unions
	October 1	Sections 5.2 – Probability Distribution of a DRV
	October 3	Sections 5.3, 5.4 – Mean and Standard Deviation of a DRV
Week 7	October 6	Section 5.5 – Factorials and Combinations
	October 8	Section 5.6 – Binomial Distribution
	October 10	Section 5.7 – Hypergeometric Distribution, **Quiz III**
Week 8	October 13	`NO CLASS`
	October 15	Section 5.7 – Hypergeometric Distribution
	October 17	Sections 6.1 - 6.3 – The Normal Distribution
Week 9	October 20	Section 6.4 – Standardizing a Normal Distribution
	October 22	Section 6.4 – Standardizing a Normal Distribution
	October 24	Section 6.6 – Determining z and x Values, **Quiz IV**
Week 10	October 27	Sections 7.1, 7.2 – Population and Sampling Distributions
	October 29	Review
	October 31	**Exam II**
Week 11	November 3	Sections 7.3, 7.4 – The Sampling Distribution of $\overline{x}$
	November 5	Section 7.5 – Applications of the Sampling Distribution of $\overline{x}$
	November 7	Sections 7.6, 7.7 – The Sampling Distribution of $\widehat{p}$
Week 12	November 10	Section 7.8 – Applications of the Sampling Distribution of $\widehat{p}$
	November 12	Section 8.3 – Est. of μ : σ known
	November 14	Section 8.3 – Est. of μ : σ known, **Quiz V**
Week 13	November 17	Section 8.5 – Est. of p : Large Samples
	November 19	Sections 8.6 - 8.7 – Determining Sample Size for Estimation of Proportion
	November 21	Section 9.1 – Hypothesis Testing : Introduction
Week 14	November 24	Section 9.2 – Hyp. Tests about μ : σ known
	November 26	`NO CLASS`
	November 28	`NO CLASS`
Week 15	December 1	Section 9.3 – Hyp. Tests about μ : σ unknown
	December 3	Section 9.4 – Hyp. Tests About p : Large Samples
	December 5	Review, **Quiz VI**
Week 16	December 8	Review