MATH 119- Elementary Statistics

4 Units, Fall 2012
Section 10450 Meets: Tuesdays and Thursdays from 7:40 pm to 9:30 pm in Room 2723
Instructor: David Rosas
Office: None
Office Phone: NA
E-Mail: david.rosas@imperial.edu
Office Hours: NA

Welcome to Statistics. I hope you learn a lot in this class.

Text: Essentials of Statistics,Fourth Edition, Mario F. Triola, Addison Wesley Publisher, 2010.

The following will be covered from the book:
Chapter 1- Introduction to Statistics
Chapter 2- Summarizing and Graphing Data
Chapter 3- Statistics for Describing, Exploring, and Comparing Data
Chapter 4- Probability
Chapter 5- Discrete Probability Distributions
Chapter 6- Normal Probability Distributions
Chapter 7- Estimates and Sample Sizes
Chapter 8- Hypothesis Testing
Chapter 9- Inferences from Two Samples
Chapter 10- Correlation and Regression
Chapter 11- Chi-Square and Analysis of Variance

You will find this textbook in the IVC bookstore.

Catalog Description: Graphical representation of statistical data, calculations, and uses of various averages, measures of variability, introduction to probability, probability distributions, confidence intervals, sample size determination and hypothesis testing, ANOVA, linear regression and Chi-square analysis.

Course Objectives: Through various activities and assessments, students will:

1. Distinguish various ways of organizing, displaying, and measuring data
2. Derive the numerical relationship that exists between bivariate data sets
3. Demonstrate an understanding of the theory of probability and proficiency in solving problems of this nature
4. Compute and interpret expected values and variance, and learn about distributions for discrete random variables
5. Compute and interpret expected values and variance, and learn about the normal distribution for continuous random variables
6. Examine the joint probability structure of two or more random variables and understand the limiting behavior of the sum of independent random variables as the number of samples becomes larger
7. Use the various types of distributions that are derived from the normal distribution
8. Calculate and interpret confidence intervals for a population mean to show how probability connects to this type of statistical inference
9. Use hypothesis testing as a formal means of distinguishing between probability distributions on the basis of random variables generated from one of the distributions
10. Compare the means of the data from experiments involving more than two samples
11. Fit a straight line to the given data in graphical form
12. Make use of Chi-square distributions to analyze counts

Student Learning Outcomes

1. Identify, compare, and contrast two articles that include both descriptive and inferential statistics on the same research topic
2. Students will apply their knowledge of statistical inference to conduct formal significance tests concerning single populations
3. Students will demonstrate their knowledge of basic descriptive statistics.
4. Students will apply techniques of linear modeling to explore the relationship between two numerical variables.

PREREQUISITE: Math 090 with a grade of "C" or better.

RECOMMENDED PREPARATION: English 101 or English 111

Any student with a documented disability who may need educational accommodations should notify the instructor or the Disabled Student Programs and Services (DSP&S) office as soon as possible.

DSP&S Room 2117
Health Sciences Building
(760) 355-6313 (760) 355-4174 (TDD)

Exams: There will be three exams during the semester and a final exam on the last day.
Test 1: Chapters 1-3 (20% of your grade)
Test 2: Chapters 6, 8 and 9 (20% of your grade)
Test 3: Chapters 7, 10, and 11 (20% of your grade)
Final Exam: Chapters 1-11 Mostly Chapters 8-11 and 4 (20% of your grade)

Homework: There will be an assignment on every chapter. (10% of your grade) NO LATE HOMEWORKS WILL BE ACCEPTED. If you are absent, you will receive a zero on in-class assignments (QUIZZES).

Projects: There will be one project toward the end of the semester. (10% of your grade)

Calculators and software: A calculator will be required for many of the calculations in this class. I will require a TI-83 Graphing Calculator. You can rent it at the Math Lab for $10.

Grades: Your grades will be updated weekly on www.MathXL.com

The Course ID for your course is:

MAKE-UP TESTS: No make-up tests will be allowed. If you miss a test, you will receive a zero. Make sure you don't miss a test.

ATTENDANCE: You are required to attend classes. You will be dropped on the third absence or fifth tardy.

Again, I hope you enjoy my class! Mr. Rosas

Math 119 Pacing Guide Spring 2012

Aug 21 First Day of School 1.2 Statistical Thinking 1.3 Types of Data	Aug 23 1.4 Critical Thinking 1.5 Collecting Sample Data
Aug 28 2.2 Frequency Distributions 2.3 Histograms	Aug 30 2.4 Statistical Graphics 2.5 Critical thinking: Bad Graphs
Sept 4 *3.2 Measures of Center*	Sept 6 *3.3 Measures of Variation*
Sept 11 *3.4 Measures of Relative Standing*	Sept 13 *3.4 Number Summary and Boxplots* *Get Ready for Ch1-3 Test: What to expect*
Sept 18 **Chapters 1-3 Test**	Sept 20 *We will study Chapter 4 at the end of the semester.* *6.2 The Standard Normal Distribution*
Sept 25 *6.3 Applications of the Standard Normal Distribution*	Sept 27 *6.4 Sampling Distributions of the Mean* *6.5 The Central Limit Theorem*
Oct 2 *6.5 Assessing Normality*	Oct 4 *8.2 Basics of Hypothesis Testing* *8.3 Testing a Claim About a Proportion*
Oct 9 *8.4 Testing a Claim About a Mean: s Known* *8.5 Testing a Claim About a Mean: s Not Known*	Oct 11 *8.6 Testing a Claim About Variation*
Oct 16 *9.2 Inferences About Two Proportions* *9.3 Inferences About Two Means: Independent Samples*	Oct 18 *9.4 Inferences from Dependent Samples* *Get Ready for Chapters 6, 8, and 9 Test*
Oct 23 **Chapters 6, 8, and 9 Test**	Oct 25 *11.2 Goodness of Fit* *11.3 Contingency Tables*

Oct 30 *11.4 Analysis of Variance* *7.2 Estimating a Population Proportion*	Nov 1 *7.3 Estimating a Population Mean: s Known* *7.4 Estimating a Population Mean: s Not Known*
Nov 6 *10.2 Correlation* *10.3 Regression*	Nov 8 *10.4 Variation and Prediction Intervals* *10.5 Rank Correlation* *Get Ready for Chapters 7, 10 and 11 Test*
Nov 13 **Chapters 7, 10 and 11 Test**	Nov 15 *4.2 Basic Concepts of Probability* *4.3 The Addition Rule*
Nov 20 *4.4 The Multiplication Rule* PROJECT DUE	Nov 22 *THANKSGIVING* *NO CLASSES*
Nov 27 *4.5 The Multiplication Rule: Complements and Conditional Probability*	Nov 29 Review for Final Exam
Dec 4 Review for Final Exam	Dec 6 FINAL EXAM