MATH 119- Elementary Statistics

4 Units, Spring 2013
Section 20298 Meets: Tuesdays and Thursdays from 7:45 pm to 9:50 pm in Room 2723
Instructor: David Rosas
Office: None
Office Phone: NA
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Office Hours: NA

Welcome to Statistics. I hope you enjoy 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 7-11 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 (Bring your receipt).

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

The Course ID for your course is: XL14-I1TY-401Y-5WT2

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 2013

Jan 15 First Day of School 1.2 Statistical Thinking 1.3 Types of Data	Jan 17 1.4 Critical Thinking 1.5 Collecting Sample Data
Jan 22 2.2 Frequency Distributions 2.3 Histograms	Jan 24 2.4 Statistical Graphics 2.5 Critical thinking: Bad Graphs
Jan 29 *3.2 Measures of Center*	Jan 31 *3.3 Measures of Variation*
Feb 5 *3.4 Measures of Relative Standing*	Feb 7 *3.4 Number Summary and Boxplots* *Get Ready for Ch1-3 Test: What to expect*
Feb 12 **Chapters 1-3 Test**	Feb 14 *We will study Chapter 4 at the end of the semester.* *6.2 The Standard Normal Distribution*
Feb 19 *6.3 Applications of the Standard Normal Distribution*	Feb 21 *6.4 Sampling Distributions of the Mean* *6.5 The Central Limit Theorem*
Feb 26 *6.5 Assessing Normality*	Feb 28 *8.2 Basics of Hypothesis Testing* *8.3 Testing a Claim About a Proportion*
Mar 5 *8.4 Testing a Claim About a Mean: s Known* *8.5 Testing a Claim About a Mean: s Not Known*	Mar 7 *8.6 Testing a Claim About Variation*
Mar 12 *9.2 Inferences About Two Proportions* *9.3 Inferences About Two Means: Independent Samples*	Mar 14 *9.4 Inferences from Dependent Samples* *Get Ready for Chapters 6, 8, and 9 Test*
Mar 19 **Chapters 6, 8, and 9 Test**	Mar 21 *11.2 Goodness of Fit* *11.3 Contingency Tables*

Mar 26 *11.4 Analysis of Variance* *7.2 Estimating a Population Proportion*	Mar 28 *7.3 Estimating a Population Mean: s Known* *7.4 Estimating a Population Mean: s Not Known* PROJECT DUE
Apr 2 **SPRING BREAK-No Classes**	Apr 4 **SPRING BREAK-No Classes**
Apr 9 *10.2 Correlation*	Apr 11 *10.3 Regression*
Apr 16 *10.4 Variation and Prediction Intervals* *10.5 Rank Correlation* *Get Ready for Chapters 7, 10 and 11 Test*	Apr 18 **Chapters 7, 10 and 11 Test**
Apr 23 *4.2 Basic Concepts of Probability* *4.3 The Addition Rule*	Apr 25 *4.4 The Multiplication Rule*
Apr 30 *4.5 The Multiplication Rule: Complements and Conditional Probability*	May 2 Review for Final Exam
May 7 Review for Final Exam	May 9 FINAL EXAM