

MATH 200 - COURSE SYLLABUS

- COURSE TITLE:** Elementary Probability & Statistics (CRN# 31358) Spring 2010 UNITS: 4.0 units
- PREREQUISITES:** MATH 120 or 123 (grade "C" or better) or satisfactory score on Intermediate Algebra Placement Test.
- TRANSFER:** CSU, UC
- MEETING TIMES:** Mondays, 6:00 pm to 10:10 pm, Full semester Building 21-100
- INSTRUCTOR:** Rich Anderson Office: 21-100 Division Office: 306-3291 e-mail: andersonr@smccd.net
CLASS WEBSITE: www.smccd.net/accounts/andersonr
- MATERIALS:** Essentials of Statistics by Triola, 3rd Edition, Addison-Wesley
Graphing calculator: Texas Instruments TI-83 Plus or TI-84 (REQUIRED)
TI-83 Lab manual by Anderson (optional)
- TESTS:** There will be two tests. Tests will be announced at least two weeks in advance.
No make-ups will be given for any reason. A single missed test is replaced with the percentage score on the final examination. Any other missed tests are given a zero.
- HOMEWORK:** Homework is DUE WEEKLY at the **start of class**. It is to be handed in neatly completed and folded lengthwise with your name at the top WITH the section & problems listed.
- TERM PROJECT:** There will be a group term project assigned at mid-semester. Students will be placed in groups and will choose a project from a list of potential projects.
- FINAL EXAM:** The final exam will be comprehensive. Make-ups will not be given except for the most compelling of reasons.
- BY ARRANGEMENT:** One by arrangement hour of lab per week is required. You will need to view a weekly video on statistics and complete a lab worksheet accompanying the video. These videos are of excellent quality and add significantly to the course. You will have one week to view the video(s) on your own. Video lab assignments may NOT be turned in late.
- GRADING:**
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| Letter grade only: | Videos (by arrangement) | 10 % |
| | Homework & Quizzes | 10 % |
| | Term Project | 10% |
| | Chapter Tests | 40 % |
| | Final Exam | 30 % |
- STUDENT LEARNING OUTCOMES:** By the end of the course, students will be able to...
- Define statistical terms.
 - Compute measures of central tendency and variation.
 - Plot a histogram, a scatter plot, a box plot and a stem plot.
 - Identify and apply the basic laws of probability such as addition, multiplication, complements, independence, and the role of probability in statistics.
 - Given a random data set, identify and construct the appropriate confidence interval and interpret the result.
 - Given an inferential statistics problem, identify the appropriate hypothesis test, perform the hypothesis test, and interpret the results.
 - Given bivariate data, test the strength of the linear relationship, make a conclusion about the linear relationship, construct the regression line, and interpret variation and prediction.

COURSE OUTLINE

<u>Chpt</u>	<u>Description</u>
2	Summarizing and Graphing Data <ul style="list-style-type: none">• Frequency Distributions• Histograms• Statistical Graphs
3	Describing, Exploring, and Comparing Data <ul style="list-style-type: none">• Measures of Center• Measure of Variation• Measures of Relative Standing• Exploratory Data Analysis
4	Probability <ul style="list-style-type: none">• Fundamentals of Probability• Addition Rule• Multiplication Rule• Multiplication Rule: Complements and Conditional Probability
5	Discrete Probability Distributions <ul style="list-style-type: none">• Random Variables• Binomial Probability Distributions• Mean, Variance, & Standard Deviation for the Binomial Distribution
6	Normal Probability Distributions <ul style="list-style-type: none">• The Standard Normal Distribution• Applications of Normal Distributions• Sampling Distributions and Estimators• The Central Limit Theorem
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7	Estimates and Sample Sizes <ul style="list-style-type: none">• Estimating a Population Proportion• Estimating a Population Mean: σ Known• Estimating a Population Mean: σ Not Known• Estimating a Population Variance
8	Testing Hypotheses <ul style="list-style-type: none">• Basics of Hypothesis Testing• Testing a Claim About a Proportion• Testing a Claim About a Mean: σ Known• Testing a Claim About a Mean: σ Not Known• Testing a Claim About a Standard Deviation or Variance
9	Inferences from Two Samples <ul style="list-style-type: none">• Inferences About Two Proportions• Inferences About Two Means: Independent Samples• Inferences from Matched Pairs
10	Correlation and Regression <ul style="list-style-type: none">• Correlation• Regression• Variation and Prediction Intervals• Rank Correlation
11	Chi Square and Analysis of Variance <ul style="list-style-type: none">• Multinomial Experiments: Goodness of Fit• Contingency Tables: Independence and Homogeneity• Analysis of Variance
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TEST 1

TEST 2