Course Outline

Prof. Abe Mirza **Course**: Math 13 (Introduction to Probability and Statistics)

Email: amirza@sierracollege.edu (In emailing be sure in the subject line start with SS1 or SS2)

Course Prerequisite: Mathematics D with a grade of "C" or better,

Text Book: Elementary Statistics by Triola 11th Edition **ISBN:** 9780321500243
Class website: http://faculty.sierracollege.edu/amirza/Math13/

YOU NEED TO GO TO MY WEBSITE,

1) TO **PRINT** COURSE MATERIALS
2) **CHECK** THE **ANNOUNCMENT** (on a **daily bases**) AND YOUR **CLASS REPORT** ON REGULAR BASIS.
3) BE SURE YOU **REFRESH** THE WEBSITE PAGES **(BY USING F5 KEY)** EACH TIME YOU GO TO MY WEBSITE

Required Material:
1. A two- variable statistics calculator (TI-83 or better).
2. Scantron: **882-E** (4 sheets) for tests and **815-E** (15 sheets) for quizzes

3. Regular Graph Paper **4**. A binder (yes a binder)

This is a **4-unit class**. By college standards, the course requires 2 hours of outside work per week per unit. You are expected to work **8 hours per week** outside of class.

The course is divided into 4 parts. **Important**: You need to go to my website and print the pages related to each part.

Part 1	Part 2	Part 3	Part 4
Descriptive Statistics **Linear Regression** **Basic Probability**	**Probability** **Binomial Probability** **Normal Distribution**	**Central Limit Theorem** **Estimation**	**Test of** **Hypothesis**
Q1-Q4	**Q5-Q7**	**Q8-Q11**	**Q12-Q15**
Test 1	**Test 2**	**Test 3**	**Test 4**

Attendance Requirements: Attendance **I**s **M**andatory! (**AIM**)

I expect each student to be fully prepared to participate in each class session.
If your name appears on the roster as being enrolled in this course, it is your responsibility to follow the proper procedures, in a timely manner, if you decide to withdraw. Acquaint yourself with the dates for withdrawing and any associated financial requirements as detailed in the school catalog.
The instructor may drop students for not attending class for a total of 2 unexcused absences during the summer term. Such drop is purely within the discretion of the instructor, if you decide not to continue at any time, you must officially withdraw, do not count on, nor ask the instructor, to drop you. At the end of the term, the instructor MUST issue a grade to all students listed on the final roster.
An "**excuse**" is an official document from either your physician or the school Health Center attesting to your inability to attend class on the meeting date(s) in question.

Please remember coming late or leaving early will be counted and marked as half absent point.

This is a 4**-unit class**. By college standards, the course requires 2 hours of outside work per week per unit. You are expected to work **8 hours per week** outside of class.

Quizzes:
There will be 15 quizzes plus one as extra credit, each for 10 points or more. If your absent is unexcused, **absolutely there will not be a make up for missing quizzes.** If you miss a quiz by any unexcused reason, then you will be receiving a **zero score** for that missing quiz.
Only for excused absences a **make up** quiz will be given.

Homework:
All six homework are posted on my web. The due date will be announced in class or will be posted on the announcement link. YOU ARE STRONGLY ADVISED TO DO ALL THE HOMEWORK PROBLEMS. **Absolutely, after the due date no homework will be accepted** If you miss submitting homework on due date, by any unexcused reason, you will be receiving a **zero score** for late homework.

Tests:
There will be a total of 5 tests given for the entire semester. All the tests weigh **100 points.** If your absent is unexcused, **absolutely there will not be a make up for missing tests.** If you miss a test by any unexcused reason, then you will be receiving a **zero score** for that missing test.

Only for excused absences a **make up** test will be given **at the end of last week**.

Final will be comprehensive and will worth 200 points

Academic Honesty

Each student is responsible for understanding the policies on academic honesty set forth by Sierra College. Any student found in violation of these policies will be held strictly accountable. Cheating is submitting for credit the work of another as your own. (Allowing another to submit your work as their own is also cheating.) Cheating will not be tolerated.
There are severe penalties for cheating. Worse, cheating deprives you of an education.
• Do not “glance” at other quizzes or exams.
• Do not “chat” during quizzes or exams.
As student, your goal is conceptual understanding that allows you to solve problems in other settings. When asked, you will be able to explain your reasoning in your own words and solve similar problems.

Classroom etiquette:
Learning requires a respectful exchange of ideas. Everyone will treat each other with respect at all times. You are here to learn, as are your classmates.
Please respect the following rules:
• Be respectful of others.
• Turn off pagers and cellular phones.
Absolutely **no cell phones** or **PDA or texting** in the entire class period.
• Arrive on time; leave after class is dismissed.
• Listen when others are speaking.

Points Distribution **Grading Policy**:

Attendance	20 points			5 points will be deducted for each absence
Quizzes	150 Points		A	90% - 100% of possible points
Homework	80 Points		B	80% - 90% of possible points
Tests:4@100	400 Points		C	70% - 79% of possible points
Final:	200 Points		D	60% - 69% of possible points
Total:	**850** Points		F	0% - 59% of possible points

The total counted points for the course will be **850** points, so 20 points for your perfect attendance can be well used toward your possible lower homework, quizzes or tests scores.

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Amendments: I reserve the right to alter this syllabus to conform to Sierra College Policies, state law, or to improve the quality of education offered by the class. Any changes will be announced in class.

Dates to Remember:

Sep. 12.....Last Day to Drop with Refund
Sep. 5.....Last Day to Enroll
Sept. 6.....Labor Day Holiday
Nov. 12.....Vetrans day Holiday
Nov. 25 - Nov. 28.....Fall Break
Nov. 02.....Last Day to Drop with W Notation

COURSE COVREAGE

1.0 Introduction to Statistics

1.1 Overview
1.2 Types of Data
1.3 Critical Thinking

2.0 Describing, Exploring, and Comparing Data

2.1 Overview
2.2 Frequency Distributions
2.3 Visualizing Data
2.4 Measures of Center
2.5 Measures of Variation
2.6 Measures of Relative Standing
2.7 Exploratory Data Analysis (EDA)

3.0 Probability

3.1 Overview
3.2 Fundamentals
3.3 Addition Rule
3.4 Multiplication Rule: Basics
3.5 Multiplication Rule: Complements and Conditional Probability

4.0 Probability Distributions

4.1 Overview
4.2 Random Variables
4.3 Binomial Probability Distributions
4.4 Mean, Variance and Standard Deviation for the Binomial Distribution

5.0 Normal Probability Distributions

5.1 Overview
5.2 The Standard Normal Distribution
5.3 Applications of Normal Distributions
5.4 Sampling Distributions and Estimators
5.5 The Central Limit Theorem
5.6 Normal as Approximation to Binomial

6.0 Estimates and Sample Sizes

6.1 Overview
6.2 Estimating a Population Proportion
6.3 Estimating a Population Mean: σ Known
6.4 Estimating a Population Mean: σ Not Known

7.0 Hypothesis Testing

7.1 Overview
7.2 Basics of Hypothesis Testing
7.3 Testing a Claim About a Proportion
7.4 Testing a Claim About a Mean: σ Known
7.5 Testing a Claim About a Mean: σ Not Known

8.0 Inferences from Two Samples

8.1 Overview
8.2 Inferences About Two Proportions
8.3 Inferences About Two Means: Independent Samples
8.4 Inferences from Matched Pairs

9.0 Correlation and Regression

9.1 Overview
9.2 Correlation
9.3 Regression

10.0 Chi-Square and Analysis of Variance

10.1 Overview
10.2 Multinomial Experiments: Goodness-of-Fit
10.3 Contingency Tables: Independence and Homogeneity
10.4 Analysis of Variance