Math 227- Statistics
West Los Angeles College
Section 1497
MSA 202

"There are three kinds of lies: lies, damned lies and statistics."
- Autobiography of Mark Twain

Instructor: Brian Carty
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Office Hours: MTW 10:45-11:15 2nd floor math offices.

Course description: This 4-unit course is an introduction to probability, measures of central tendency and dispersion, descriptive and inferential statistics including sampling estimation, hypothesis testing, analysis of variance, chi-square and student's t test, linear correlation and regression analysis.

Text: Understandable Statistics (9th ed.) by Brase/Brase. Older editions are acceptable, and the 8th edition is available to rent through the bookstore at a lower rate.

Required material(s): You are now expected to use a TI 83/84. While new versions can be pricey, they retain their value much better than books. There is also a chance you may know someone who has one who does not need it and would be willing to lend it to you/ sell it used. There are other calculators for which you can get by, however, in-class instruction will assume you have one.   In addition, please have access to Excel, Minitab, SPSS or some other statistical software package.

Grading The course will be graded as follows:

      Final Exam – 30%
      Midterms- 60%
      Projects-   10%
And follow the standard 90+ for an A, 80-89.5 B, etc.

    Final Exam-   There will be a 2 hour cumulative final exam according to the final exam schedule on June 3rd at 10:15 in this room.

Midterms: Following is the midterm schedule with a brief description of topics. The subjects covered in each exam are tentative. The lowest score of the five will be dropped. Makeup exams are not given except in case of medical emergencies and at *my discretion*.   If for some reason you know ahead of time you will not be able to make an exam, you may request, in advance, an alternate exam date. This too, however, will be given only at my discretion.

Date(subject to change)	Topics	Chapters
Feb 26	Sampling and Descriptive Statistics	Ch 1, 2 and 3
Mar 26	Probability and Probability Distributions	Ch 4,5, 6
Apr 23	Sampling Distributions and Estimation (Confidence intervals)	Ch7, 8
May 8	Hypothesis Testing	Ch 9, possibly 12
May 22	Linear Regression	Ch 10, 11

Projects-   During the semester you will be assigned 5-10 short "pop" technology based assignments.   Most will be assigned over weekend, and you will always have at least two days to complete.

Homework: In statistics, it is necessary to work problems to really understand the material, to "get your hands dirty," so to speak.   As such homework will be assigned every class period. While it will not be collected, you are encouraged to try out every problem assigned so that you may ask questions the next class period.

Attendance: Students are expected to arrive on-time and remain until dismissed.   Leaving for long periods during class will be considered being absent.   Repeated absences (or three consecutive unexcused absences) may result in the student being dropped from the course.

Behavior and Responsibilities: Students are expected to behave in an appropriate and respectful manner at all times. Food and drink are prohibited in the classroom, and cellular phones, beepers, and similar devices must be either turned off or silenced.   Incidences of cheating or academic dishonesty will be taken very seriously. Please consult the student handbook for further information regarding West Los Angeles College's policies on student responsibilities.

Students with disabilities who believe they may need accommodations in this class are encouraged to contact Disabled Students Programs and Services locatedon the 3rd Floor of Student Services, phone number 310-287-4450 as soon as possible to better ensure such accommodations are implemented in a timely fashion.

Official Institutional SLOs—Student Learning Outcomes

Critical Thinking: Analyze problems by differentiating fact from opinions, using evidence, and using sound reasoning to specify multiple solutions and their consequences.

Quantitative Reasoning: Identify, analyze, and solve problems that are quantitative in nature

Technical Competence: Utilize the appropriate technology effectively for informational, academic, personal, and professional needs.

Official Program SLOs.

1.) Apply quantitative thinking processes using basic mathematical operations to solve common academic, workplace, and family problems. (Theme: mathematical operations)

3.) Use mathematical tools essential for analyzing quantitative problems and for producing solutions. (Theme: mathematical tools)

5.) Select appropriate math strategies for solving and handling real life problems involving finance, economics, and family issues. (Theme: mathematical problem-solving

Course Objectives (as stated in the Course Outline of Record)
1. Compute the measures of Central Tendency: the mean, mode, median, as well as the quartiles
2. and percentiles of grouped or ungrouped data.
3. Compute the measures of variations, standard deviations, variance, and range of grouped or ungrouped data.
4. Find and exhibit the probability of events and the Z-score of sample data.
5. Identify, demonstrate and apply the use of the Binomial and Normal Distribution in statistical applications.
6. Explain and use the Central Limit Theorem.
7. Make inferences of population parameters.
8. Describe and use the Chi Square distribution.
9. Describe and explain statistical estimation and test of hypotheses.
10. Test hypotheses of population parameters from sample data.
11. Discuss and write a linear model for the relationship between two variables.
12. Apply these concepts to diverse disciplines, i.e., psychology, sociology, political science.

Course SLOs:

1. Given a set of sample data, students will perform a hypothesis test and correctly interpret the result.

2. Students will use a data set to perform a simple linear regression analysis, using appropriate technology, and use the results to create and interpret the sample linear regression equation and assess its utility.

3. Students will use mathematical principles of probability and symbolic representations to interpret discrete and continuous random variables, sampling distributions and confidence intervals.