

Math 227- Statistics  
West Los Angeles College  
Sec 1496  
MTWThF 1:30-4:20

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

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Office Hours: M-Th 12-1 and by appt. (2nd floor math building)

**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 cumulative final exam on the last day of class during regular class hours 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	Topics	Chapters
Jan 10	Sampling and Descriptive Statistics	Ch 1, 2 and 3
Jan 17	Probability and Probability Distributions	Ch 4,5, 6
Jan 24	Sampling Distributions and Estimation (Confidence intervals)	Ch7, 8
Jan 31	Hypothesis Testing	Ch 9, 11
Feb 5	Linear Regression	Ch 10, 12

**Projects-** Each weekend you will be given a short assignment involving Excel/Minitab to be completed by Monday that is worth one or two points. At the end of the session you will be assigned a group project worth 5 points due on the day of the final. You will use technology to analyze a question of interest to you using the tools of descriptive and inferential statistics. More details will be given later in the semester.

**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 located in HRLC 119, phone number [310-287-4450](tel: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 and percentiles of grouped or ungrouped data.
2. Compute the measures of variations, standard deviations, variance, and range of grouped or ungrouped data.
3. Find and exhibit the probability of events and the Z-score of sample data.
4. Identify, demonstrate and apply the use of the Binomial and Normal Distribution in statistical applications.
5. Explain and use the Central Limit Theorem.
6. Make inferences of population parameters.
7. Describe and use the Chi Square distribution.
8. Describe and explain statistical estimation and test of hypotheses.
9. Test hypotheses of population parameters from sample data.
10. Discuss and write a linear model for the relationship between two variables.

11. Apply these concepts to diverse disciplines, i.e., psychology, sociology, political science.

Course SLO: Given a set of sample data, perform a HYPOTHESIS TEST (HT). See last page "Math 227 Hypothesis Testing Template."