

**Murrieta Valley Unified School District**  
**High School Course Outline**  
**April 2013**

**Department:** Mathematics  
**Course Title:** Advanced Placement Statistics  
**Course Number:** 2410  
**Grade Level:** 11-12  
**Length of course:** Year  
**Prerequisite:** Grade B or better in Math Course 3 or Pre-Calculus

**UC/CSU (A-G) REQUIREMENT: C**

**I. Goals**

The student will:

- A. Demonstrate knowledge and understanding of mathematics through written and oral form
- B. Demonstrate knowledge in observing patterns and departures from patterns
- C. Demonstrate the ability to decide what and how to measure data
- D. Demonstrate the ability to produce models using probability theory and simulation
- E. Demonstrate knowledge in statistical inference and confirming models

These goals are aligned with the California Mathematics Framework.

**II. Outline of Content for Major Areas of Study**

**Semester I**

- A. Interpret graphical displays of distributions of univariate data (dotplot, stemplot, histogram, cumulative frequency plot)
- B. Summarize distributions of univariate data
- C. Compare distributions of univariate data (dotplots, back-to-back stemplots, parallel boxplots)
- D. Explore bivariate data

- E. Explore categorical data using frequency tables
- F. Identify the methods of data collection
- G. Plan and conduct surveys
- H. Plan and conduct experiments
- I. Generalize the results from observational studies, experimental studies and surveys

## **Semester II**

- A. Utilize probability as a relative frequency
- B. Combine independent random variables
- C. Use the properties of the normal distribution
- D. Apply the Central Limit Theorem to sampling distributions
- E. Use large sample confidence intervals for proportions and means
- F. Use tests of significance
- G. Apply chi-square test for goodness of fit, homogeneity of proportions and independence
- H. Determine when to use special cases of normally distributed data

## **III. Accountability Determinants**

- A. Teacher and textbook generated tests and quizzes
- B. Individual portfolios and projects
- C. Comprehensive final exam

## **IV. AP Exam Requirement**

Students attempting to receive college credit for Advanced Placement and International Baccalaureate courses are required to pass a College Board exam which validates coursework. This exam **is not a requirement** for District High School credit, grade increases, or extra credit.

Student fees are allowable for Advanced Placement and International Baccalaureate Diploma examinations **for college credit**, so long as (1) taking the exam is not a course requirement; (2) the exam results have no impact on a pupil's grade or credit in a course; and (3) eligible economically disadvantaged high school pupils who receive school district funding towards the exam fee shall pay \$5.00 of the fee. (EC sections 52240-52244; 52920-52922.)

**V. Required Text**

Yates Daniel, Moore, David and McCabe, George *The Practice of Statistics*,  
New York, N.Y., W.H. Freeman and Co., 1999.

**VI. Supplemental Materials**

TI-83 Graphing Calculators

Minilab Software