

# Coronado High School

## AP Statistics

Mrs. Leonard

2011-2012

### Course Description

This one-year Advanced Placements course is intended for students who have completed at least one year each of Geometry, Algebra I, Algebra II and are preparing for further study in disciplines requiring statistical course work. This course will include the study of statistical graphing techniques, measure of center and variance, distributions, regression analysis, probability, significance testing, and experimental design. Technology, including calculators and computer software, will be used throughout the course. This course will fulfill one of the mathematics credits required for graduation.

### Course Goals

1. To understand the basic vocabulary and notations of probability and statistics.
2. To use results of simulations to represent or predict events and compare experimental results with mathematical expectations.
3. To construct and analyze sets of data, tables, and graphs using statistical techniques.
4. To summarize sets of data by center, variation, and distribution.
5. To study binomial, normal, and Chi-square distributions.
6. To find probability distribution for a given random variable.
7. To gain proficiency in analyzing data using statistical software packages and graphing calculator technology.
8. To design and conduct unbiased experiments and surveys.
9. To develop the ability to reason and communicate mathematically in order to apply learned concepts to new problem-solving situations.
10. To increase confidence in mathematical abilities so that students are encouraged to participate in higher-level mathematics classes.

### Course Outline

#### 1st quarter-

- ❖ Exploring & Describing Data (Ch 1-10)
  - Display and Describe Categorical and Quantitative Data
  - Describing Distributions Numerically
  - Using Standard Deviation and the Normal Model
  - Exploring bivariate data
  - Linear and Non-linear Regression

#### 2nd quarter-

- ❖ Collecting Data (Ch 11-13)
  - Randomness
  - Overview of methods of data collection
  - Planning and conduction surveys
  - Planning and conducting experiments
  - Generalizability of results from observational studies, experimental studies, and surveys
- ❖ Probability (Ch 14-17)
  - Probability Rules
  - Random Variables
  - Probability Models

#### 3rd quarter-

- ❖ Inference
  - Confidence intervals
  - Test of significance
  - Special case of normally distributed data
  - Chi-square tests
  - Inference for the slope of a least-square regression line

#### 4th quarter-

- ❖ Review for AP Exam
- ❖ Special Project
- ❖ Final Exam

## Required Materials

**Textbook-** Stats: Modeling the World. We will use the textbook in class daily. Please bring it.

**Binder-** each student must have a 3-ring binder. I don't recommend sharing this binder with another class because binders will be collected and graded 3 times each quarter. The binder should be divided as follows:

- Formulas & Tables
- Describing Data (Ch. 1-10)
- Collecting Data (Ch. 11-13)
- Probability (Ch. 14-17)
- Inference (Ch. 18-27)
- Warm-ups
- Practice AP Exams/ F.R.A.P.P.Y.s
- Also, in the front of your binder, you should always have a copy of your "Unit Guide".

**\*\*Please make sure that there is always paper in your binder\*\***

All of these things will be part of your grade during binder checks.

**Pencil and Eraser-** You must always have a pencil and an eraser. I don't care if your notes and warm-ups are in pen but **quizzes and tests must be in pencil**. I will deduct 5% from quizzes and tests completed in ink.

**Graphing Calculator-** I use a TI-84 Plus Silver Edition in all my instruction. They keystrokes will be the same for any TI-83/84. You are welcome to use a TI-89 but you will be responsible for learning the keystrokes on your own.

## Grading Policy

Binder checks (5%) Binders will be collected 3 times a quarter. I will check for all required items (see binder info above).

Assignments (25%) Homework will be assigned most nights. It will be turned in the following day. I will not accept late work (except in the case of an excused absence). Homework will be graded as complete (5 pts) or incomplete (3 pts). I will periodically grade homework on accuracy. This will sometimes be announced and at other times unannounced. Ultimately, you should be doing your best work on all assignments. All work must be labeled in the upper right hand corner with the following information:

- ✓ Name
- ✓ Date
- ✓ Subject and period
- ✓ Assignment (p. 90 #1-10)

Quizzes and Tests (70%) At the completion of each chapter I will give a Chapter Quiz. Each Chapter Quiz will be worth 25 pts. In addition, we will typically have 2 major tests each quarter. All tests are worth 100 pts.

Semester Grade- Semester grades will be determined based on the following:

Quarter 1	45%
Quarter 2	45%
Semester Exam	10%

Students will be expected to use the ParentLink program to check grades and/or missing assignments. I will not tell students their grade during class time.

## **Absences**

Homework- If you are absent the day homework is assigned, make up work will be due within **three days**. If you are absent the day homework is due, make up work will be due the day you return.

Tests and Quizzes- If you are absent the day of a quiz or test and did not miss any review days, you will take the test **the day you return**.

If you were absent prior to a quiz or test day you will have **three days** to complete the test. It will be your responsibility to make arrangements to come after school for review and/or the test.

## **Classroom Expectations**

All the Coronado High School and CCSD polices will be enforced in this classroom.

- Class begins when the bell rings! I expect everyone to be in their seats and ready to learn. Students outside the door when the bell starts ringing will be considered tardy and will be subject to Tardy Lockout Procedures.
- Raise your hand if you would like to ask a question.
- DO NOT TALK while I am talking or while other students are talking.
- Inappropriate language will not be tolerated.
- No food or beverages (EXCEPT WATER) are allowed in the classroom.
- Be respectful at the end of class DO NOT PACK UP!
- **Absolutely no iPods/mp3 players or cell phones. If I see you looking at your phone in your bag/purse, the phone will be confiscated and sent to the Dean's office. In addition earbuds may not be visible at anytime or they will be confiscated.**

## **Consequences**

The following are the actions that will be taken in the event of inappropriate behavior

1. NON-VERBAL AND/OR VERBAL CUES TO THE STUDENT
2. TEACHER/STUDENT CONFERENCE
3. PARENT CONTACT
4. DETENTION TIME (30 MINUTES AFTER SCHOOL)
5. REFERRAL TO THE DEANS' OFFICE

**IMPORTANT:** In the event that the behavior is extremely disruptive or disrespectful the student will be sent immediately to the Deans' office.

**AP Exam-** I require all students to take the AP Statistics Exam. The only exception is for students who have to miss it due to a school activity (the Men's Golf team always seems to go to State at the same time as AP exams.....) Please note that the AP Exam is on **Wed, May 16**.

Please initial, sign, print and return to Ms. Leonard

\_\_\_\_\_ I have read and understand the binder requirements. I will maintain a neat and orderly binder  
Student Initials Parent Initials and will be prepared on scheduled "binder check" days.

\_\_\_\_\_ I have read the policies for absent work. I understand that it is my responsibility to submit all  
\_\_\_\_\_ make-up work within 3 days of return.

\_\_\_\_\_ I have read the policies for missing quizzes and tests. I understand that if I miss a quiz or test,  
\_\_\_\_\_ I will make it up **the day I return** from an absence.

\_\_\_\_\_ I understand that taking that the AP Exam is on Wednesday, May 16 and it is Ms. Leonard's  
\_\_\_\_\_ expectation that **all** students enrolled in AP Statistics will take the AP exam.

\_\_\_\_\_ I have read Ms. Leonard's Classroom Expectations. I understand that my phone or iPod/MP3 will  
\_\_\_\_\_ be taken away and turned into the dean's office even if I just look at it. (Saying that your Mom  
is texting you will **never** serve as a good excuse)

\_\_\_\_\_  
Student Signature

\_\_\_\_\_  
Parent Signature

\_\_\_\_\_  
Printed Student Name

\_\_\_\_\_  
Printed Parent Name

Parent Information:

\_\_\_\_\_  
Parent #1

\_\_\_\_\_  
Email address

\_\_\_\_\_  
Preferred contact number

\_\_\_\_\_  
Parent #2

\_\_\_\_\_  
Email address

\_\_\_\_\_  
Preferred contact number